Deutsche Bank
Markets Research

Industry
European Banks

Date
9 June 2014

Europe

Banks

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F.I.T.T. for investors

Truth in advertising

Regulators will trap more capital; which European banks are best placed?

The way modern banks' capital requirements are determined is under attack. Although deciding how tough regulation may get is inherently speculative, it is likely that regulators will continue to move to lock more capital in the system. Nonetheless, our analysis points to banks best placed to have surpluses in spite of ongoing regulatory tightening. Our top pick large cap names are Credit Suisse, UBS, Intesa, and Lloyds. We believe these are attractively valued, capable of delivering surplus capital, and have the potential to surprise on payouts in the next few years, as the Swedish banks have done.

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Key Changes

Company	Target Price	Rating
DNB.OL	122.00 to 128.00(NOK)	-

Source: Deutsche Bank

Top picks

UBS (UBSN.VX),CHF18.09	Buy
Lloyds Banking Group (LLOY.L),GBP80.15	Buy
Intesa SanPaolo (ISP.MI),EUR2.61	Buy
DNB (DNB.OL),NOK116.80	Buy
Credit Suisse Group (CSGN.VX),CHF27.52	Buy

Source: Deutsche Bank

Regulators will trap more capital; which European banks are best placed?

The way modern banks' capital requirements are determined is under attack. Although deciding how tough regulation may get is inherently speculative, it is likely that regulators will continue to move to lock more capital in the system. Nonetheless, our analysis points to banks best placed to have surpluses in spite of ongoing regulatory tightening. Our top pick large cap names are Credit Suisse, UBS, Intesa, and Lloyds. We believe these are attractively valued, capable of delivering surplus capital, and have the potential to surprise on payouts in the next few years, as the Swedish banks have done.

Capital upgrades ended in Q1; regulators increasingly fret about model risks

If the AQR is the health check for banks, regulator-required changes to the inputs banks use in the capital models will be the means by which regulators increase capital requirements as balance sheets strengthen organically. In our *European Banks strategy Q1 earnings review*, we highlighted that 1Q14 saw an end to an extended period of bank outperformance on capital generation. We have already seen regulators prescribing higher RWA density (the measure of capital backing each loan) for mortgages in the Nordics, sovereign debt in Belgium and corporate loans in Denmark. We believe that this marks the early stages of a long-lasting trend.

Thinking about the levers policymakers will use to lock in higher capital levels

Many policymakers are unhappy with the Basel 2.5/3 system of risk-weighting, believing that this approach leaves banks holding too little capital to weather the next downturn. We devise a framework to think of levers regulators may pull to increase risk weighted assets to trap more capital. We believe organic capital generation is sufficient to absorb near-term tightening of regulations, but we see non-trivial impacts for a number of banks. This is an issue worth caring about. Our approach sees EUR 51bn in increased capital required overall, which compares with our forecast of EUR 291bn in profit generation to 2016.

How is this work differentiated?

We have examined the Pillar 3 regulatory documents for 24 large cap banks under our coverage, gathering 5,000 data points to map banks' ratings to a common method. We then apply tighter capital requirements for corporate, retail and sovereign exposures to these views of asset quality, based on thresholds set by first mover regulators.

Top picks: thinking about payout potential a few years out

European banks trade on PTBV 2016E 1.09x for ROTE 2016E 11.6%. Given a lack of earnings momentum, strategically our top picks are high quality franchises with good core ROTEs. These are CS, UBS, Lloyds, Intesa, and DNB in the Nordics, all rated as Buy. To scale the potential, if we put our top picks on Swedish Retail style at 75% payouts, they would yield c.8-9% on 2016 EPS (see Figure 5). Key upside risks to our neutral stance on the sector include a rise in interest rates (upside to NII), further sovereign tightening, or a sharp turn for the better in the Euro zone economy. Key downside risks include higher-than-expected litigation charges, persistently low inflation expectations, longer low-rate cycle, weak economic recovery, and credit risk in Emerging Market exposures.

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Figure 1: Deutsche Bank European Banks Team

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Source: Deutsche Bank

Abbreviations

AIRB – Advanced IRB Approach

BCBS – Basel Committee on Banking Supervision

BIS – Bank for International Settlements

CCB – Counter-cyclical Capital Buffer

CT1 – Core Tier 1 Capital

DSTI – Debt-service to Income

EL – Expected Loss

ESRB – European Systemic Risk Board

FIRB – Foundation IRB Approach

G-SIB – Global Systemically Important Bank

IRB – Internal Ratings-based Approach (for credit risk)

LGD – Loss Given Default

LTV – Loan to Value

NCA – National Competent Authority

PD – Probability of Default

RCAP – Regulatory Consistency Assessment Programme

RORWA – Return on RWA

RW – Risk Weights

RWA – Risk Weighted Assets

Executive summary

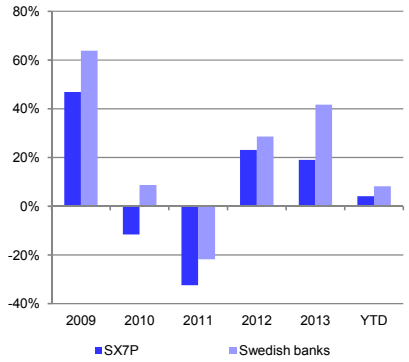
"Truth in advertising" capital ratios

Exciting time for a segment of European banks able to increase payouts

Our forecasts factor in peak sector earnings in 2016 of EUR 125bn. We are at least at mid-cycle multiples and the recovery trade is by and large complete. We expect income; ability to hike payouts and yield will be key performance drivers. The fly in the ointment is ever-tightening regulation. If the AQR is the health check for banks, model risk deals with the ongoing means regulators use to get banks to hold the capital they want. Our framework ranks banks on sensitivity to these issues.

Swedish banks total returns have been 54% since end-2010 (97% since end-2012). We believe a segment of banks will have good earnings and capital buffers to absorb risks and be able to take the "Swedish path" to higher payouts. Our top picks are CS, UBS, Intesa, and Lloyds (DNB in the Nordics).

Figure 2: Banks total returns



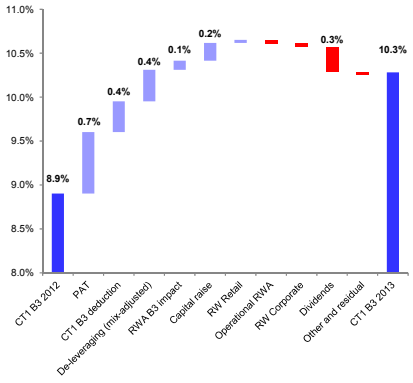
Source: Deutsche Bank, Datastream

Clear appetite from regulators to tackle risk weight credibility issues

In the report, we have taken a detailed look at Pillar 3 reports of 24 large cap banks under our coverage universe, representing EUR 20tn of total European bank sector assets. We show most capital build in 2013 (140bp) originates from profits, change in regulation (capital upgrades), capital raises, and real de-leveraging.

The first quarter of 2014 saw the end of capital upgrades. We believe there are clear trends in regulators attacking the models and we believe there is a real desire for backstops. **The good news is that our report concludes that increasing RWA density is broadly manageable by most banks**. However, some banks will be much more affected than others.

Figure 3: European banks fully loaded CT1 B3 ladder 2013 – 140bp build over the year



Source: Deutsche Bank estimates, company data

Worries over model risk and macro-prudential policy will drive RWA density up

We see drivers of higher RW density split into two broad categories: 1) model risk issues and 2) macro-prudential policy. Our key conclusions from our report are as follows:

- The first quarter of 2014 saw the end of capital upgrades (see *European Banks strategy Q1 earnings review).* RWA densities are now increasing among European banks; a trend we believe will be long-lasting.
- We believe there is will among regulators to tackle model risk. We expect backstops to models could be among the policy options over the next few years. PD floors and higher LGD in our framework would lock EUR 51bn of equity or 5% of market cap (we forecast EUR 291bn of three-year earnings for large cap names).
- Swedish banks are most impacted by PD floors, a potential policy option for model risk. We expect Swedish bank management teams to run with higher core tier 1 levels than currently implied until clarification to avoid "getting it wrong" on capital planning. Regulators will keep uncertainty to cap payouts. **As such, higher than 75% payout ratios look unlikely for the next few years.**

Weighing up regulatory risk and payout surprise potential

Factoring in regulatory risk, UBS, CS, Intesa, and Lloyds best placed to surprise

We believe the next three years will be an exciting time for European banks that are able to follow a "Swedish path" to higher payouts. On the one hand, the payout outlook looks brighter than it has done for a while. On the other hand, we believe the direction of travel for risk weight densities is upward over the next few years and we have already seen the start of this take hold in Q1 earnings (see Matt Spick's report *European Banks strategy Q1 earnings review*).

Banks we like that have scope for payout surprise even after regulatory risk include: CS, UBS, Intesa, and Lloyds.

In Figure 4, we summarize: 1) organic capital generation to 2016 – regulators will tighten only as quickly as banks are able to absorb the measures; 2) growth or asset reduction; 3) risks by European banks from rising risk weight densities; and 4) how the CT1 ratio development compares to expected hurdle rates (final column).

Figure 4: Model risk to CT1 progress 2016E by bank… could be 2020+ too far away to care?

	CT1 B3 2014E (A)	PAT 2015/16	Dividends 2015/16	Payout 2015/16	CT1 progress to 2016 inc growth (B)	Corporate PD floor	Retail PD floor	Mortgage LGD +5%	Higher sovereign risk weight	Action on model risk sensitivity (C)	CT1 hurdle (D)	CT1 v.s hurdle (A+B-C-D)	As % market cap
CS	10.6%	4.0%	1.2%	**29%**	**4.4%**	0.4%	0.2%	0.1%	0.1%	**0.8%**	11.0%	3.2%	24%
UBS	14.0%	6.0%	3.0%	**50%**	**3.6%**	0.5%	0.3%	0.4%	0.3%	**1.5%**	13.0%	3.1%	12%
CABK	11.5%	2.3%	1.1%	**50%**	**1.2%**	0.0%	0.2%	NA	0.3%	**0.5%**	10.0%	2.1%	13%
ISP	12.6%	2.7%	1.8%	**68%**	**-0.4%**	0.2%	0.0%	0.2%	0.3%	**0.7%**	10.0%	1.5%	11%
Lloyds	11.8%	4.6%	1.7%	**38%**	**2.2%**	0.2%	0.3%	1.0%	0.1%	**1.7%**	11.0%	1.4%	5%
KBC	13.1%	4.1%	1.3%	**32%**	**-0.9%**	0.2%	0.1%	0.4%	0.2%	**0.9%**	10.0%	1.3%	
SEB	17.1%	6.5%	3.9%	**60%**	**1.3%**	0.9%	0.0%	NA	0.4%	**1.3%**	16.0%	1.1%	
SAN	9.0%	2.6%	0.7%	**27%**	**2.5%**	0.1%	0.0%	0.3%	0.1%	**0.5%**	10.0%	1.0%	
SHB	20.2%	6.6%	3.9%	**59%**	**0.9%**	2.0%	0.1%	NA	0.7%	**2.8%**	17.4%	0.9%	
BNP	10.6%	2.4%	1.0%	**44%**	**0.6%**	0.1%	0.0%	0.1%	0.1%	**0.4%**	10.0%	0.9%	
HSBC	11.3%	3.5%	1.3%	**36%**	**1.1%**	0.1%	0.0%	0.2%	0.2%	**0.6%**	11.0%	0.8%	
DNB	12.7%	3.7%	1.6%	**43%**	**2.1%**	0.1%	0.0%	0.3%	0.1%	**0.5%**	13.5%	0.7%	
BBVA	10.5%	2.3%	1.5%	**67%**	**0.7%**	0.1%	0.0%	0.1%	0.2%	**0.4%**	10.0%	0.7%	
UCG	10.6%	1.8%	0.6%	**35%**	**0.6%**	0.1%	0.0%	0.1%	0.3%	**0.6%**	10.0%	0.6%	
Barclays	10.0%	2.6%	0.7%	**29%**	**2.1%**	0.2%	0.0%	0.3%	0.1%	**0.6%**	11.0%	0.5%	
Nordea	16.0%	5.3%	4.0%	**74%**	**1.0%**	0.7%	0.3%	0.2%	0.3%	**1.5%**	15.0%	0.5%	
Danske	13.4%	3.4%	1.3%	**40%**	**1.8%**	0.4%	0.2%	0.4%	0.2%	**1.3%**	13.5%	0.5%	
Swed	19.7%	8.2%	6.1%	**75%**	**1.0%**	0.7%	0.0%	NA	0.2%	**1.0%**	19.3%	0.4%	
Socgen	10.7%	2.3%	1.2%	**51%**	**0.3%**	0.3%	0.0%	0.1%	0.2%	**0.6%**	10.0%	0.3%	
CredAg	9.5%	2.5%	1.3%	**53%**	**1.3%**	0.3%	0.0%	0.1%	0.2%	**0.7%**	10.0%	0.2%	
StanChart	11.2%	3.2%	1.3%	**42%**	**0.2%**	0.2%	0.0%	0.1%	0.2%	**0.4%**	11.0%	0.0%	
CBK	9.5%	1.3%	0.4%	**32%**	**0.8%**	0.1%	0.0%	0.1%	0.2%	**0.5%**	10.0%	-0.3%	
RBS	9.5%	1.3%	0.1%	**12%**	**1.7%**	0.2%	0.0%	0.3%	0.1%	**0.6%**	11.0%	-0.4%	
Min	9.0%	1.3%	0.4%	**27%**	**-0.9%**	0.0%	0.0%	0.1%	0.1%	**0.4%**		-0.3%	
Max	20.2%	8.2%	6.1%	**75%**	**4.4%**	2.0%	0.3%	1.0%	0.7%	**2.8%**		3.2%	
Average	11.2%	3.2%	1.4%	**43%**	**1.5%**	0.2%	0.1%	0.3%	0.2%	**0.8%**		1.0%	

Source: Deutsche Bank estimates
**The above analysis does not include the substantial capital uplift to RBS' capital ratios which the planned IPO of Citizens is planned to deliver. Our group forecasts have RBS achieving a 12.5% CRD IV core tier 1 ratio by end 2016 including the proceeds of the IPO.*
**Method summary: i) Corporate and retail PD floors set at 0.25%; ii) LGD on mortgages increased by +5%; iii) end of zero risk weighting of sovereign bonds increases sovereign risk weight densities by 3.6-6.0%.*

We see a group of banks where CT1 ratios and earnings capacity are robust enough to absorb rising risk weight density trends. Ten banks have CT1 ratios >1% than the hurdle rate even after regulatory risk. **The top names in this block we have on a Buy are CS, UBS Intesa, and Lloyds and they could potentially surprise even our expectations.**

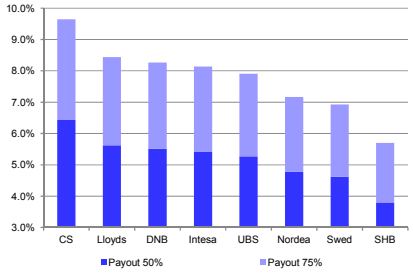
Some banks are unlikely to do better for some time

Banks lower down the table can be split into two groups. The first are banks that already achieve high payout levels and because of regulatory risk will not be able to improve payouts further for some time (mainly Swedish banks where we see 75% as the limit). The other group is banks that are likely to face constrained payouts for years to come because either they need to build capital, have high regulation risk, have low earnings capacity or all of the above.

We believe from here on it is better to own names such as UBS, CS, ISP, and Lloyds than the Swedish retail banks (Swedbank and SHB) that have already achieved high payouts (in the Nordics our top pick is DNB). While we still believe in decent total returns, these names could do better.

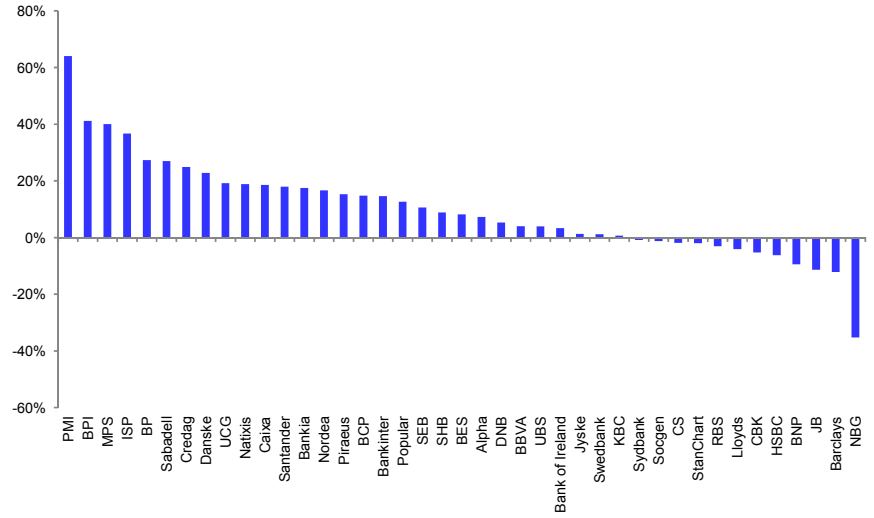
Among our Buy-rated stocks, the large caps where we see potential for payout surprise over the next few years even after considering regulatory risk and have underperformed YTD are Lloyds and CS.

Figure 5: Potential yield on 2016 EPS at 50 and 75% payouts – Swedish retail not that special in the future?



Source: Deutsche Bank estimates

Figure 6: European Banks – total returns relative to the sector YTD



Source: Deutsche Bank, Datastream

Figure 7: Top picks summary

Stock	DB Rec.	Price	Target price	Upside	Mkt Cap EURbn	Adjusted PE 2015E	Adjusted PE 2016E	Dividend Yield 2015E	Dividend Yield 2016E
UBS	Buy	17.8	21.0	18%	54.9	11.1	9.4	4.2%	5.6%
CS	Buy	27.1	31.0	15%	35.2	8.5	7.9	2.6%	4.6%
Lloyds	Buy	0.79	0.90	14%	69.9	10.0	9.0	4.4%	6.3%
Intesa	Buy	2.5	2.8	12%	41.2	11.2	9.4	4.9%	7.5%
DNB	Buy	115.4	128.0	11%	23.0	9.6	9.3	2.6%	5.4%

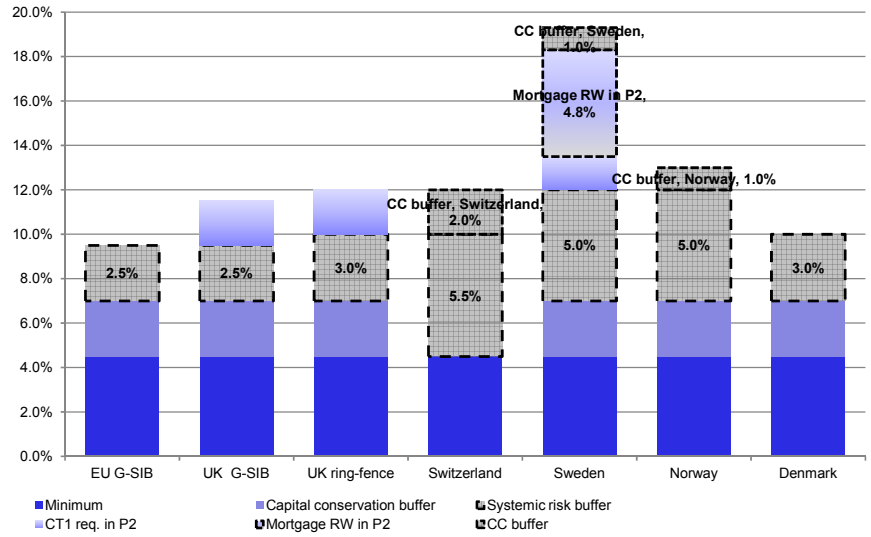
Source: Deutsche Bank estimates

Stock calls and capital-adjusted valuation

CT1 requirements by geography post-Sweden "capital memorandum"

After we have summarized our framework to think about regulatory risk and potential for dividend surprise, we think about valuation. We use capital-adjusted PE multiples for more meaningful comparison between banks (at least within geographies and similar business mix). We start by summarizing below the core tier 1 requirement by geography as it appears today, following the capital memorandum from the Swedish FSA.

Figure 8: CT1 ratio requirements in Europe by geography



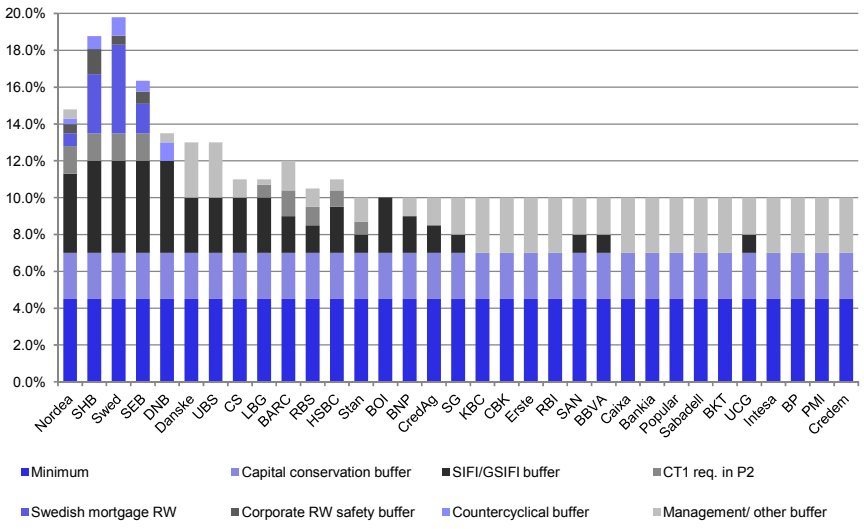
Source: Deutsche Bank

PE multiples capital-adjusted to hurdle rates as a valuation metric

We use a minimum bind of 10% if the required CT1 is below. We believe that for most of the listed universe this will be the "go to" ratio at least if not more. This could go higher, but for valuation, it still gives us relative information on which banks have the more comfortable buffers relative to requirements.

We use CT1 hurdle rates and our forecast B3 fully loaded ratios to capital-adjust PE ratios for European banks under our coverage. In Figure 9, we summarize the hurdle rates for each bank as we expect.

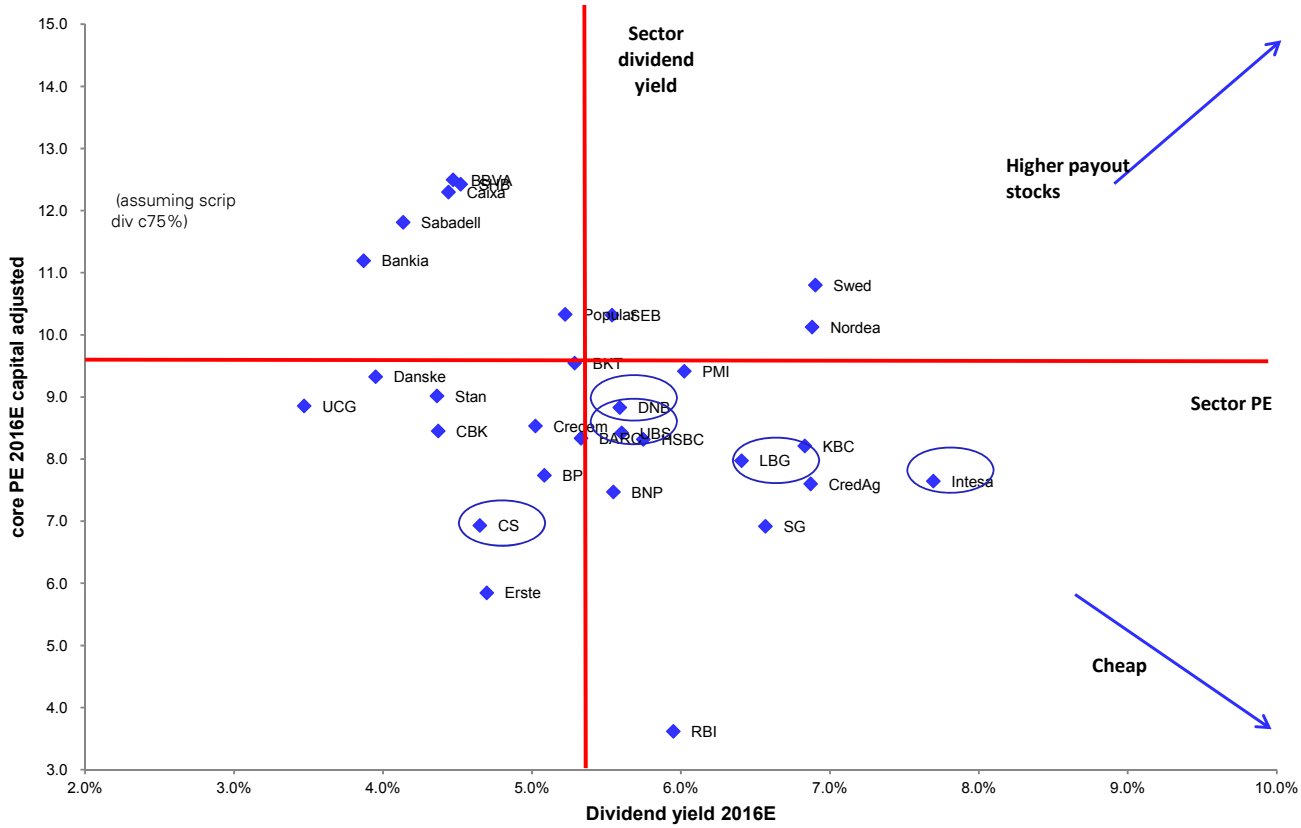
Figure 9: CT1 hurdle rates or "go to" ratios we expect by bank



Our expected core tier 1 hurdle rates run from CT1 B3 fully loaded figure of 10% to nearly 20% for Swedbank

Source: Deutsche Bank
**List of G-SIBs and buckets in the appendix.*

Figure 10: Capital-adjusted PE 2016E and dividend yields 2016E – Earnings momentum is still disappointing – Buy banks on a cheaper PE, with the ability to absorb regulatory risk, surprise, and re-rate on dividends

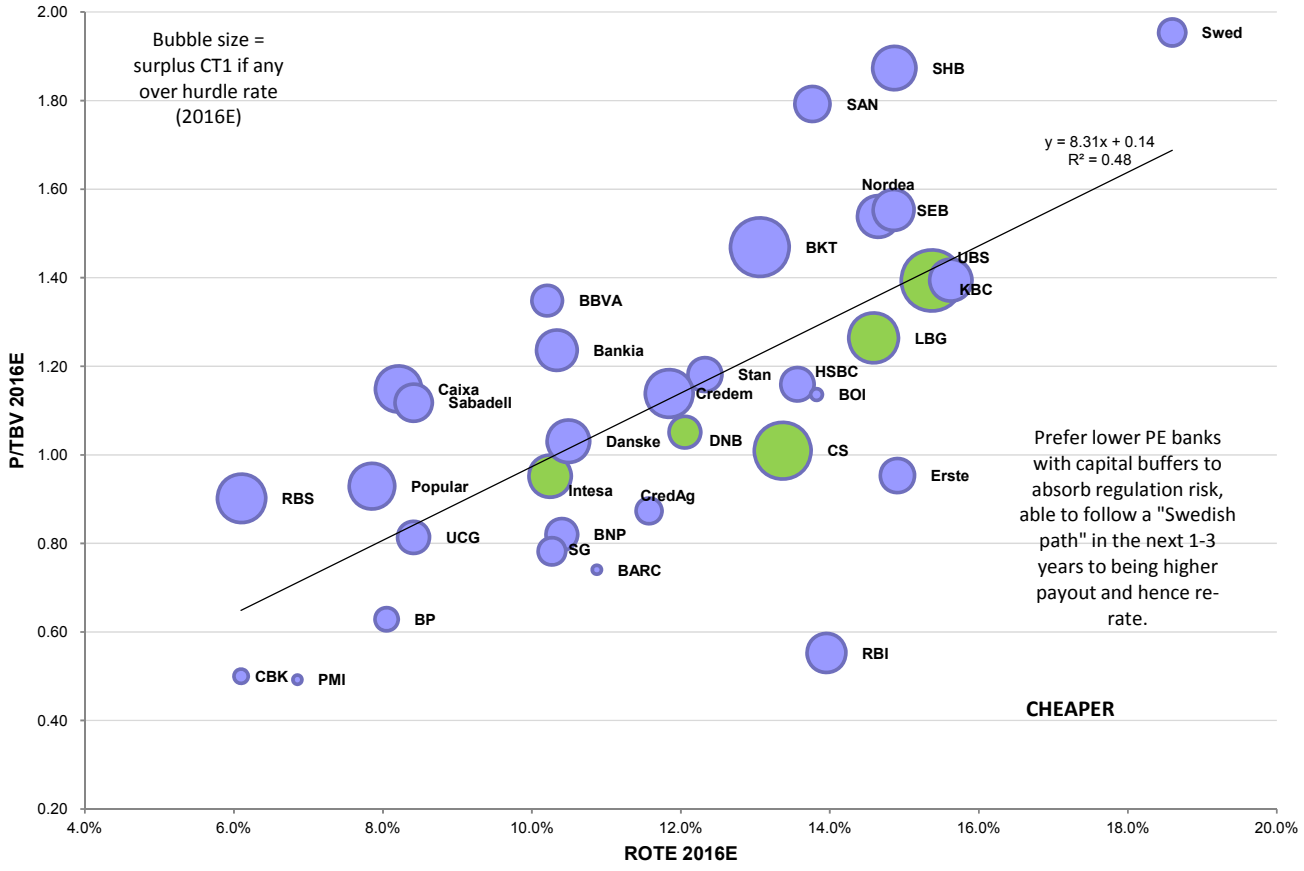


Source: Deutsche Bank estimates
** Capital-adjusted by calculating difference of CT1 B3 from the hurdle rates in per share terms and subtracting from the share price*

Forecast ROTE and tangible book multiples in the European banks sector

Below, we map out our ROTE 2016E against P/TBV 2016E multiples. We believe investors should prefer, among the lower PE banks, those that have adequate capital buffers to absorb regulatory risk and then those that have the best potential to surprise and re-rate on payouts. These names would include CS, Lloyds, Intesa, UBS, and DNB. Earnings momentum is still negative. We view banks as the new cyclical utilities and we expect payout capacity to drive re-rating for those banks that can make the "Swedish journey" over the next one to three years.

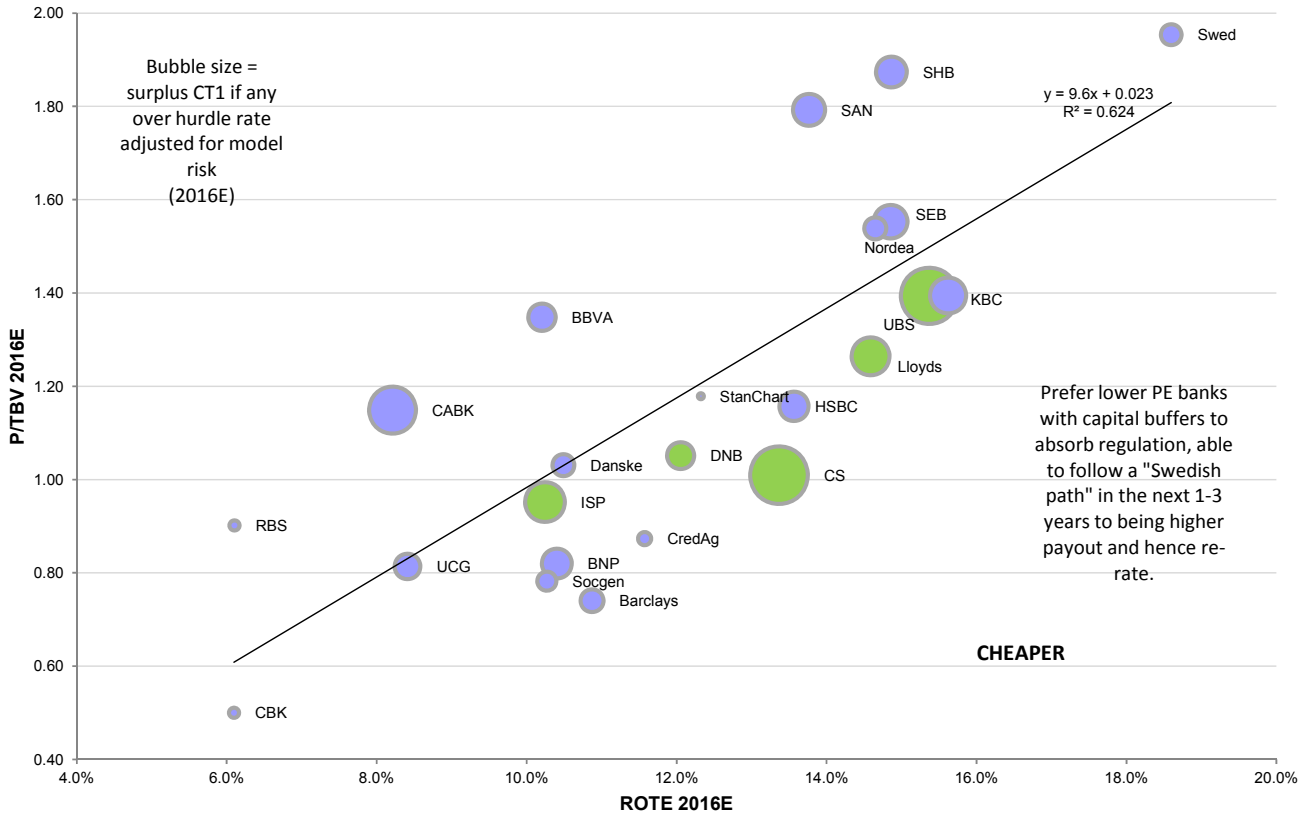
Figure 11: European bank sector ROTE 2016E and PTBV 2016E – Buy banks that are able to absorb regulatory risks and make the "Swedish journey" over the next one to three years to become higher payers and re-rate
*Top picks in green



Source: Deutsche Bank estimates

On the next page, we re-draw the bubble chart for the large cap banks. However, the bubbles are adjusted for our model risk framework. As such, it puts stocks less affected by model risk in a better light relative to the group.

Figure 12: Large cap European banks – CT1 progress to 2016E adjusted for model risk framework
*Top picks in green



Source: Deutsche Bank estimates

Standardizing European banks' IRB models

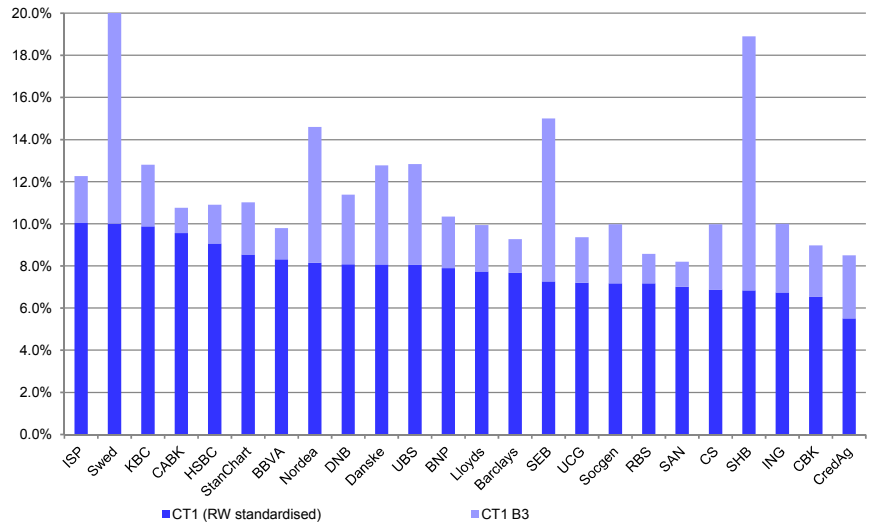
Governor Tarullo wants to abandon the IRB model approach

Given our report is about increasingly trapping capital with regulatory actions on model risk, we consider approaches other than floors. There is a policymaker camp of opinion that would potentially want to bin the IRB approach to calculating RW, but leave the rest of the Basel 2/3 framework intact. We undertake an exercise (with the data we have collected from Pillar 3 reports) on what European bank ratios would look like if we apply standardized/uniform RW to the IRB portfolios. This outcome is certainly not our core view. However, we do believe it is possible that banks might be asked to report their ratios on a standardized basis in the future to enhance transparency and comparability.

Reversion to standardized approach for reported ratios is certainly not our core view. It could become a disclosure requirement to enhance transparency and comparability.

We adopt a simplicity approach and apply 25% to institutions, 50% to retail and 100% to corporate in the IRB portfolios and add the increases to B3 RWA. As such, we see this as onerous as RWAs can get, if we consider that we are using higher credit RWA density, market and operational RWA with B3 inflator and B3 numerator for core tier 1 figure. We show what the results would be below:

Figure 13: CT1 B3 fully loaded using standardized RW (2013)



Source: Deutsche Bank estimates, company data
**Swedbank and Nordea CT1 B3 adjusted for advanced corporate model approvals.*

Under standardization there is a much tighter compression of capital ratios than under the IRB system. Ratios are lower across the board, although, in our view, regulatory hurdle rates would also be lower, while 10% under IRB is not the same 10% as under the standardized rules.

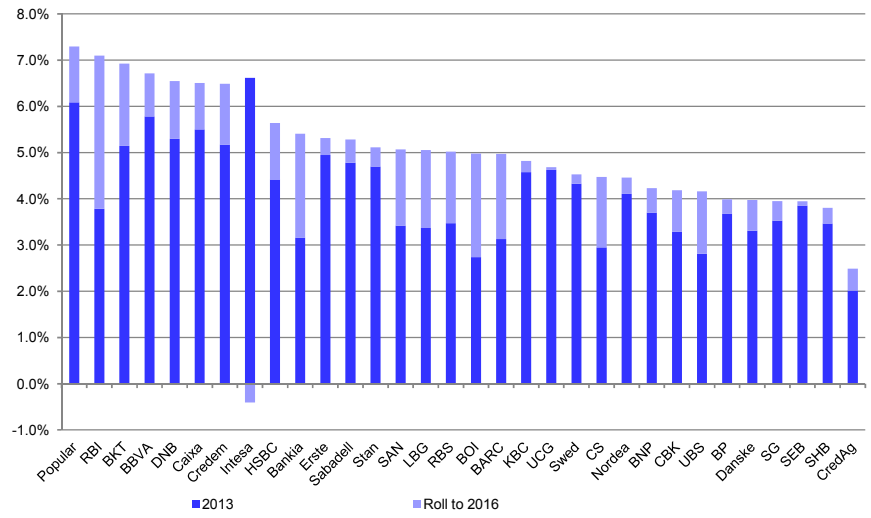
The market and policymakers cite comparability issues on ratios and that the model system is open to abuse. *Reductio ad absurdum*, if we go to the standardized extreme – how much value would a risk weight system give in helping determine balance sheet strength that ranks a Unicredit above a Handelsbanken?

Leverage ratio – most European banks reach 4-6% by 2016

Most European banks sit comfortably in the 4-6% bracket by end-2016

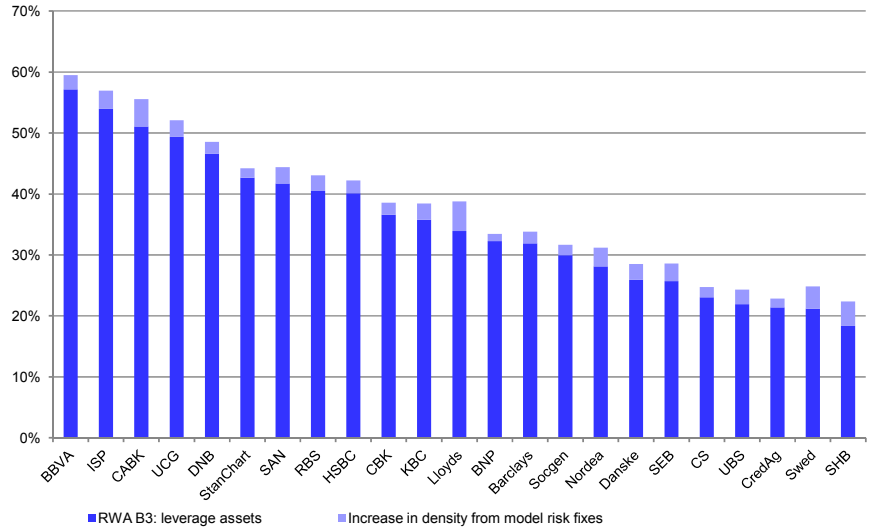
Regulators will tighten requirements as banks can absorb. The observation period for the current proposals set at 3% will not end until later this decade. So, banks get the time benefit to build. Policymakers are unlikely to make the mistake of forcing banks into choosing between capital raising and de-leveraging again before a recovery. Below, our estimates show that most European banks will be in the 4-6% bracket by end-2016 given our current payout assumptions.

Figure 14: European banks leverage ratio estimates – roll forward to 2016



Source: Deutsche Bank estimates, company data
**Leverage ratio is for Credit Agricole SA*

Figure 15: RWA density on leverage assets and with model risk fixes (2013)

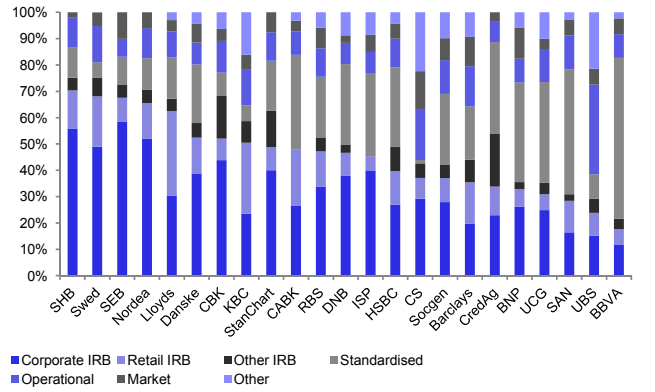


Source: Deutsche Bank estimates, company data

We expect rising RWA density to be a long sustaining trend. Policy options to tackle model risk issues that regulators are worried about could be part of the drivers. Model risk fixes add EUR 495bn RWA to EUR 20tr of leverage assets (i.e., +2% RWA density).

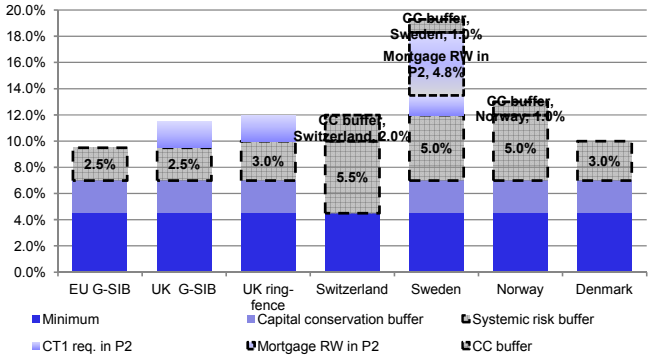
Key charts

Figure 16: RWA by source, 2013



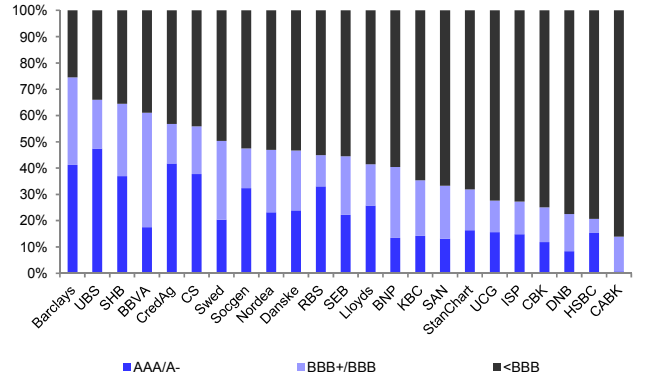
Source: Deutsche Bank, company data

Figure 17: Capital requirements by geography



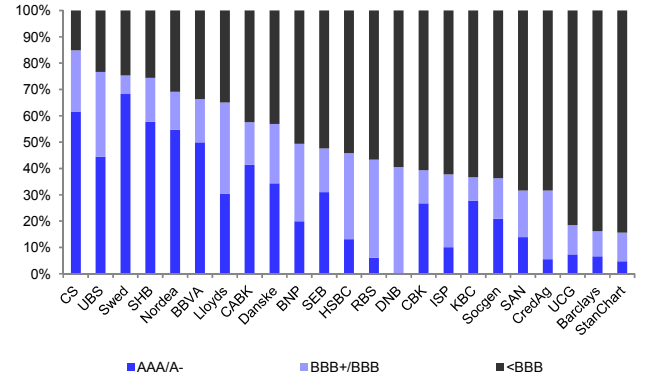
Source: Deutsche Bank

Figure 18: Share of low default in corporate IRB exposure



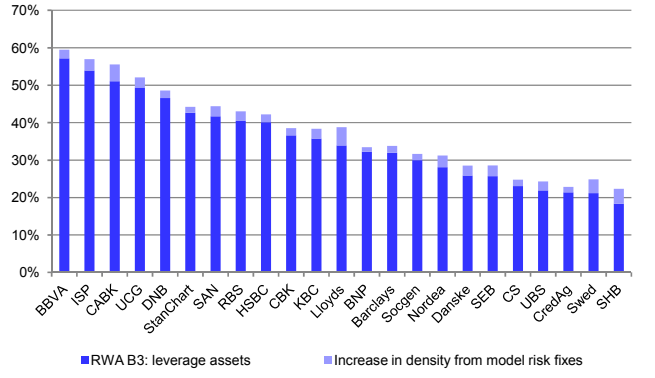
Source: Deutsche Bank estimates, company data

Figure 19: Share of low default in retail IRB exposure



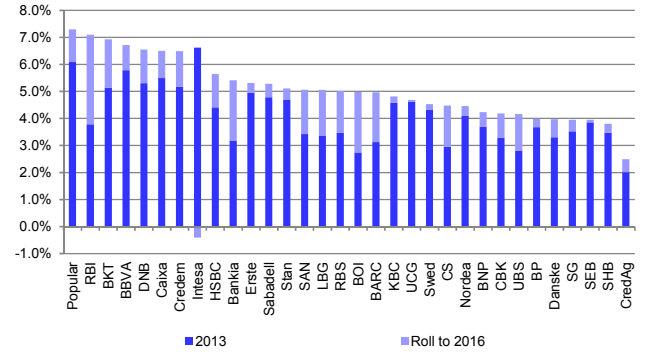
Source: Deutsche Bank estimates, company data

Figure 20: RWA density increase with model risk fixes



Source: Deutsche Bank estimates

Figure 21: European Banks – leverage ratio estimates



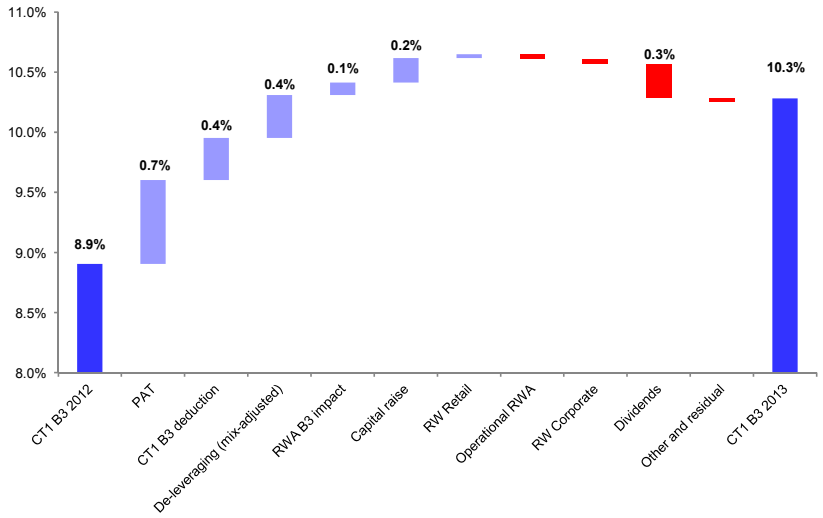
Source: Deutsche Bank estimates, company data

Model risk rising up the agenda

European banks' capital generation – myth and fact

In 2013, European banks fully loaded Basel 3 CT1 improved by 140bp from 8.9% to 10.3%. There are perceptions that European banks fudged their way to boosting ratios by employing model changes. Our data collection and analysis of capital data from Pillar 3 reports has allowed us to split out sources of capital improvement with a much better level of granularity than in the past.

Figure 22: European Banks – fully loaded CT1 B3 ladder, 2013



Source: Deutsche Bank estimates, company data

We find very limited capital build from model changes. However, we did see capital upgrades from regulation. Most capital build has come from earnings, regulator decisions (e.g., DTA relaxation in Spain and SME RW multiplier), regulation-push behavioral changes (derivatives on exchange), capital raises, and lastly, real de-leveraging. **The first quarter saw the end of capital upgrades and now we believe there will be a trend of rising RWA density.**

For Europe, in sum, there were no material changes in retail and corporate RW in 2013. However, this hides geographic differences. Sweden saw roughly 80bp of capital generation from RW changes if we adjust year-end figures for the pending advanced corporate model approvals for Nordea and Swedbank in 1H14. Nordics as a whole saw less benefit from RW changes given the hit Danske received from regulators on corporate RW (the second largest balance sheet in the Nordics).

Policymaker noise on risk weight system increasingly hawkish

The problem of RWA variability is high up the regulatory agenda. Governor Stefan Ingves of the Riksbank and Chairman of the BCBS repeatedly flags the issue:

"While it is difficult to be precise on how much scatter is "too much", the range of bank practice-based variations is uncomfortably wide… Some others in the industry have been less keen to acknowledge there is a problem. ***The message I would like to leave you with today is that there is one, and we plan to do something about it****"* ("Restoring confidence in banks," Governor Ingves of the Riksbank, 4 March 2014).

Governor Tarullo's recent speech at the Chicago Federal Reserve Conference outlined views wanting to bin the entire IRB system altogether:

"At the time of its development, the IRB approach seemed intended to result in a modest decline in risk-weighted capital requirements, a goal that the financial crisis revealed to be badly misguided. But even with the higher capital ratios required by Basel 3, the IRB approach is problematic. The combined complexity and opacity of risk weights generated by each banking organization for purposes of its regulatory capital requirement create manifold risks of gaming, mistake, and monitoring difficulty. The IRB approach contributes little to market understanding of large banks' balance sheets, and thus fails to strengthen market discipline. And the relatively short, backward-looking basis for generating risk weights makes the resulting capital standards likely to be excessively pro-cyclical and insufficiently sensitive to tail risk. ***That is, the IRB approach—for all its complexity and expense—does not do a very good job of advancing the financial stability and macro-prudential aims of prudential regulation****"* ("Rethinking the Aims of Prudential Regulations," Governor Tarullo, 8 May 2014).

While this probably represents one end of the spectrum of policymaker opinion, clearly there is a body of opinion that believes the status quo for the risk weight system is not acceptable. There are many more examples we could list. A consensus could form around backstops for the models as a policy option to deal with model risk. We attempt to quantify what such backstops could mean for capital ratios of European banks.

Figure 23: Spread of RW among European banks analyzed (2013)

	Low	High	Mean	Median	SD	SD: Mean
RWA: Assets	19%	52%	35%	34%	10%	29%
Corporate IRB RW	28%	70%	48%	48%	11%	22%
Retail IRB RW	8%	32%	19%	20%	7%	35%
Mortgage IRB RW	5%	34%	14%	14%	6%	42%

Source: Deutsche Bank estimates, company data

Model risk from low default portfolios

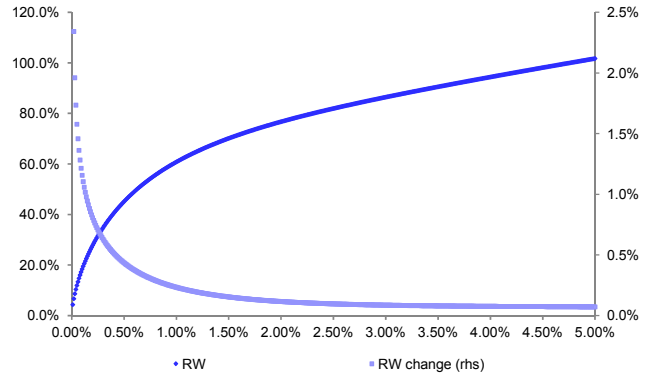
Challenge of calculating RW for low-default portfolios

"(a) ***the model shall have good predictive power and capital requirements shall not be distorted as a result of its use****. The input variables shall form a reasonable and effective basis for the resulting predictions. The model shall not have material biases;"* (CRR Article 174).

RCAP (Regulatory Consistency Assessment Programme) of the BCBS (Basel Committee on Banking Supervision) flags that a well known quantification problem within IRB is the estimation of risk parameters for low-default portfolios. The challenge is particularly acute for low-default wholesale portfolios. Additionally, idiosyncratic internal ratings grade can map similar exposures into different buckets between banks that have the potential to create differences in RW for the same credit exposure.

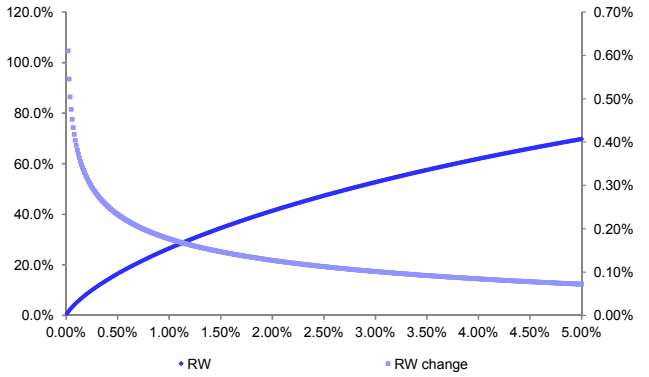
Below, we illustrate the sensitivities of risk weights as we move up the PD scale. The RW change at low PD is higher than at high PD categories, giving rise to a greater chance of estimation errors. This could create meaningful differences in capital requirements at different banks for exactly the same exposure. Consider the bank with the highest proportion of highly rated (PD <0.25%) corporate loans has c.74% of loans in these buckets (Barclays). The figure for the bank with most highly rated retail loans is 85% (Credit Suisse).

Figure 24: Corporate RW sensitivity to PD



Source: Deutsche Bank estimates
**held constant LGD 30% and 2.0 year effective maturity*

Figure 25: Retail mortgage RW sensitivity to PD



Source: Deutsche Bank estimates
**held constant LGD 20%*

Corporate and retail PD dispersion by bank in Europe

Dispersion and not just average PD is important

As flagged by the Norwegian FSA paper on mortgage RW, the rating distribution and concentration of exposures with low PD is an important driver of the RW differentials between banks. More dispersed distribution will lead to lower average RW for a fixed average PD. Intuitively this makes sense. If a bank has a concentrated level of exposures in low PD categories, then this should drive much lower corporate RW. Average corporate or retail RW does not give us enough information to determine the impact of floors on capital ratios.

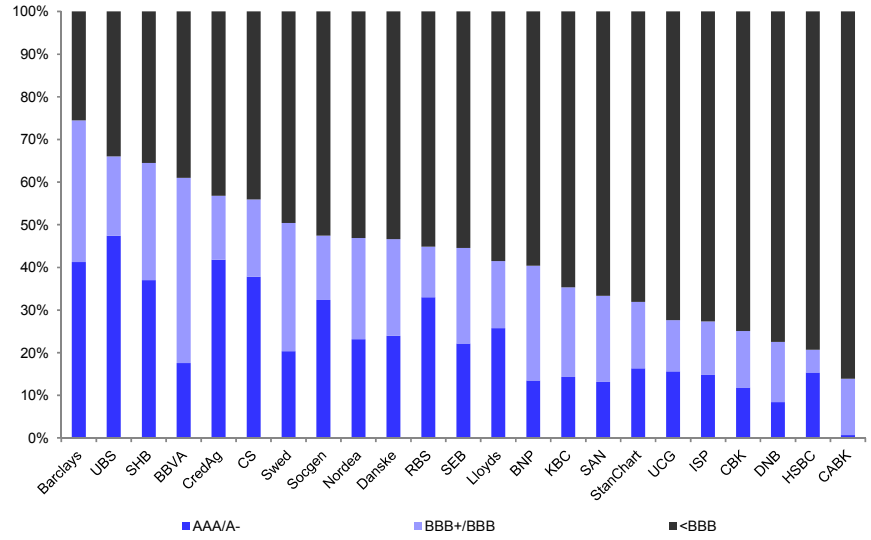
Challenges in data gathering, analysis, and methodology

The challenge in performing a meaningful analysis of PD dispersion is: 1) granularity of data offered by the banks in Pillar 3 and 2) idiosyncratic ratings categories between banks that place limits on the ability to compare data. We have created a framework to tackle these issues and attempt to compare banks. However, there is also a bigger disclosure issue here. Specifically, how useful is the Pillar 3 data to the market in its current form. Having gone through the Pillar 3 documents, there are huge disparities in disclosure and granularity of data. We believe improvement is needed to give the market a more meaningful understanding of what is driving differences in capital ratios between banks. **More standardization of disclosure if not risk weights is desirable.**

Methodology – mapping to external ratings

We tackle the issue of idiosyncratic ratings categories by mapping internal ratings to S&P ratings to find the proportion of loans effectively rated AAA/A- and BBB+/BBB buckets. We accept there will be estimation errors when mapping the internal ratings categories to S&P ratings – given cumulative frequency in each bucket is not linear. Example below:

Figure 26: Example – estimated share of corporate loans on IRB approach AAA/A- and BBB+/BBB rated



Source: Deutsche Bank estimates, company data

Estimating impacts of PD floors by bank

PD floor of 0.25% across corporate and retail exposures

For the purposes of our analysis, we work with the assumption of a PD floor of 0.25%. Arguably, it could be an arbitrary level at which to select a floor. However, it will at least give a ranking and comparing method if we use the same subjective level across all banks under our coverage.

Yet, Norway is looking at increasing PD floors to 0.2-0.3% for residential mortgages, so at the very least, our selection of 0.25% as a floor has some anchorage in sector experience and real action to date.

Calculating RW inflation from PD floors

Aside from placing exposures into homogenous ratings buckets, the second potential source of error in our analysis is in holding all other variables constant when calculating RW inflation caused by PD floors.

Low PD exposures may have different average LGD or effective maturity-linked adjustment than the population. As such, it would be impossible to calculate the precisely correct level of RW inflation. We strive to be fair in our treatment across all exposures and banks by using fixed assumptions. For example, for corporate exposures, we fix LGD at 20% (simple sample mean of LGD is 29%) and we use effective maturity of 2.0 years when calculating RW inflation from increasing PD.

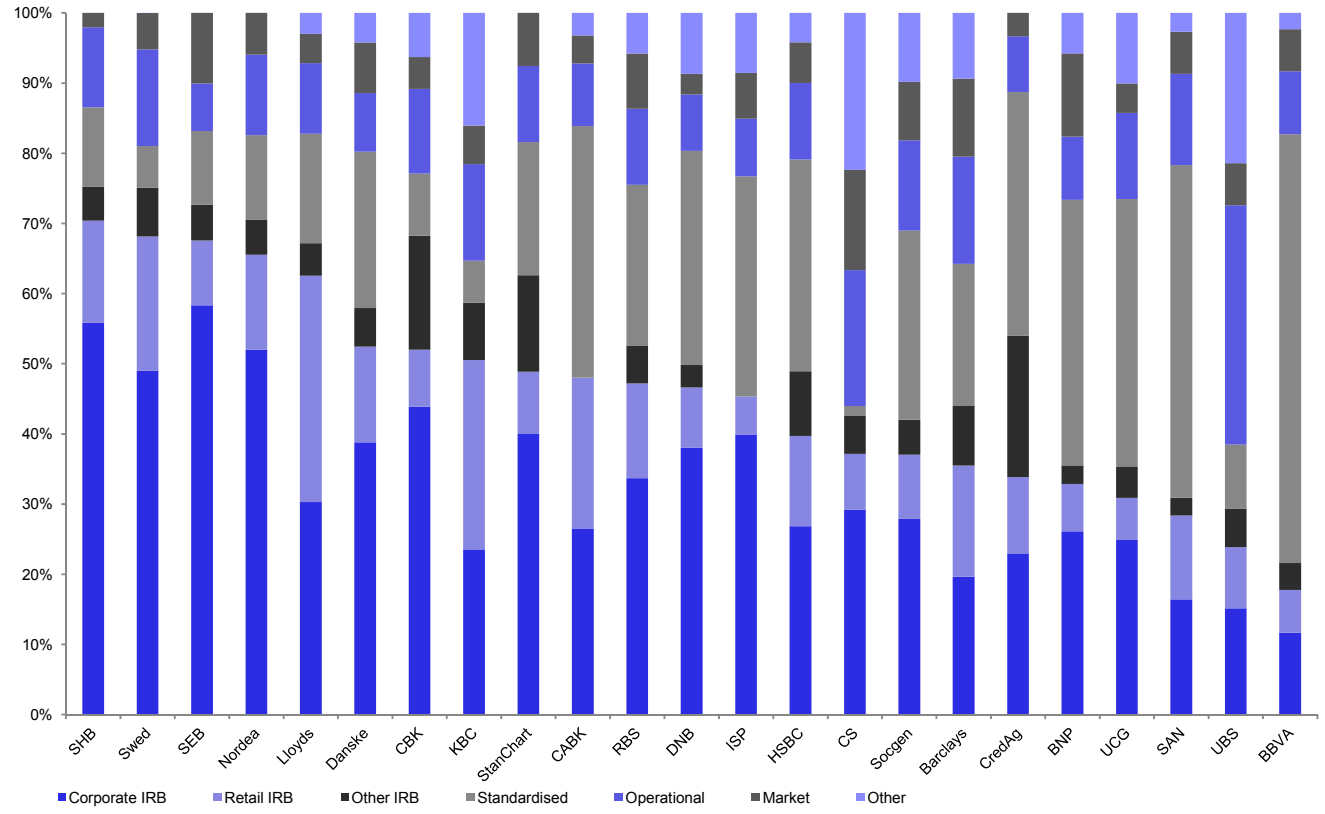
We have already flagged some sources of estimation errors in our methodology, but we believe we have a good enough framework here on which the banks may be compared. If we are being unfair then we are being unfair to each and every bank equally.

Figure 27: Parameters for calculating impact of PD floors

		PD	LGD	Maturity (M)	RW	RW increase
Corporate	AAA/ A- (PD <0.1%)	0.05%	20%	2	7.9%	13.0%
	BBB+/ BBB (PD c 0.10-0.25%)	0.18%	20%	2	17.1%	3.9%
	PD floor	0.25%	20%	2	21.0%	0.0%
Retail	AAA/ A- (PD <0.1%)	0.05%	10%	na	1.5%	3.5%
	BBB+/ BBB (PD c 0.10-0.25%)	0.18%	10%	na	3.9%	1.2%
	PD floor	0.25%	10%	na	5.0%	0.0%

Source: Deutsche Bank estimates

Figure 28: RWA by source by bank (2013) – ranked by banks with highest mix of model retail and corporate RWAs



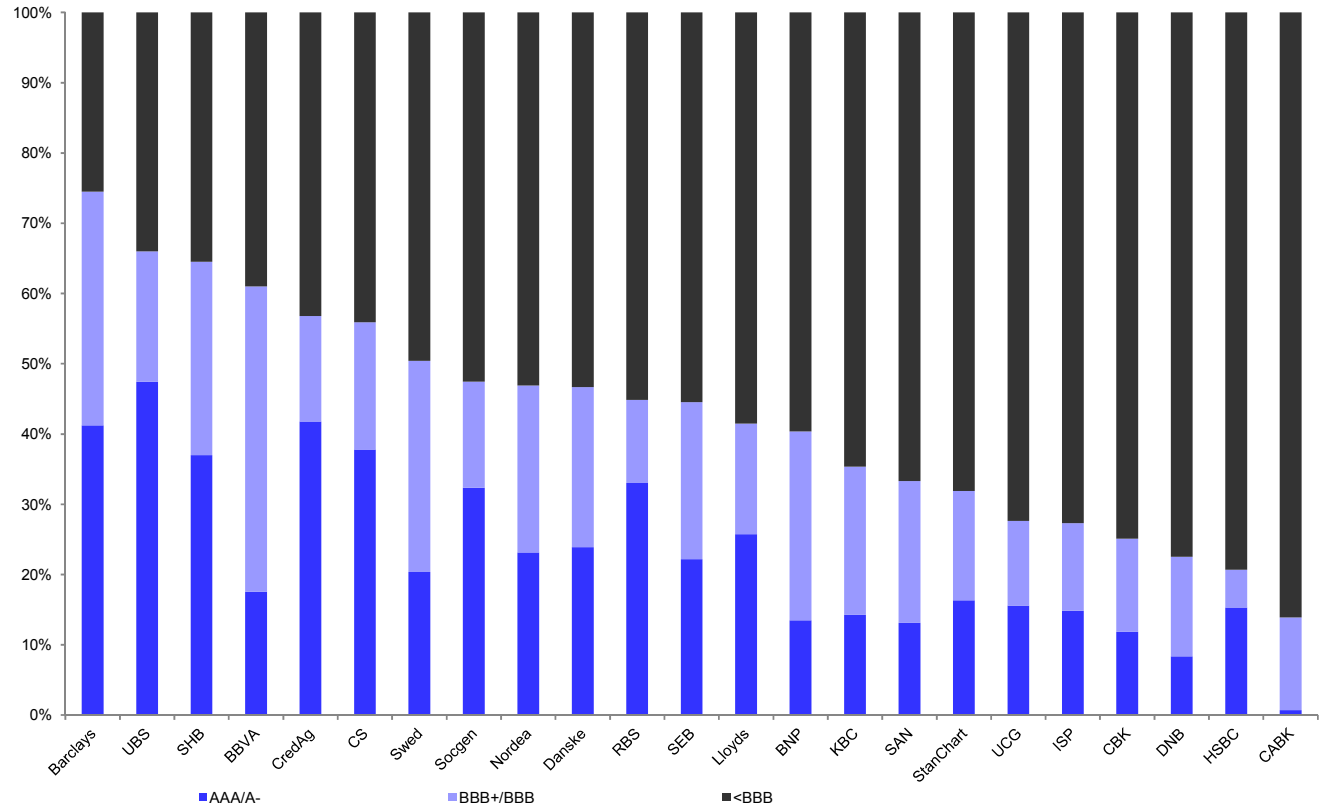
Source: Deutsche Bank, company data

Corporate PD floors impact

7 of 24 banks with >50% share of low PD corporate loans

Based on our estimation methodology, seven banks have more than half of their corporate EAD in low PD categories. These include two Nordic banks (Swedbank and SHB) and the two Swiss investment banks (CS and UBS).

Figure 29: Estimated share of corporate loans on IRB approach AAA/A- and BBB+/BBB rated



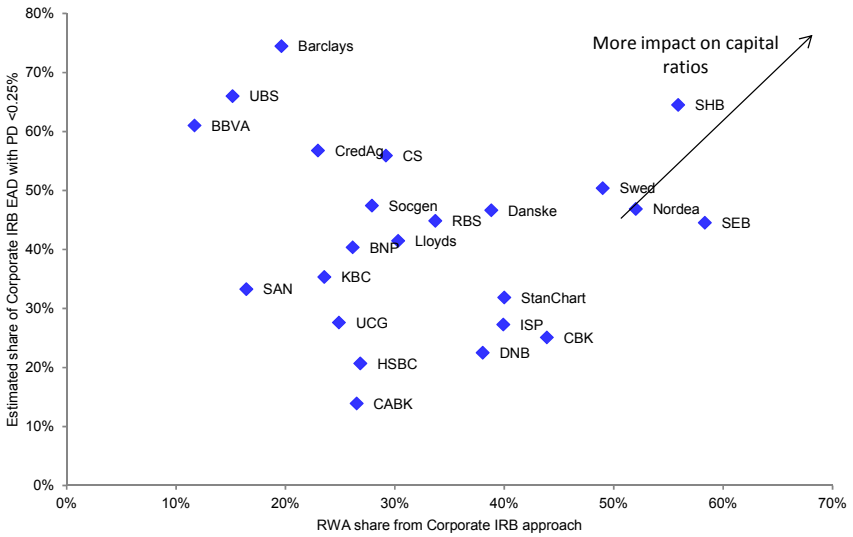
Source: Deutsche Bank estimates, company data

Nordics have a higher share of capital requirement from corporate models

In itself, a high proportion of low PD exposures is not reason enough to believe that PD floors will have a material impact on capital ratios. Banks most affected will have a higher share of low PD corporate loans **and** have a higher weight of their capital requirement coming from corporate IRB approach to start with.

As such, we plot these two variables in a scatter chart below. As a general rule of thumb, banks that are further out in the upper right hand quadrant of the scatter chart will see more impact on their capital ratios from the implementation of PD floors.

Figure 30: Share of corporate IRB vs. share of low corporate PD

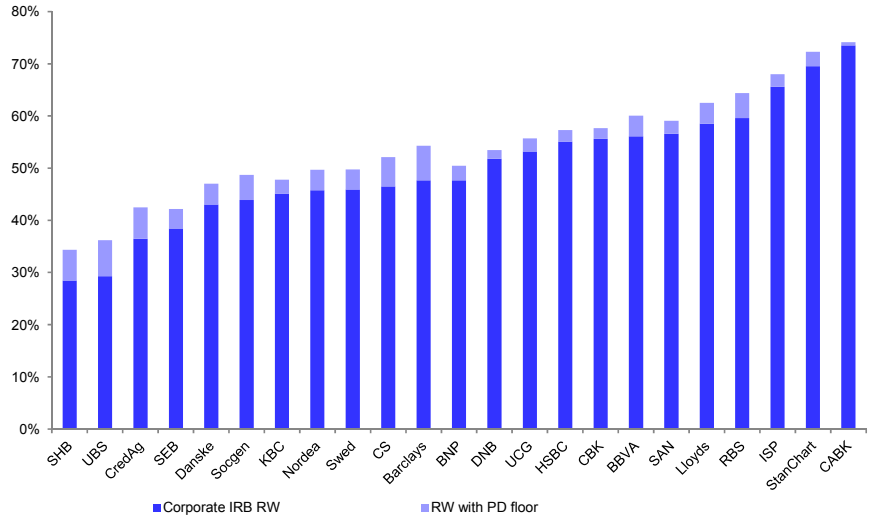


Source: Deutsche Bank estimates, company data

Average bank would see an increase in corporate IRB RW of 4%

The weighted average corporate IRB RW for European banks is 49%. If we apply our methodology to calculate the impact of a PD floor of 0.25%, the average bank would see an increase in the corporate RW of 4% from 48% to 52%. The spread of the impact would range from 6-7% for UBS, SHB, and CredAg to under 2% for DNB. We do not believe the framework we have used is unrealistically harsh. Even with the impact of the PD floor, SHB would still have the lowest corporate RW, so moreover rankings are preserved.

Figure 31: Impact of PD floor on corporate IRB RW



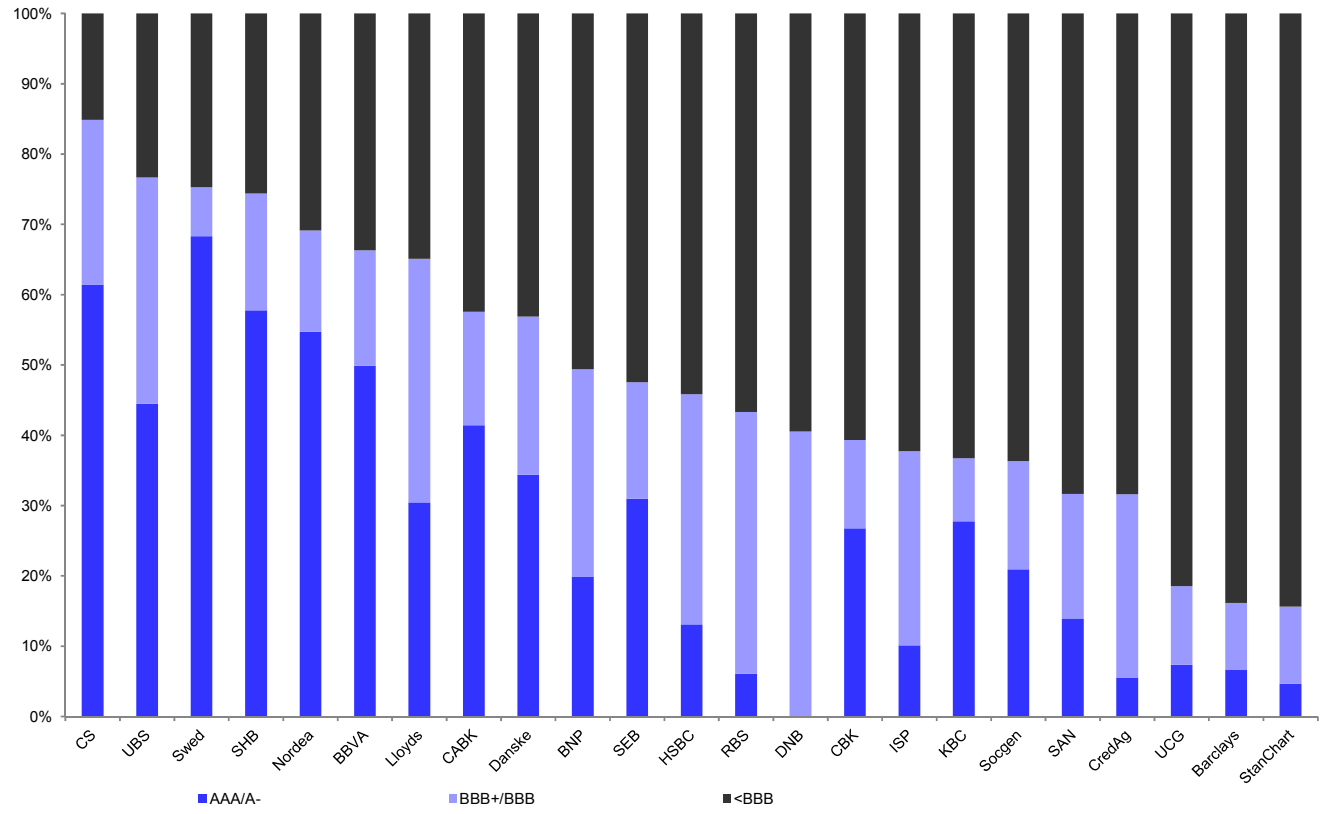
Source: Deutsche Bank estimates, company data

Retail PD floors impact

9 of 24 banks with >50% share of low PD corporate loans

We run the same exercise with the retail IRB portfolios. Nine banks have more than half of their corporate EAD in low PD categories. These include two Nordic banks (Swedbank and SHB) and the two Swiss investment banks. This is likely to be a function of historical loss data in Sweden and high rated private banking clients at the Swiss banks.

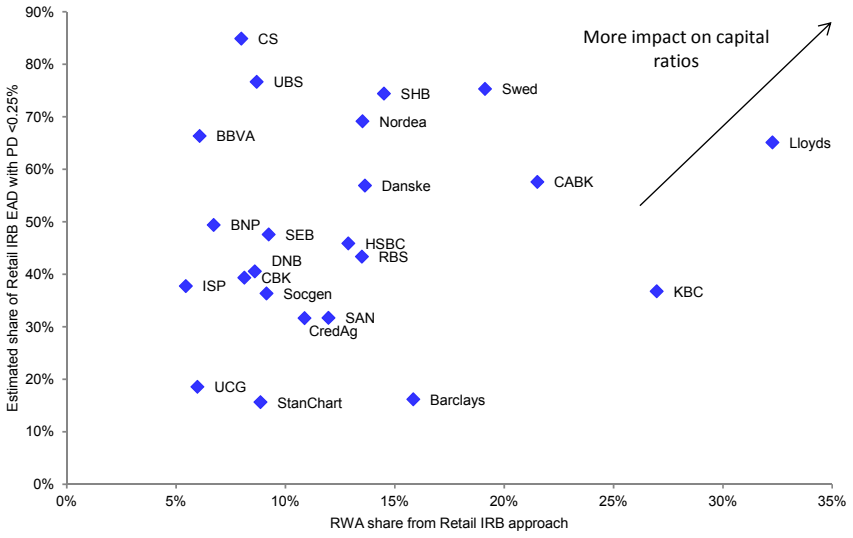
Figure 32: Estimated share of retail loans on IRB approach AAA/A- and BBB+/BBB rated



Source: Deutsche Bank estimates, company data

We plot a similar scatter chart below as for the corporate exercise (with the two variables being RWA share from the retail IRB approach and proportion of low PD exposures). As a reminder, the general rule of thumb is banks that are further out in the upper right hand quadrant of the scatter chart will see more impact on their capital ratios from implementation of PD floors.

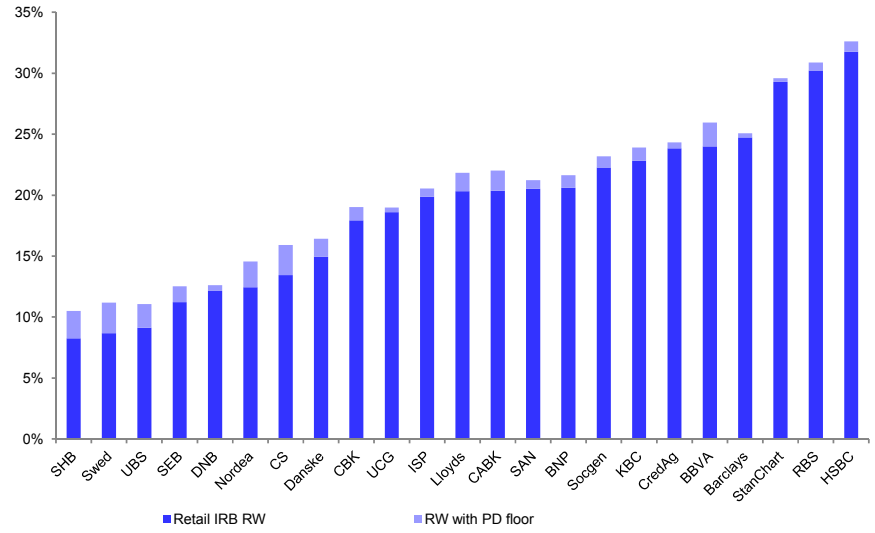
Figure 33: Share of retail IRB vs. share of low retail PD



Source: Deutsche Bank estimates, company data

The weighted average retail IRB RW for European banks is 19%. If we apply our methodology to calculate the impact of a PD floor of 0.25%, the average bank would see an increase in the retail RW of 1.2% from 19% to 20%. The spread of the impact would range from 3% for Swedbank and CredAg to under 30bp for Barclays and Standard Chartered. We do not believe the framework we have used is unrealistic. If anything, the outcomes could leave the framework open to the accusation that it is not harsh enough. We note that Pillar 2 risk weights on mortgages in Sweden are well above at 25%.

Figure 34: Impact of PD floor on retail IRB RW



Source: Deutsche Bank estimates, company data

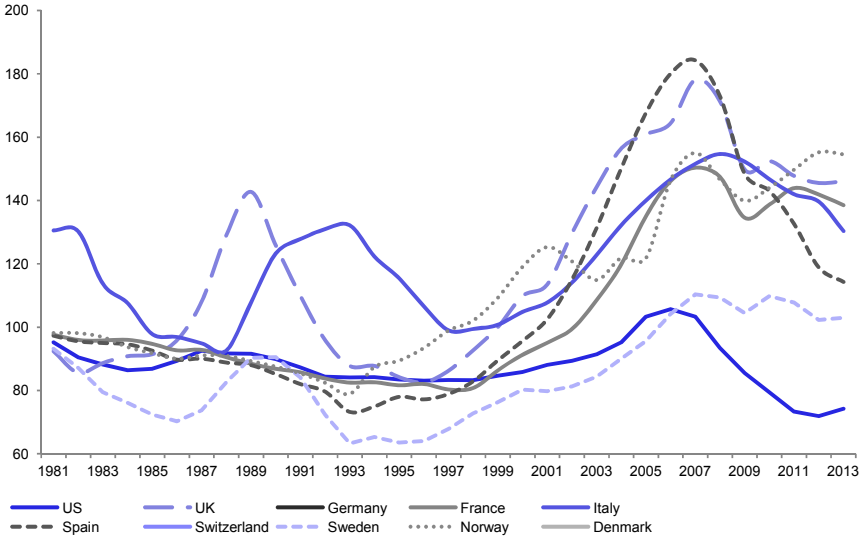
Housing market hotspots

Long-run house price to disposable income ratios

House price to income ratios are a popular metric and a focus in the Nordics

Aside from credibility, transparency, and backstop issues for models, we expect a major driver of RW increases as well to be the use of macro-prudential policy tools. Numerous house price bubble studies find challenges in calling under/over-valuation in absolute terms. A favored metric among policymakers and certainly the IMF is the current house price to income ratio compared to long-run averages. We show a time series below. We have picked a start date and illustrated the progression in these metrics.

Figure 35: House price to income ratios – distance from 1992-2013 mean

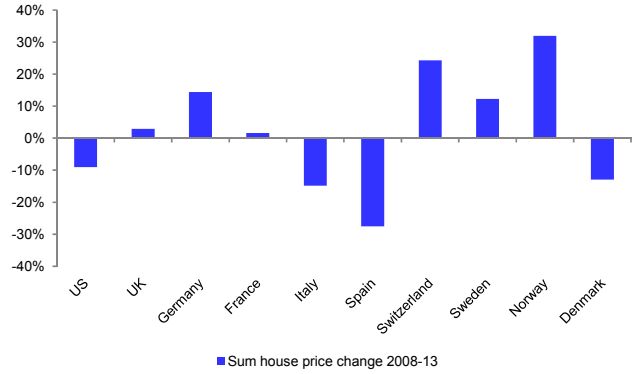


Source: Deutsche Bank, Datastream

A number of countries have shown meaningful price appreciation

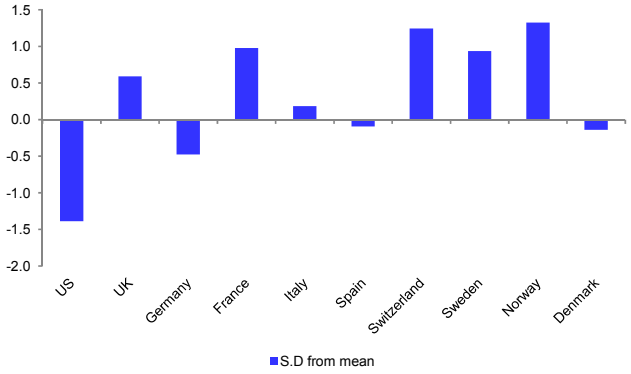
Since 2008, Norway, Switzerland, Germany, and Sweden from our group below have seen >10% appreciation on a national level starting with the highest. Out of the group, Norway and Switzerland are both more than 1 S.D. from the 1992-2013 mean, as illustrated in the charts on the next page.

Figure 36: House price changes, 2008-13



Source: Deutsche Bank, Datastream

Figure 37: Current house price – income standard deviations from 1992-2013 mean



Source: Deutsche Bank, Datastream

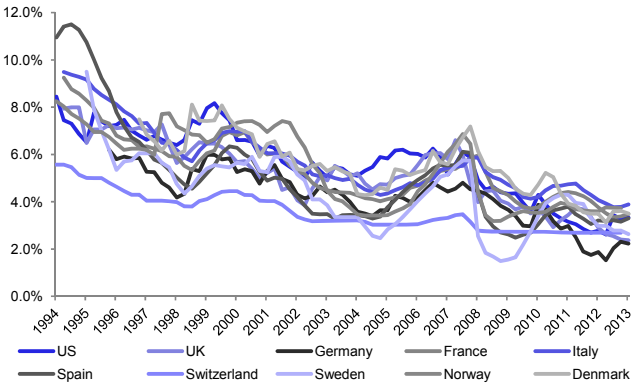
Affordability good now: rates at lows, but debt loads at highs

Policymakers worried about stability issues and mean reversion of rates

These may well be very long-term considerations. However, the mood of regulators is now to "lean against the wind". Mortgage rates in Europe are at historic lows, but household debt burdens in places are at highs. If we take Sweden as an example, household debt to income has increased by c.20% since 2007. However, the most popular mortgage rates are c.30% lower than they were in 2007. Clearly there is a concern that the house prices have been bid up because households can afford to service higher debt loads on current interest rates.

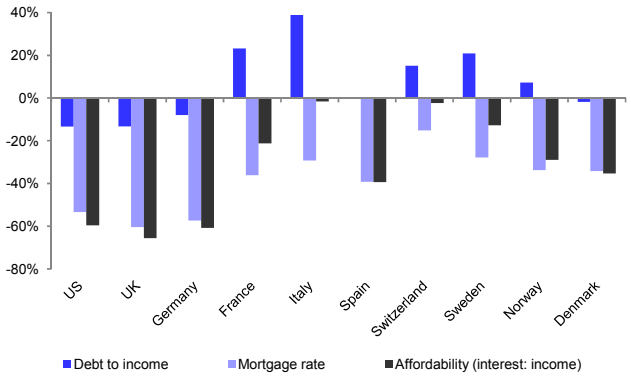
The worry for policymakers is that if we do eventually get mean reversion of interest rates, or we have a tail risk of sharp interest rate rise materialize, then this creates risk of house price shocks and falls in discretionary consumption.

Figure 38: Popular mortgage rates, 1994-2013



Source: Deutsche Bank, Datastream

Figure 39: Change in mortgage debt to income, popular mortgage rates and affordability (2007-13)



Source: Deutsche Bank, Datastream

ESRB publishes macro-prudential policy handbook

Wide range of tools and discretion for national regulators

Member states can now use (from 1 January 2014) macro-prudential policy tools outlined in CRD/CRR. Some geographies have been swift in the implementation (e.g., Norway). The European Systemic Risk Board (ESRB) on 3 March 2014 published the *Handbook on Macro-Prudential Policy in the Banking Sector*, offering detailed and instrument-specific advice on design and policy implementation. The *Handbook* gives us good guidance on how countries will think about measuring risks to financial stability and implementation of tools to counteract those.

There are more obvious tools already selectively used by some

We outline the potential macro-prudential policy tools on the next page. The counter-cyclical capital buffer (CCB) is potentially the most widely publicized tool that can be applied from 1 January 2014. As can be seen from the table, there is no shortage of tools that countries can use to mitigate risks to financial stability. We have already seen LGD floors, PD floors and other calibrations, LTV constraints and amortization requirements. The measures have been fairly concentrated in a number of countries.

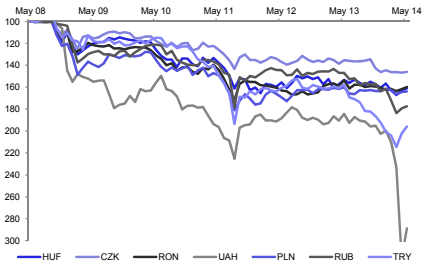
In a low interest rate QE world that can fuel easy asset bubbles, where regulators and central banks have moved to a "prevention" over "treatment" mentality, we can expect plenty more measures. Even if interest rates move up with US tapering, rates are likely to remain in absolute terms at historically low levels, especially in Europe.

Potential for other "leftfield" macro-prudential policy options and risks as well

Aside from the obvious tools we can capture, there is always the possibility that new tail risks or changing perceptions of regulators will drive macro-prudential measures that are unexpected. Regulatory awareness of increasing emerging market tail risk for example could lead to additional Pillar 2 requirements on forex loans. Forex loans have already been an issue in places such as Hungary for a number of years. The depreciation of a wide number of emerging market currencies could lead policymakers to discourage and seek additional capital requirements on this kind of lending. We note the disclosure of EBA stress test parameters has had a higher emerging market shock focus.

In Figure 41, we summarize the various tools that are available to be put in place as macro-prudential policy measures.

Figure 40: CEE currencies vs. CHF



Source: Deutsche Bank, Datastream

Figure 41: Instruments under the CRD/CRR for macro-prudential use – sourced from ESRB flagship report in macro-prudential policy in the banking sector

CRD instruments					CRR instruments			Other
Counter- cyclical capital buffer (CCB)	Systemically important institution (SII) buffer	Systemic risk buffer (SRB)	Liquidity requirements under Pillar 2	Other macro-prudential use of Pillar 2	Higher requirements on capital/ liquidty/ large exposures/ risk weights	Higher real estate risk weights and stricter lending criteria	Higher minimum exposure-weighted average LGD	Including LTV/LTI/DSTI and LTD limits and leverage ratio
CRD 130, 135-140	CRD 131	CRD 133-134	CRD 105	CRD 103	CRR 458	CRR 124	CRR 164	National legal framework
Mandatory buffer: Member States have to decide on a buffer rate informed by a buffer guide based on the credit-to-GDP gap. Other relevant variables also have to be considered. Member States can decide to apply the CCB from 2014 and must apply it from 2016. Mandatory reciprocity up to a buffer rate of 2.5% applies from 2019.	1) Mandatory surcharge for global systemically important banks (GSII) applicable from 2016. A surcharge between 1% and 3.5% of RWAs, depending on the degree of systemic importance of an institution. 2) Optional surcharge for other SIFIs (O-SII) applicable from 2016. A surcharge up to 2% of RWAs. 3) Combination rules between G-SII and O-SII buffers and the SRB ensure a floor/cap on all three buffers at the consolidated and subsidiary level.	Optional buffer on all or a subset of institutions. Until 2015 the competent or designated authority can set a buffer between 1% and 3% subject to notification to the European Commission, EBA and ESRB. An SRB above 3% requires authorisation by the European Commission after the EBA and ESRB have provided opinions. From 2015, the same authorisation is required for an SRB of above 3% on exposures in other Member States and of above 5% on local and third country exposures.	Optional: Competent authorities may impose specific requirements to address systemic liquidity risks. These include administrative penalties, including prudential charges that relate to the disparity between the actual liquidity position and any liquidity and stable funding requirements.	Optional: Competent authorities have the power to impose additional requirements on institutions with similar risk profiles in a similar manner if – inter alia – they pose similar risks to the financial system. These requirements include own funds and additional disclosures.	Optional: National authorities may apply stricter rules for a number of selected measures subject to an EU procedure. It has to be established that the measure is necessary, effective and proportionate, and that other specified measures cannot adequately address the systemic risk. These measures are subject to a notification and nonobjection process, with the Council having the final decision on whether to block a measure if objections	Optional: Competent authorities can set higher risk weights up to 150% based on financial stability considerations, taking into account loss experience and forwardlooking market developments.	Optional: Competent authorities can set higher minimum exposureweighted average LGDs (no upper limit) based on financial stability considerations, taking into account loss experience and forward-looking market developments. Applies only to retail exposures.	Optional: Member States can assign macroprudential instruments that are not covered by the scope of EU legislation. This includes instruments, such as LTV/LTI/DSTI limits (e.g. to dampen a boom in real estate mortgage lending or to curb excessive consumption lending), liquidity instruments, such as LTD limits, and a leverage ratio. These instruments are based

Source: Deutsche Bank

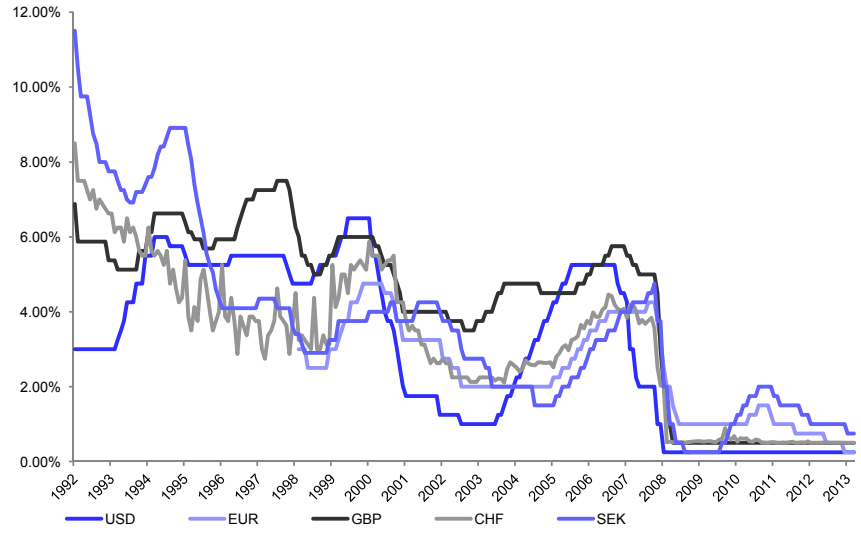
Non-EU17 countries will continue to act first, we believe

Countries with rapid house price growth likely to implement measures

"Currently, there is limited scope for monetary policy to increase interest rates, a measure which would also exert a dampening effect on the mortgage and real estate markets. Given the sustained period of extremely low interest rates, it is unlikely that the strong momentum in the mortgage and real estate markets will ease off in the near future" (Switzerland Central Bank rational for CCB activation).

The debate for the Euro zone is on easing rather than tightening. Deflation worries have skewed the debate toward easing in Sweden as well. Rates are expected to remain very low in a historical context for a prolonged period of time and as such, developments in real estate markets may continue to be strong. Sweden, Norway, Switzerland, and the UK are prime candidates to continue to have stronger macro-prudential policy measures compared to the rest of Europe.

Figure 42: Central bank policy rates, 1992-2013



Source: Deutsche Bank, Datastream

Nordic focus is on debt to income ratios – house prices up in Sweden

Household debt levels and house prices have been a key area of focus for policymakers in Sweden and Norway. With Swedish house prices increasing, we believe the risks continue to be skewed toward more action; especially with the backdrop of the debate of cutting rates further to head off deflation risks. Recently, Sweden increased risk weights on mortgages to 25%. We could certainly see this increase to 35% over the next few years if household debt to income levels continue to trend upward. We believe Norway is in a regulatory pause phase. With house prices more or less stabilized, we do not believe there will be any new action from policymakers. We would expect additional measures if house price growth was to move to the 5% range. In the next section, we consider the use of a "ready to go" tool.

Estimating the impact of raising LGDs

Discretion to NCAs and financial stability considerations

CRR text offers NCAs good degree of discretion for using LGD floors

Below, we find what we believe are relevant texts from CRR. There are a number of different methods, but clearly the macro-prudential tool box is large. LGD seems to be a fairly good way of applying tighter monetary policy through the risk weight system.

"5. Based on the data collected under Article 101 and taking into account forward-looking property market developments and any other relevant indicators, the competent authorities shall periodically, and at least annually, assess whether the minimum LGD values in paragraph 4 of this Article are appropriate for exposures secured by residential or commercial immovable property located in their territory. ***Competent authorities may, where appropriate on the basis of financial stability considerations, set higher minimum values of exposure weighted average LGD for exposures secured by property in their territory.***" (CRR 164)

"7. ***The institutions of one Member State shall apply the higher minimum LGD values that have been determined by the competent authorities of another Member State*** *to exposures secured by property located in that Member State."* (CRR 164)

Ready to go tool for macro-prudential policy

Norway applied 20% LGD in the first quarter

The beauty of using higher LGD is the apparent simplicity and transparency as we have seen in Norway. Foreign banks operating in the country must also apply the floors, which is important for countries with large foreign bank participation in domestic lending.

In Figure 43, we summarize the macro-prudential policy tools that have been put in place in various geographies so far. It is worth bearing in mind, that the policies that look to really have taken a bite out of house price growth in Sweden and Norway are affordability criteria and LTV constraints. It is difficult to separate out which specific factors are most responsible. Intuitively though, a much tighter LTV constraint probably hits the flow more than 25bp more expensive mortgage when rates are at historic lows.

Figure 43: Macro-prudential tools and RW measures implemented by country to date

	Mortgage RW	CT1 min.	LGD measures	PD floor measures	PD calibration	Pillar 1 measures aggregate	Pillar 2 measures	Counter-cyclical buffer	Loan-to-value cap	Amortis-ation rule	Debt service to income ratio/ other	Leverage ratio	Next catalyst or decision?
Denmark	13%	10.0%										3.0%	
Finland	9-35%	10.0%										3.0%	Guided 90%.
France	13%	9.5%										3.0%	
Ireland	13%	10.0%										3.0%	
Netherlands	15%	9.5%									Lifting tax deductibility of interest payments	3.0%	
Norway	10% (40% with under transition rules)	12.0%	20% floor	0.2-0.3%	Weighting of 20% for early 90s downturn	RW increase from 10% to c23%.		1.0%	85%	Guideline for LTV >75%		3.0%	
Spain	35%	9.5%										3.0%	
Sweden	5%	12.0%					RW 25%	1.0%	85%	Guideline for LTV >70% (tightened from 75%)	Debates over tax deductibility	3.0%	Recently moved to 25%.
Switzerland	11%	10.0%						1.0% of residential mortgage RWAs	90%	Rule for LTV >66% within 20 years max.			
UK	15%	10.0%									Starting to be applied.		
US	20-100%	7% (plus 0-3% buffer)										3.0% (plus a buffer for 8 SIFI's)	
Australia	14-20%	7% (8.0% for D-SIFI, i.e. The 4 major banks) Though we note that the capital ruling is more stringent in Aus vs Basel III. There is no Basel III harmonised target.	20% floor	None	1%-1.2%			None	None (LMI required for LTV over 80%, otherwise loan attracts 100% risk weighting)		7.2% (housing debt interest to income ratio)	3.0%	None

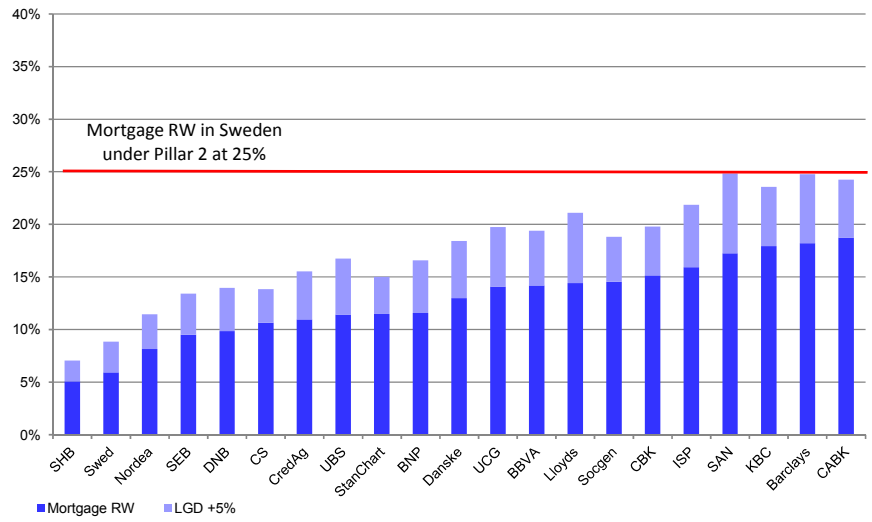
Source: Deutsche Bank, national regulators, central banks

Estimating impacts of increasing mortgage LGDs by banks

Much less complicated to infer impact than PD floors

Competent authorities can set higher minimum exposure weighted average LGD with no limit based on financial stability considerations. Norway chose to increase LGD to 20% (although we view this choice of measure as in part driven by a desire to capture foreign bank lending as well). We do not call what level of LGD could be applied or the likelihood of choosing this as a policy measure. However, we show sensitivities to 5% higher LGDs by bank in Figure 44.

Figure 44: Impact of increasing LGD by 5% on RW



Source: Deutsche Bank estimates, company data
**Method summary: i) Corporate and retail PD floors set at 0.25%; ii) LGD on mortgages increased by +5%; iii) end of zero risk weighting of sovereign bonds increases sovereign risk weight densities by 3.6-6.0%.*

Different methodologies to increase RW will penalize different banks

We have already seen the debate play out in Sweden over which method to apply to raise risk weights and lock more capital into the banking system. Multiples on RW amplify differences between banks. As such, banks that have potentially been more conservative in the parameters might see much more total requirements added on than banks that perhaps have been less conservative. Floors on the other hand would interfere with risk/price incentives and make higher risk lending relatively more attractive to low risk lending. Sweden ultimately went for higher RW under Pillar 2. There are pros and cons to all methodologies, but our preference would be for Pillar 1 methods. Requirements under Pillar 2 have more transparency issues and create comparability issues across the sector for the market.

Figure 45: CT1 impact of different mortgage RW measures (2013)

	LGD to 20%	25% RW in P1	25% RW in P2
Swed	2.2%	5.8%	4.8%
DNB	0.6%	1.3%	1.2%
Lloyds	1.4%	1.2%	1.4%
UBS	0.7%	0.9%	0.8%

Source: Deutsche Bank estimates

Benchmarking banks on capital impacts

Getting a feel of risk to core tier 1 ratio progress

In Figure 46, we summarize: 1) organic capital generation to 2016 – regulators will tighten only as quickly as banks are able to absorb the measures; 2) growth or asset reduction; 3) risks by European bank from rising risk weight densities; and 4) how CT1 ratio development compares to expected hurdle rates (final column).

It is worthwhile remembering that while Swedish bank ratios potentially have the highest impact if regulators look to tackle model risk by putting in place PD floors as a policy option, they would also still scan as having the strongest capital ratios in the sector.

Figure 46: Measure of risk to CT1 ratio growth to 2016 by bank

	CT1 B3 2014E (A)	PAT 2015/16	Dividends 2015/16	Payout 2015/16	CT1 progress to 2016 inc growth (B)	Corporate PD floor	Retail PD floor	Mortgage LGD +5%	Higher sovereign risk weight	Action on model risk sensitivity (C)	CT1 hurdle (D)	CT1 v.s hurdle (A+B-C-D)	As % market cap
CS	10.6%	4.0%	1.2%	**29%**	**4.4%**	0.4%	0.2%	0.1%	0.1%	**0.8%**	11.0%	3.2%	24%
UBS	14.0%	6.0%	3.0%	**50%**	**3.6%**	0.5%	0.3%	0.4%	0.3%	**1.5%**	13.0%	3.1%	12%
CABK	11.5%	2.3%	1.1%	**50%**	**1.2%**	0.0%	0.2%	NA	0.3%	**0.5%**	10.0%	2.1%	13%
ISP	12.6%	2.7%	1.8%	**68%**	**-0.4%**	0.2%	0.0%	0.2%	0.3%	**0.7%**	10.0%	1.5%	11%
Lloyds	11.8%	4.6%	1.7%	**38%**	**2.2%**	0.2%	0.3%	1.0%	0.1%	**1.7%**	11.0%	1.4%	5%
KBC	13.1%	4.1%	1.3%	**32%**	**-0.9%**	0.2%	0.1%	0.4%	0.2%	**0.9%**	10.0%	1.3%	
SEB	17.1%	6.5%	3.9%	**60%**	**1.3%**	0.9%	0.0%	NA	0.4%	**1.3%**	16.0%	1.1%	
SAN	9.0%	2.6%	0.7%	**27%**	**2.5%**	0.1%	0.0%	0.3%	0.1%	**0.5%**	10.0%	1.0%	
SHB	20.2%	6.6%	3.9%	**59%**	**0.9%**	2.0%	0.1%	NA	0.7%	**2.8%**	17.4%	0.9%	
BNP	10.6%	2.4%	1.0%	**44%**	**0.6%**	0.1%	0.0%	0.1%	0.1%	**0.4%**	10.0%	0.9%	
HSBC	11.3%	3.5%	1.3%	**36%**	**1.1%**	0.1%	0.0%	0.2%	0.2%	**0.6%**	11.0%	0.8%	
DNB	12.7%	3.7%	1.6%	**43%**	**2.1%**	0.1%	0.0%	0.3%	0.1%	**0.5%**	13.5%	0.7%	
BBVA	10.5%	2.3%	1.5%	**67%**	**0.7%**	0.1%	0.0%	0.1%	0.2%	**0.4%**	10.0%	0.7%	
UCG	10.6%	1.8%	0.6%	**35%**	**0.6%**	0.1%	0.0%	0.1%	0.3%	**0.6%**	10.0%	0.6%	
Barclays	10.0%	2.6%	0.7%	**29%**	**2.1%**	0.2%	0.0%	0.3%	0.1%	**0.6%**	11.0%	0.5%	
Nordea	16.0%	5.3%	4.0%	**74%**	**1.0%**	0.7%	0.3%	0.2%	0.3%	**1.5%**	15.0%	0.5%	
Danske	13.4%	3.4%	1.3%	**40%**	**1.8%**	0.4%	0.2%	0.4%	0.2%	**1.3%**	13.5%	0.5%	
Swed	19.7%	8.2%	6.1%	**75%**	**1.0%**	0.7%	0.0%	NA	0.2%	**1.0%**	19.3%	0.4%	
Socgen	10.7%	2.3%	1.2%	**51%**	**0.3%**	0.3%	0.0%	0.1%	0.2%	**0.6%**	10.0%	0.3%	
CredAg	9.5%	2.5%	1.3%	**53%**	**1.3%**	0.3%	0.0%	0.1%	0.2%	**0.7%**	10.0%	0.2%	
StanChart	11.2%	3.2%	1.3%	**42%**	**0.2%**	0.2%	0.0%	0.1%	0.2%	**0.4%**	11.0%	0.0%	
CBK	9.5%	1.3%	0.4%	**32%**	**0.8%**	0.1%	0.0%	0.1%	0.2%	**0.5%**	10.0%	-0.3%	
RBS	9.5%	1.3%	0.1%	**12%**	**1.7%**	0.2%	0.0%	0.3%	0.1%	**0.6%**	11.0%	-0.4%	
Min	9.0%	1.3%	0.4%	**27%**	**-0.9%**	0.0%	0.0%	0.1%	0.1%	**0.4%**		-0.3%	
Max	20.2%	8.2%	6.1%	**75%**	**4.4%**	2.0%	0.3%	1.0%	0.7%	**2.8%**		3.2%	
Average	11.2%	3.2%	1.4%	**43%**	**1.5%**	0.2%	0.1%	0.3%	0.2%	**0.8%**		1.0%	

Source: Deutsche Bank estimates
**The above analysis does not include the substantial capital uplift to RBS' capital ratios which the planned IPO of Citizens is planned to deliver. Our group forecasts have RBS achieving a 12.5% CRD IV core tier 1 ratio by end 2016 including the proceeds of the IPO.*

A noteworthy consideration on the positive side is the impact of positive credit migration, particularly highly cyclical industries (e.g., CRE and shipping). Banks exposed to hard hit economies or sectors now in a clear recovery with high IRB method corporate exposure would stand to benefit the most from

migrations (DNB showed evidence of this in shipping, which had a helpful impact on ratios in Q1).

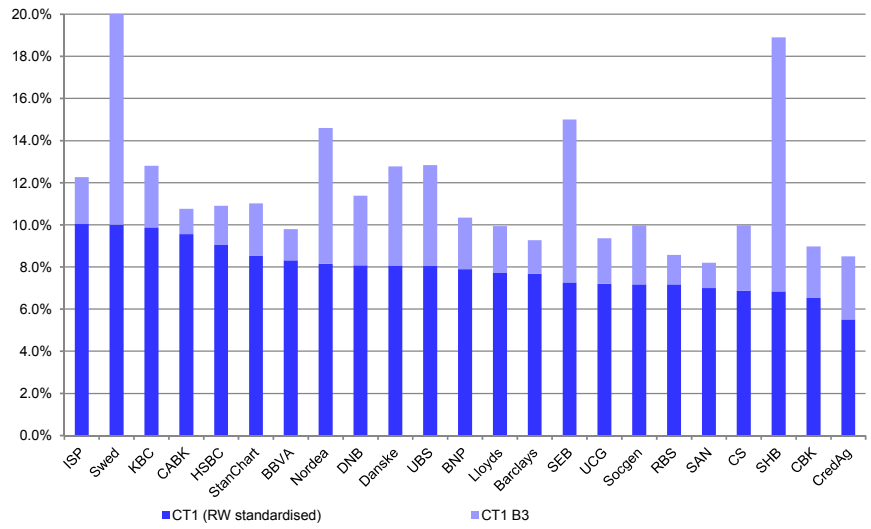
Putting IRB portfolios on standardized risk weights

Let us go to an extreme of applying standardized/uniform RW to the IRB portfolios. We adopt a simplicity approach and apply 25% to institutions, 50% to retail and 100% to corporate in the IRB portfolios and add the increases to B3 RWA. As such, we see this as onerous as RWAs can get, if we consider that we are using higher credit RW, market and operational with B3 inflator and B3 numerator for core tier 1 figures.

We show the results below. This would seem to be the kind of approach that Governor Tarullo seemed to be implying in his recent speech (binning the IRB approach to calculate RW, but leaving the rest of the framework intact). Instead, greater focus would rest on regulator reviews of capital planning processes and idiosyncratic stress tests perhaps. Regulatory hurdle rates would certainly be lower though, in our view.

On the one hand, the market gripes about lack of comparability on ratios. On the other extreme, how much value would a risk weight system give in helping determine balance sheet strength that ranks a Unicredit above a Handelsbanken?

Figure 47: CT1 B3 using standardized RW (2013)



Source: Deutsche Bank estimates, company data

PD calibration

A potentially important source of RW variation

Regulators could intervene further beyond setting simple backstops

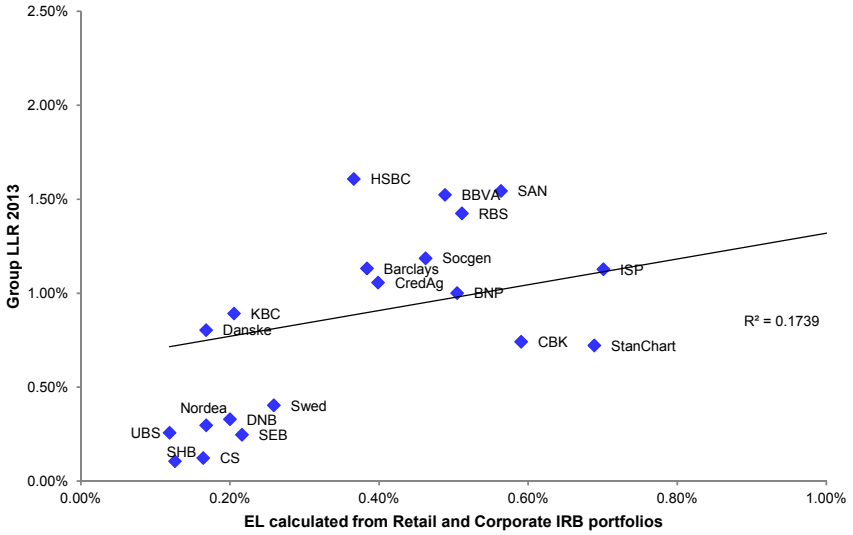
"Responses to a survey conducted by the Committee indicated that a majority of the participating jurisdictions have set long-run PD requirements that either diverge from or provide more detailed guidance than the Basel framework, in areas such as minimum data requirements and margins of conservatism." (5.3 - RCAP – Analysis of risk-weighted assets for credit risk in the banking book).

Various issues that have been identified with calculation of model PD and LGDs include:

- Definitions of a full economic cycle
- Length of the data series used for PD estimation
- Strategies to address internal data limitations
- Adjustment of PD estimates
- Combination of data sources

The bottom line is that framework for calculation of PD and LGD from historical data in models might not be sufficiently robust, as we saw the regulator decide in Norway. Our judgment from the granularity of data in the Pillar 3 documents is that it would be very difficult for us to make a call on this. Areas of further exploration could be a comparison of long-run default and recovery data to PD and LGD assumptions in bank models. What we can show below is how realized loan losses on a group level have compared in the 2008-13 period to model expected losses.

Figure 48: Expected model losses correlated with group LLP (2008-13)

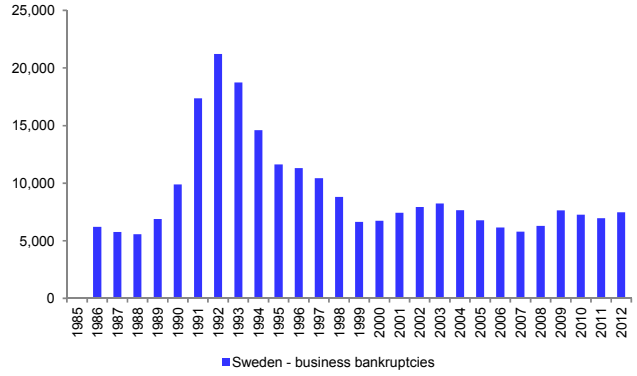


Source: Deutsche Bank estimates, company data

Banks above the line have had higher five-year average losses than the model component expectations would imply (at least on average). However, we note that some of the banks above the line (notably Santander, BBVA, and HSBC) calculate many of the exposures on standardized rules. As such, we would better rely on the banks' own disclosures of observed losses solely from the model portfolios.

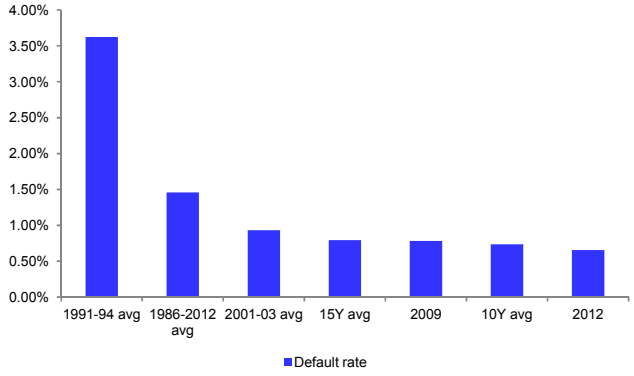
Pro-cyclicality of the model system has been flagged as an issue as well. Long periods of low loan losses will erode capital requirements because of averaging and leave banks less robust in the next black swan year(s). Regulators may increasingly intervene in models and place weights on crisis years as we saw in Norway (banks must place 20% weighting on a crisis period).

Figure 49: Sweden – number of business bankruptcies from 1986 to 2012



Source: Deutsche Bank, National statistics

Figure 50: Sweden – estimated default rate of businesses over various time periods – **average grinding down**



Source: Deutsche Bank, National statistics

We expect stress test backstops to model system

Parameter calibration issues could be tackled by stress tests

As outlined in the Governor Tarullo's speech, stress tests could increasingly drive capital requirements at banks. Of course banks have their ICAAP process. Stress tests could be an increasingly important part of management capital planning processes. Experiences of previous banking crises are increasingly driving policymakers to think about how much capital is needed as insurance to protect taxpayers from shouldering bailout burdens. A manifestation of this clearly lies in thinking around the resolution regime and levels of loss absorbing capital (LAC) required.

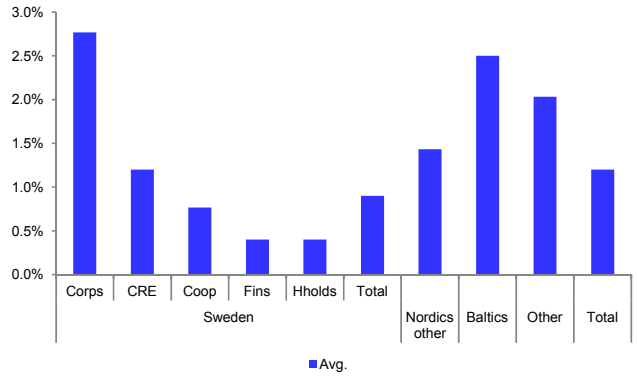
Norway applied minimum contributions from crisis years

As far as mortgages are concerned, banks in Norway must place at least a 20% weighting on crisis years in their PD models. We might increasingly see similar methods apply to other exposures by other regulators to create backstops to the model system. If we think about Sweden, then perhaps it is interesting to make a comparison between the Riksbank stress tests and the experiences of the 1990s (in case the 1990s downturn parameters are applied to calibrations).

We apply Riksbank stress test loss rates to A/B/C/D classification EAD as per the 1990 balance sheet for the four 1990s Swedish banks. We then compare

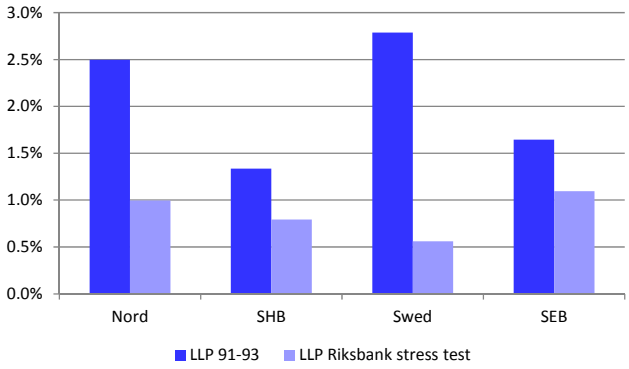
the loss rate the Riksbank stress test would have implied to the 1990s balance sheets, to the actual loss rate (to try limit mix effects). We show the results on the chart on the right hand side. Naturally, the Riksbank stress test does not look near as harsh as the 90s crisis. This is not to imply that it should. Any bank can be stressed to failure; it is only a matter of choosing to paint a dark enough picture of the world. The Swedish economy today is very different to that in 1990. The chance of a sharp real estate price crash is probably very low, while interest rates are low (and they are expected to be so for a long time). We expect more scrutiny of risk weights, not less, more reference to stress periods, more floors, and more backstops.

Figure 51: Riksbank 3Y stress test (average LLR pa)



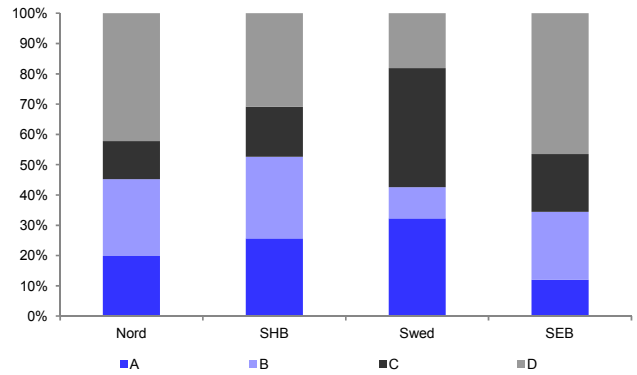
Source: Deutsche Bank, Central bank

Figure 52: Actual 1991-93 per annum and Riksbank stress test implied losses at 1990 Swedish banks



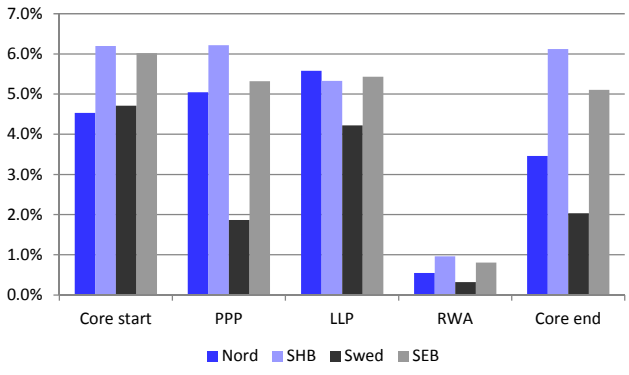
Source: Deutsche Bank estimates, Central bank, company data

Figure 53: Asset split by RW classification, 1990 (retail exposures were a much lower proportion of balance sheets)



Source: Deutsche Bank, company data

Figure 54: Riksbank FSR stress test on 1990 banks in capital ratio terms – pre-provision profitability is a crucial buffer and much has changed – it is important for financial stability that banking is a profitable business making good ROEs, and in that sense Swedish banks are resilient today



Source: Deutsche Bank estimates

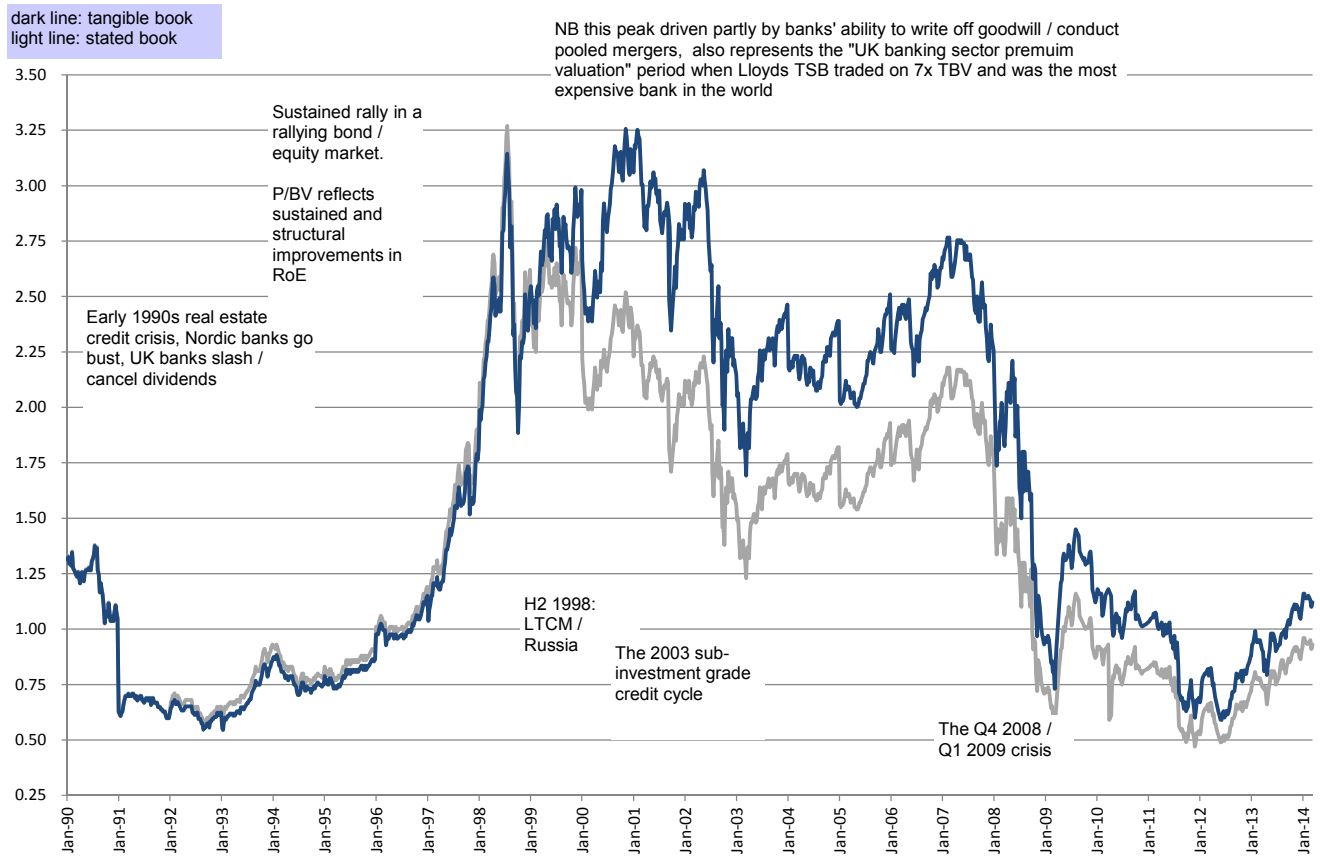
European bank data

Valuations, earnings and balance sheets

Below, we set out key bank metrics covering:

- The long-run PTBV for the European banks
- Summary data for the sector
- PTBV and ROTEs
- EPS and PEs
- Recovery metrics
- Key capital ratio including B3 information

Figure 55: Long-run European banks' price to book value



Source: Deutsche Bank

Figure 56: European Banks – Summary data

Geography	Stock	DB Rec.	Price 05/06/2014	Target price	Up/(downside)	Mkt Cap E'm	Adjusted P/E 2014e	Adjusted P/E 2015e	Adjusted P/E 2016e	Dividend Yield 2014e	Dividend Yield 2015e	Dividend Yield 2016e	Price : Tangible Book 2014e	Price : Tangible Book 2015e	Price : Tangible Book 2016e	Return on Avg. Tangible Equity 2014e	Return on Avg. Tangible Equity 2015e	Return on Avg. Tangible Equity 2016e
Austria	Erste Bank	Buy	26.1	30.0	15%	10,888	18.5	8.1	6.7	1.5%	3.4%	4.6%	1.16	1.06	0.95	6.5%	13.7%	14.9%
Austria	Raiffeisen Bank Intern.	Hold	25.4	26.0	2%	7,420	13.2	6.2	4.9	4.3%	4.7%	5.1%	0.85	0.72	0.64	7.6%	12.6%	14.0%
Benelux	KBC	Buy	43.0	50.0	16%	17,953	11.0	9.8	9.2	4.6%	0.0%	6.8%	1.59	1.48	1.39	15.0%	15.6%	15.6%
France	BNP Paribas	Hold	51.5	57.0	11%	64,046	10.8	9.2	8.1	3.9%	4.7%	5.5%	0.91	0.88	0.83	8.7%	9.7%	10.5%
France	Credit Agricole	Hold	11.7	12.1	4%	29,844	10.4	8.7	7.8	3.5%	6.0%	6.8%	0.98	0.93	0.87	9.9%	11.0%	11.7%
France	Societe Generale	Buy	43.0	50.0	16%	33,542	10.0	8.6	7.8	3.4%	5.8%	6.4%	0.86	0.82	0.78	8.7%	9.7%	10.2%
Germany	Aareal Bank	Hold	34.9	31.0	(11%)	2,090	15.2	11.4	10.5	3.6%	17.2%	4.3%	0.99	0.94	1.01	7.0%	8.4%	9.3%
Germany	Comdirect	Buy	7.9	9.5	20%	1,114	18.2	15.8	13.1	4.6%	5.3%	6.4%	1.99	1.92	1.84	11.0%	12.3%	14.4%
Germany	Commerzbank	Hold	11.8	13.0	10%	13,440	28.2	12.2	8.4	0.0%	2.1%	4.2%	0.55	0.53	0.50	2.0%	4.4%	6.1%
Germany	DAB Bank	Hold	3.8	3.5	(8%)	345	23.8	21.4	17.5	4.2%	4.7%	5.7%	1.49	1.49	1.49	6.3%	7.0%	8.5%
Greece	Alpha Bank	Buy	0.7	0.9	24%	9,296	n/a	22.9	12.0	0.0%	0.0%	0.0%	1.13	1.08	0.99	(4.7%)	4.8%	8.6%
Greece	National Bank of Greece	Buy	2.8	4.0	45%	9,716	34.4	12.7	8.5	0.0%	0.0%	0.0%	1.36	1.23	1.07	5.0%	10.2%	13.5%
Greece	Piraeus Bank	Buy	1.9	2.4	26%	11,594	n/a	37.0	14.5	0.0%	0.0%	0.0%	1.32	1.28	1.17	(7.4%)	3.5%	8.4%
Iberia	Banco de Sabadell	Buy	2.5	2.7	7%	10,117	30.1	21.0	12.5	1.7%	2.4%	4.0%	1.11	1.07	1.03	3.7%	5.2%	8.4%
Iberia	Banco Popular	Hold	5.2	5.6	9%	11,095	37.1	19.9	12.3	1.3%	2.7%	5.1%	1.05	1.01	0.92	3.0%	5.2%	7.9%
Iberia	Banco Santander	Hold	7.6	6.7	(12%)	92,407	16.6	14.8	13.8	7.9%	7.9%	7.9%	1.96	1.88	1.79	12.4%	13.3%	13.8%
Iberia	Bankia	Hold	1.5	1.5	(0%)	17,311	21.4	15.3	12.3	0.5%	1.9%	3.8%	1.37	1.30	1.24	6.7%	8.7%	10.3%
Iberia	Bankinter	Buy	5.9	6.6	11%	5,399	17.8	13.5	11.6	2.8%	3.7%	5.2%	1.62	1.55	1.47	9.5%	11.8%	13.1%
Iberia	BBVA	Hold	9.6	8.0	(17%)	57,670	22.0	17.5	13.6	4.4%	4.4%	4.4%	1.43	1.41	1.35	6.7%	8.2%	10.2%
Iberia	CaixaBank	Hold	4.6	4.3	(6%)	25,674	33.9	18.6	13.8	3.9%	3.9%	4.4%	1.18	1.15	1.12	3.6%	6.3%	8.2%
Ireland	Bank of Ireland	Hold	0.3	0.3	11%	8,733	40.2	15.3	8.7	0.0%	0.0%	0.0%	1.39	1.29	1.14	3.5%	8.7%	13.8%
Italy	Banca Popolare di Milano	Hold	0.7	0.7	3%	2,195	15.6	10.8	7.3	2.7%	3.9%	5.7%	0.53	0.51	0.49	3.7%	4.8%	6.9%
Italy	Banco Popolare	Buy	14.0	17.0	21%	5,081	164.9	13.3	7.9	0.0%	2.9%	5.0%	0.67	0.65	0.63	0.5%	5.0%	8.0%
Italy	Credem	Hold	7.3	7.1	(3%)	2,405	14.3	12.0	9.9	2.5%	4.2%	5.1%	1.27	1.21	1.14	9.2%	10.3%	11.8%
Italy	Intesa SanPaolo	Buy	2.5	2.8	12%	41,249	17.8	11.2	9.4	2.3%	4.9%	7.5%	1.01	0.98	0.95	5.8%	8.9%	10.2%
Italy	UBI Banca	Hold	6.9	6.2	(10%)	6,236	21.7	14.7	10.2	2.1%	3.1%	4.6%	0.85	0.83	0.79	4.0%	5.7%	7.9%
Italy	UniCredit	Hold	6.7	6.3	(5%)	38,500	21.5	14.9	9.8	1.6%	2.5%	3.4%	0.88	0.85	0.81	4.2%	5.8%	8.5%
Nordics	Danske Bank	Hold	154.4	150.0	(3%)	20,865	11.2	10.4	10.1	2.8%	3.8%	4.0%	1.17	1.09	1.03	10.8%	10.8%	10.5%
Nordics	DNB	Buy	115.4	128.0	11%	23,014	9.8	9.5	9.1	2.6%	3.6%	5.5%	1.25	1.14	1.05	13.5%	12.6%	12.1%
Nordics	Nordea	Buy	10.9	11.3	4%	43,727	12.5	11.1	10.5	6.2%	6.7%	7.1%	1.67	1.62	1.57	13.4%	14.8%	15.1%
Nordics	SEB	Buy	92.3	96.0	4%	22,324	12.4	11.3	10.8	4.9%	5.3%	5.5%	1.77	1.68	1.60	14.8%	15.2%	15.2%
Nordics	Svenska Handelsbanken	Hold	335.8	315.0	(6%)	23,443	14.5	13.5	13.0	4.1%	4.4%	4.5%	2.13	1.99	1.87	14.5%	15.3%	14.9%
Nordics	Swedbank	Buy	177.2	185.0	4%	21,591	12.0	11.3	10.8	6.2%	6.7%	6.9%	2.18	2.06	1.95	17.6%	18.8%	18.6%
Switzerland	Cembra Money Bank	Hold	58.0	57.1	(1%)	1,425	12.4	12.0	11.8	5.5%	5.7%	5.7%	2.05	1.94	1.85	17.1%	16.7%	16.1%
Switzerland	Credit Suisse Group	Buy	27.1	31.0	15%	35,238	10.2	8.5	7.9	2.6%	2.6%	4.6%	1.25	1.11	1.01	12.3%	13.9%	13.4%
Switzerland	EFG International	Hold	10.3	11.0	7%	1,232	11.7	10.5	9.1	2.9%	3.9%	4.9%	3.35	2.82	2.43	39.4%	29.0%	28.7%
Switzerland	Julius Baer	Hold	38.8	43.0	11%	7,109	14.2	11.4	9.5	1.5%	1.5%	1.5%	2.86	2.44	2.02	20.5%	23.1%	23.2%
Switzerland	UBS	Buy	17.8	21.0	18%	54,901	13.8	11.0	9.4	2.8%	4.2%	5.6%	1.61	1.50	1.39	11.6%	14.0%	15.4%
UK	Barclays	Buy	240.3	300.0	25%	48,091	9.2	7.7	6.8	3.2%	4.4%	5.4%	0.80	0.77	0.72	9.0%	10.3%	10.9%
UK	HSBC	Hold	620.9	640.0	3%	146,683	10.7	9.8	8.8	5.0%	5.4%	5.8%	1.29	1.22	1.15	12.5%	12.9%	13.6%
UK	Lloyds Banking Group	Buy	78.8	90.0	14%	69,865	11.4	10.0	9.0	2.5%	4.4%	6.3%	1.49	1.36	1.26	13.8%	14.3%	14.6%
UK	RBS	Hold	337.2	325.0	(4%)	47,583	17.9	16.1	14.9	0.0%	0.0%	1.5%	0.93	0.91	0.90	5.2%	5.8%	6.1%
UK	Standard Chartered	Hold	1323.5	1275.0	(4%)	40,497	11.0	10.7	9.9	4.0%	4.2%	4.4%	1.28	1.23	1.17	12.3%	11.8%	12.3%

Source: Deutsche Bank estimates

Figure 57: European Banks – PTBV and ROTE data

Geography	Stock	DB Rec.	Price	Price : Tangible Book			Return on Avg. Tangible Equity			Price : Stated Book			Return on Avg. Stated Equity			Return on Avg. RWAs		
			05/06/2014	2014e	2015e	2016e	2014e	2015e	2016e	2014e	2015e	2016e	2014e	2015e	2016e	2014e	2015e	2016e
Austria	Erste Bank	Buy	26.1	1.16	1.06	0.95	6.5%	13.7%	14.9%	0.93	0.87	0.80	5.1%	11.2%	12.4%	0.6%	1.3%	1.5%
Austria	Raiffeisen Bank Intern.	Hold	25.4	0.85	0.72	0.64	7.6%	12.6%	14.0%	0.75	0.65	0.58	6.5%	11.3%	12.6%	0.7%	1.5%	1.8%
Benelux	KBC	Buy	43.0	1.59	1.48	1.39	15.0%	15.6%	15.6%	1.43	1.34	1.27	13.4%	14.0%	14.2%	1.8%	2.0%	2.1%
France	BNP Paribas	Hold	51.5	0.91	0.88	0.83	8.7%	9.7%	10.5%	0.78	0.75	0.72	7.4%	8.3%	9.0%	1.0%	1.1%	1.2%
France	Credit Agricole	Hold	11.7	0.98	0.93	0.87	9.9%	11.0%	11.7%	0.66	0.64	0.62	6.5%	7.5%	8.2%	0.9%	1.1%	1.3%
France	Societe Generale	Buy	43.0	0.86	0.82	0.78	8.7%	9.7%	10.2%	0.73	0.71	0.68	7.5%	8.3%	8.8%	1.0%	1.1%	1.2%
Germany	Aareal Bank	Hold	34.9	0.99	0.94	1.01	7.0%	8.4%	9.3%	0.94	0.90	0.96	6.7%	8.0%	8.8%	0.9%	1.1%	1.2%
Germany	Comdirect	Buy	7.9	1.99	1.92	1.84	11.0%	12.3%	14.4%	1.99	1.92	1.84	11.0%	12.3%	14.4%	2.4%	2.6%	3.1%
Germany	Commerzbank	Hold	11.8	0.55	0.53	0.50	2.0%	4.4%	6.1%	0.51	0.49	0.46	1.8%	4.1%	5.6%	0.2%	0.5%	0.7%
Germany	DAB Bank	Hold	3.8	1.49	1.49	1.49	6.3%	7.0%	8.5%	1.38	1.38	1.38	5.8%	6.4%	7.9%	1.5%	1.6%	2.0%
Greece	Alpha Bank	Buy	0.7	1.13	1.08	0.99	-4.7%	4.8%	8.6%	1.13	1.08	0.99	-4.7%	4.8%	8.6%	-0.7%	0.7%	1.3%
Greece	National Bank of Greece	Buy	2.8	1.36	1.23	1.07	5.0%	10.2%	13.5%	1.14	1.05	0.93	4.0%	8.6%	11.6%	0.5%	1.3%	1.8%
Greece	Piraeus Bank	Buy	1.9	1.32	1.28	1.17	-7.4%	3.5%	8.4%	1.31	1.27	1.17	-7.3%	3.5%	8.4%	-1.0%	0.5%	1.2%
Iberia	Banco de Sabadell	Buy	2.5	1.11	1.07	1.03	3.7%	5.2%	8.4%	0.95	0.92	0.89	3.2%	4.4%	7.2%	0.5%	0.7%	1.2%
Iberia	Banco Popular	Hold	5.2	1.05	1.01	0.92	3.0%	5.2%	7.9%	0.86	0.83	0.77	2.4%	4.2%	6.5%	0.4%	0.7%	1.2%
Iberia	Banco Santander	Hold	7.6	1.96	1.88	1.79	12.4%	13.3%	13.8%	1.23	1.23	1.22	7.7%	8.6%	9.2%	1.1%	1.3%	1.5%
Iberia	Bankia	Hold	1.5	1.37	1.30	1.24	6.7%	8.7%	10.3%	1.36	1.30	1.23	6.7%	8.7%	10.3%	0.9%	1.4%	1.7%
Iberia	Bankinter	Buy	5.9	1.62	1.55	1.47	9.5%	11.8%	13.1%	1.49	1.43	1.36	8.6%	10.8%	12.0%	1.3%	1.7%	2.0%
Iberia	BBVA	Hold	9.6	1.43	1.41	1.35	6.7%	8.2%	10.2%	1.19	1.18	1.14	5.5%	6.9%	8.6%	0.8%	1.1%	1.3%
Iberia	CaixaBank	Hold	4.6	1.18	1.15	1.12	3.6%	6.3%	8.2%	1.01	0.99	0.97	3.0%	5.4%	7.1%	0.6%	1.1%	1.5%
Ireland	Bank of Ireland	Hold	0.3	1.39	1.29	1.14	3.5%	8.7%	13.8%	1.32	1.23	1.09	3.3%	8.3%	13.2%	0.4%	1.0%	1.8%
Italy	Banca Popolare di Milanc	Hold	0.7	0.53	0.51	0.49	3.7%	4.8%	6.9%	0.52	0.51	0.49	3.6%	4.7%	6.8%	0.3%	0.5%	0.8%
Italy	Banco Popolare	Buy	14.0	0.67	0.65	0.63	0.5%	5.0%	8.0%	0.52	0.51	0.49	0.3%	3.8%	6.3%	0.1%	0.8%	1.3%
Italy	Credem	Hold	7.3	1.27	1.21	1.14	9.2%	10.3%	11.8%	1.06	1.02	0.97	7.6%	8.6%	10.0%	1.0%	1.2%	1.5%
Italy	Intesa SanPaolo	Buy	2.5	1.01	0.98	0.95	5.8%	8.9%	10.2%	0.85	0.82	0.80	4.8%	7.5%	8.6%	0.8%	1.2%	1.5%
Italy	UBI Banca	Hold	6.9	0.85	0.83	0.79	4.0%	5.7%	7.9%	0.61	0.60	0.58	2.8%	4.1%	5.8%	0.5%	0.7%	1.0%
Italy	UniCredit	Hold	6.7	0.88	0.85	0.81	4.2%	5.8%	8.5%	0.80	0.78	0.75	3.8%	5.3%	7.8%	0.5%	0.7%	1.1%
Nordics	Danske Bank	Hold	154.4	1.17	1.09	1.03	10.8%	10.8%	10.5%	1.01	0.95	0.90	9.3%	9.4%	9.1%	1.6%	1.7%	1.8%
Nordics	DNB	Buy	115.4	1.25	1.14	1.05	13.5%	12.6%	12.1%	1.20	1.10	1.02	12.9%	12.1%	11.6%	1.8%	1.8%	1.9%
Nordics	Nordea	Buy	10.9	1.67	1.62	1.57	13.4%	14.8%	15.1%	1.49	1.44	1.40	11.9%	13.2%	13.5%	2.3%	2.6%	2.6%
Nordics	SEB	Buy	92.3	1.77	1.68	1.60	14.8%	15.2%	15.2%	1.54	1.47	1.41	12.8%	13.3%	13.4%	2.9%	3.1%	3.1%
Nordics	Svenska Handelsbanken	Hold	335.8	2.13	1.99	1.87	14.5%	15.3%	14.9%	1.97	1.86	1.75	13.4%	14.2%	13.9%	3.1%	3.2%	3.2%
Nordics	Swedbank	Buy	177.2	2.18	2.06	1.95	17.6%	18.8%	18.6%	1.89	1.80	1.72	15.3%	16.4%	16.3%	3.7%	3.9%	4.0%
Switzerland	Cembra Money Bank	Hold	58.0	2.05	1.94	1.85	17.1%	16.7%	16.1%	2.04	1.94	1.85	17.0%	16.7%	16.1%	3.9%	3.9%	3.9%
Switzerland	Credit Suisse Group	Buy	27.1	1.25	1.11	1.01	12.3%	13.9%	13.4%	1.00	0.91	0.84	9.9%	11.2%	11.1%	1.5%	1.9%	2.0%
Switzerland	EFG International	Hold	10.3	3.35	2.82	2.43	39.4%	29.0%	28.7%	1.12	1.05	0.99	10.5%	10.3%	11.2%	2.1%	2.2%	2.4%
Switzerland	Julius Baer	Hold	38.8	2.86	2.44	2.02	20.5%	23.1%	23.2%	1.65	1.52	1.36	11.8%	13.9%	15.0%	3.7%	4.5%	5.1%
Switzerland	UBS	Buy	17.8	1.61	1.50	1.39	11.6%	14.0%	15.4%	1.40	1.31	1.23	10.1%	12.2%	13.5%	2.1%	2.8%	3.4%
UK	Barclays	Buy	240.3	0.80	0.77	0.72	9.0%	10.3%	10.9%	0.70	0.67	0.64	7.8%	8.9%	9.6%	1.1%	1.2%	1.3%
UK	HSBC	Hold	620.9	1.29	1.22	1.15	12.5%	12.9%	13.6%	1.09	1.05	1.00	10.4%	11.0%	11.7%	1.6%	1.6%	1.7%
UK	Lloyds Banking Group	Buy	78.8	1.49	1.36	1.26	13.8%	14.3%	14.6%	1.34	1.25	1.17	12.3%	13.0%	13.5%	1.9%	2.2%	2.4%
UK	RBS	Hold	337.2	0.93	0.91	0.90	5.2%	5.8%	6.1%	0.72	0.81	0.80	4.0%	4.8%	5.5%	0.6%	0.7%	0.9%
UK	Standard Chartered	Hold	1323.5	1.28	1.23	1.17	12.3%	11.8%	12.3%	1.12	1.09	1.04	10.7%	10.4%	10.9%	1.5%	1.4%	1.5%

Source: Deutsche Bank estimates

Figure 58: European Banks – EPS and PE data

Geography	Stock	DB Rec.	Price	DB Adjusted EPS			Adjusted P/E			DPS			Dividend Yield			Dividend Cover		
			05/06/2014	2014e	2015e	2016e	2014e	2015e	2016e	2014e	2015e	2016e	2014e	2015e	2016e	2014e	2015e	2016e
Austria	Erste Bank	Buy	26.1	1.42	3.24	3.88	18.5	8.1	6.7	0.40	0.90	1.20	1.5%	3.4%	4.6%	3.6	3.6	3.2
Austria	Raiffeisen Bank Intern.	Hold	25.4	1.98	4.11	5.20	13.2	6.2	4.9	1.10	1.20	1.30	4.3%	4.7%	5.1%	1.8	3.4	4.0
Benelux	KBC	Buy	43.0	3.92	4.37	4.68	11.0	9.8	9.2	2.00	0.00	2.92	4.6%	0.0%	6.8%	2.0	n/a	1.6
France	BNP Paribas	Hold	51.5	4.76	5.58	6.35	10.8	9.2	8.1	2.01	2.43	2.86	3.9%	4.7%	5.5%	2.4	2.3	2.2
France	Credit Agricole	Hold	11.7	1.12	1.34	1.50	10.4	8.7	7.8	0.41	0.70	0.79	3.5%	6.0%	6.8%	2.7	1.9	1.9
France	Societe Generale	Buy	43.0	4.29	4.99	5.51	10.0	8.6	7.8	1.46	2.50	2.76	3.4%	5.8%	6.4%	2.9	2.0	2.0
Germany	Aareal Bank	Hold	34.9	2.30	3.06	3.33	15.2	11.4	10.5	1.25	6.00	1.50	3.6%	17.2%	4.3%	1.8	0.5	2.2
Germany	Comdirect	Buy	7.9	0.43	0.50	0.60	18.2	15.8	13.1	0.36	0.42	0.51	4.6%	5.3%	6.4%	1.2	1.2	1.2
Germany	Commerzbank	Hold	11.8	0.42	0.97	1.40	28.2	12.2	8.4	0.00	0.25	0.50	0.0%	2.1%	4.2%	n/a	3.9	2.8
Germany	DAB Bank	Hold	3.8	0.16	0.18	0.22	23.8	21.4	17.5	0.16	0.18	0.22	4.2%	4.7%	5.7%	1.0	1.0	1.0
Greece	Alpha Bank	Buy	0.7	(0.03)	0.03	0.06	n/a	22.9	12.0	0.00	0.00	0.00	0.0%	0.0%	0.0%	n/a	n/a	n/a
Greece	National Bank of Greece	Buy	2.8	0.09	0.22	0.32	34.4	12.7	8.5	0.00	0.00	0.00	0.0%	0.0%	0.0%	n/a	n/a	n/a
Greece	Piraeus Bank	Buy	1.9	(0.10)	0.05	0.13	n/a	37.0	14.5	0.00	0.00	0.00	0.0%	0.0%	0.0%	n/a	n/a	n/a
Iberia	Banco de Sabadell	Buy	2.5	0.08	0.11	0.19	30.1	21.0	12.5	0.04	0.06	0.10	1.7%	2.4%	4.0%	1.9	1.9	1.9
Iberia	Banco Popular	Hold	5.2	0.14	0.26	0.42	37.1	19.9	12.3	0.07	0.14	0.26	1.3%	2.7%	5.1%	2.1	1.9	1.6
Iberia	Banco Santander	Hold	7.6	0.47	0.53	0.57	16.6	14.8	13.8	0.60	0.60	0.60	7.9%	7.9%	7.9%	0.8	0.9	1.0
Iberia	Bankia	Hold	1.5	0.07	0.10	0.12	21.4	15.3	12.3	0.01	0.03	0.06	0.5%	1.9%	3.8%	9.0	3.4	2.1
Iberia	Bankinter	Buy	5.9	0.33	0.44	0.51	17.8	13.5	11.6	0.17	0.22	0.31	2.8%	3.7%	5.2%	2.0	2.0	1.7
Iberia	BBVA	Hold	9.6	0.44	0.56	0.71	22.0	17.5	13.6	0.42	0.42	0.42	4.4%	4.4%	4.4%	1.1	1.3	1.7
Iberia	CaixaBank	Hold	4.6	0.13	0.24	0.32	33.9	18.6	13.8	0.18	0.18	0.20	3.9%	3.9%	4.4%	n/a	n/a	n/a
Ireland	Bank of Ireland	Hold	0.3	0.01	0.02	0.03	40.2	15.3	8.7	0.00	0.00	0.00	0.0%	0.0%	0.0%	n/a	n/a	n/a
Italy	Banca Popolare di Milanc	Hold	0.7	0.04	0.06	0.09	15.6	10.8	7.3	0.02	0.03	0.04	2.7%	3.9%	5.7%	2.4	2.4	2.4
Italy	Banco Popolare	Buy	14.0	0.09	1.05	1.77	164.9	13.3	7.9	0.00	0.41	0.70	0.0%	2.9%	5.0%	n/a	2.6	2.5
Italy	Credem	Hold	7.3	0.51	0.61	0.74	14.3	12.0	9.9	0.18	0.30	0.37	2.5%	4.2%	5.1%	2.9	2.0	2.0
Italy	Intesa SanPaolo	Buy	2.5	0.13	0.21	0.25	17.8	11.2	9.4	0.06	0.12	0.19	2.3%	4.9%	7.5%	2.3	1.7	1.3
Italy	UBI Banca	Hold	6.9	0.32	0.47	0.68	21.7	14.7	10.2	0.14	0.22	0.32	2.1%	3.1%	4.6%	2.2	2.2	2.1
Italy	UniCredit	Hold	6.7	0.31	0.44	0.67	21.5	14.9	9.8	0.11	0.16	0.22	1.6%	2.5%	3.4%	2.9	2.7	3.0
Nordics	Danske Bank	Hold	154.4	13.77	14.78	15.27	11.2	10.4	10.1	4.30	5.80	6.10	2.8%	3.8%	4.0%	3.2	2.5	2.5
Nordics	DNB	Buy	115.4	11.81	12.17	12.72	9.8	9.5	9.1	3.00	4.20	6.40	2.6%	3.6%	5.5%	3.9	2.9	2.0
Nordics	Nordea	Buy	10.9	0.81	0.98	1.03	12.5	11.1	10.5	0.68	0.73	0.77	6.2%	6.7%	7.1%	1.2	1.3	1.3
Nordics	SEB	Buy	92.3	7.42	8.15	8.56	12.4	11.3	10.8	4.50	4.90	5.10	4.9%	5.3%	5.5%	1.6	1.7	1.7
Nordics	Svenska Handelsbanken	Hold	335.8	23.18	24.89	25.84	14.5	13.5	13.0	13.90	14.70	15.20	4.1%	4.4%	4.5%	1.7	1.7	1.7
Nordics	Swedbank	Buy	177.2	14.79	15.72	16.43	12.0	11.3	10.8	11.00	11.80	12.30	6.2%	6.7%	6.9%	1.3	1.3	1.3
Switzerland	Cembra Money Bank	Hold	58.0	4.68	4.85	4.92	12.4	12.0	11.8	3.17	3.28	3.33	5.5%	5.7%	5.7%	1.5	1.5	1.5
Switzerland	Credit Suisse Group	Buy	27.1	2.64	3.19	3.42	10.2	8.5	7.9	0.70	0.70	1.25	2.6%	2.6%	4.6%	3.8	4.6	2.7
Switzerland	EFG International	Hold	10.3	0.88	0.97	1.13	11.7	10.5	9.1	0.30	0.40	0.50	2.9%	3.9%	4.9%	2.9	2.4	2.3
Switzerland	Julius Baer	Hold	38.8	2.72	3.40	4.07	14.2	11.4	9.5	0.60	0.60	0.60	1.5%	1.5%	1.5%	4.5	5.7	6.8
Switzerland	UBS	Buy	17.8	1.29	1.61	1.90	13.8	11.0	9.4	0.50	0.75	1.00	2.8%	4.2%	5.6%	2.6	2.1	1.9
UK	Barclays	Buy	240.3	25.81	30.71	34.49	9.2	7.7	6.8	7.75	10.61	12.94	3.2%	4.4%	5.4%	3.3	2.9	2.7
UK	HSBC	Hold	620.9	97.53	106.61	118.40	10.7	9.8	8.8	52.00	56.00	60.00	5.0%	5.4%	5.8%	1.9	1.9	2.0
UK	Lloyds Banking Group	Buy	78.8	6.98	7.89	8.76	11.4	10.0	9.0	2.00	3.50	5.00	2.5%	4.4%	6.3%	3.5	2.3	1.8
UK	RBS	Hold	337.2	18.84	20.91	22.70	17.9	16.1	14.9	0.00	0.00	5.00	0.0%	0.0%	1.5%	n/a	n/a	4.5
UK	Standard Chartered	Hold	1323.5	202.55	207.60	226.40	11.0	10.7	9.9	88.58	93.01	97.66	4.0%	4.2%	4.4%	2.3	2.2	2.3

Source: Deutsche Bank estimates

Figure 59: European Banks – Recovery gearing

Geography	Stock	DB Rec.	Price	Pre-provision profits (E'm)			Market cap to PPP			Cost:income ratio			Costs (E'm)			Market cap to costs		
			05/06/2014	2014e	2015e	2016e	2014e	2015e	2016e	2014e	2015e	2016e	2014e	2015e	2016e	2014e	2015e	2016e
Austria	Erste Bank	Buy	26.1	2,758	3,133	3,491	3.9	3.5	3.1	57.9%	54.8%	52.7%	3,794	3,800	3,886	2.9	2.9	2.8
Austria	Raiffeisen Bank Intern.	Hold	25.4	2,181	2,416	2,788	3.4	3.1	2.7	59.8%	57.2%	53.5%	3,246	3,229	3,205	2.3	2.3	2.3
Benelux	KBC	Buy	43.0	2,939	3,198	3,343	6.1	5.6	5.4	55.8%	54.0%	53.2%	3,708	3,758	3,799	4.8	4.8	4.7
France	BNP Paribas	Hold	51.5	12,403	13,681	15,252	5.2	4.7	4.2	67.2%	65.2%	62.4%	25,435	25,580	25,331	2.5	2.5	2.5
France	Credit Agricole	Hold	11.7	5,141	5,939	6,616	5.8	5.2	4.8	68.1%	65.3%	63.1%	10,962	11,160	11,300	2.7	2.7	2.8
France	Societe Generale	Buy	43.0	7,971	8,871	9,411	4.2	3.8	3.6	66.2%	64.6%	63.9%	15,588	16,207	16,675	2.2	2.1	2.0
Germany	Aareal Bank	Hold	34.9	540	391	404	3.9	5.3	5.2	44.7%	52.1%	51.5%	436	425	428	4.8	4.9	4.9
Germany	Comdirect	Buy	7.9	85	98	118	13.1	11.4	9.4	75.7%	73.6%	70.4%	265	273	280	4.2	4.1	4.0
Germany	Commerzbank	Hold	11.8	2,252	2,738	3,423	6.0	4.9	3.9	75.4%	71.4%	66.8%	6,888	6,832	6,872	2.0	2.0	2.0
Germany	DAB Bank	Hold	3.8	21	24	29	16.2	14.6	12.0	84.1%	83.2%	80.8%	112	116	121	3.1	3.0	2.9
Greece	Alpha Bank	Buy	0.7	1,151	1,736	1,986	8.1	5.4	4.7	55.6%	40.4%	37.1%	1,443	1,177	1,169	6.4	7.9	7.9
Greece	National Bank of Greece	Buy	2.8	1,738	2,340	2,763	5.6	4.2	3.5	55.4%	47.3%	44.1%	2,156	2,103	2,180	4.5	4.6	4.5
Greece	Piraeus Bank	Buy	1.9	1,197	1,891	2,251	9.7	6.1	5.1	54.1%	38.4%	34.6%	1,409	1,179	1,191	8.2	9.8	9.7
Iberia	Banco de Sabadell	Buy	2.5	1,585	1,603	1,811	6.4	6.3	5.5	55.3%	55.2%	52.4%	1,957	1,977	1,996	5.2	5.1	5.0
Iberia	Banco Popular	Hold	5.2	1,870	1,920	1,973	5.9	5.8	5.7	48.8%	48.4%	48.1%	1,783	1,798	1,828	6.2	6.2	6.1
Iberia	Banco Santander	Hold	7.6	22,003	23,369	24,135	4.2	4.2	4.4	46.8%	45.4%	45.1%	19,353	19,469	19,823	4.8	5.1	5.3
Iberia	Bankia	Hold	1.5	2,113	2,321	2,486	8.2	7.5	7.0	45.2%	41.2%	38.1%	1,746	1,627	1,533	9.9	10.6	11.3
Iberia	Bankinter	Buy	5.9	747	767	807	7.2	7.0	6.7	47.9%	47.5%	46.5%	687	694	701	7.9	7.8	7.7
Iberia	BBVA	Hold	9.6	9,783	10,213	11,078	5.9	5.8	5.4	52.7%	52.3%	51.0%	10,894	11,193	11,521	5.3	5.3	5.2
Iberia	CaixaBank	Hold	4.6	3,175	3,433	3,742	8.1	7.6	7.0	54.1%	52.2%	49.8%	3,750	3,750	3,712	6.8	7.0	7.0
Ireland	Bank of Ireland	Hold	0.3	1,246	1,331	1,484	7.0	6.6	5.9	56.9%	55.5%	53.0%	1,643	1,658	1,673	5.3	5.3	5.2
Italy	Banca Popolare di Milanc	Hold	0.7	585	668	789	3.7	3.3	2.8	65.1%	61.8%	57.4%	1,091	1,080	1,062	2.0	2.0	2.1
Italy	Banco Popolare	Buy	14.0	1,319	1,449	1,696	3.9	3.5	3.0	62.2%	60.0%	56.3%	2,167	2,177	2,183	2.3	2.3	2.3
Italy	Credem	Hold	7.3	346	382	450	6.9	6.3	5.3	68.7%	66.5%	62.7%	761	757	755	3.2	3.2	3.2
Italy	Intesa SanPaolo	Buy	2.5	8,581	9,315	9,868	4.5	4.2	3.9	50.1%	48.0%	46.6%	8,608	8,592	8,618	4.5	4.5	4.5
Italy	UBI Banca	Hold	6.9	1,323	1,467	1,617	4.7	4.3	3.9	63.2%	60.3%	57.5%	2,269	2,230	2,191	2.7	2.8	2.8
Italy	UniCredit	Hold	6.7	9,386	9,907	10,769	4.1	3.9	3.5	60.2%	58.6%	56.4%	14,200	14,051	13,919	2.7	2.7	2.7
Nordics	Danske Bank	Hold	154.4	2,759	3,040	3,136	7.6	6.9	6.7	53.1%	49.7%	48.9%	3,123	3,008	3,002	6.7	6.9	7.0
Nordics	DNB	Buy	115.4	3,394	3,475	3,666	6.8	6.6	6.3	42.9%	42.1%	40.8%	2,554	2,522	2,524	9.0	9.1	9.1
Nordics	Nordea	Buy	10.9	5,167	5,720	5,966	8.5	7.6	7.2	51.6%	45.8%	45.0%	5,501	4,827	4,883	7.9	9.0	8.7
Nordics	SEB	Buy	92.3	2,362	2,625	2,752	9.4	8.5	8.1	50.7%	48.2%	47.5%	2,433	2,444	2,487	9.1	9.1	8.9
Nordics	Svenska Handelsbanken	Hold	335.8	2,225	2,393	2,524	10.5	9.8	9.3	46.0%	45.0%	44.5%	1,895	1,957	2,022	12.4	12.0	11.6
Nordics	Swedbank	Buy	177.2	2,343	2,560	2,688	9.2	8.4	8.0	44.8%	42.6%	41.9%	1,900	1,902	1,936	11.3	11.3	11.1
Switzerland	Cembra Money Bank	Hold	58.0	176	181	183	8.1	7.9	7.8	44.1%	43.7%	43.6%	139	140	141	10.3	10.2	10.1
Switzerland	Credit Suisse Group	Buy	27.1	3,682	5,996	6,885	9.6	5.9	5.2	82.4%	72.6%	70.2%	17,258	15,912	16,234	2.0	2.2	2.2
Switzerland	EFG International	Hold	10.3	174	198	226	7.1	6.2	5.5	72.4%	71.6%	70.8%	456	498	547	2.7	2.5	2.3
Switzerland	Julius Baer	Hold	38.8	358	584	797	19.9	12.2	8.9	82.9%	75.1%	68.9%	1,733	1,765	1,769	4.1	4.0	4.0
Switzerland	UBS	Buy	17.8	4,151	6,323	7,856	13.2	8.7	7.0	82.1%	74.5%	70.3%	19,041	18,510	18,581	2.9	3.0	2.9
UK	Barclays	Buy	240.3	11,365	13,879	16,104	4.2	3.5	3.1	65.5%	59.7%	55.4%	21,619	20,562	19,994	2.2	2.4	2.5
UK	HSBC	Hold	620.9	19,833	21,927	24,387	7.4	6.8	6.3	57.5%	55.4%	53.3%	26,844	27,263	27,852	5.5	5.5	5.5
UK	Lloyds Banking Group	Buy	78.8	8,669	11,623	12,674	8.1	6.1	5.6	61.2%	49.8%	48.0%	13,668	11,523	11,708	5.1	6.1	6.1
UK	RBS	Hold	337.2	7,768	7,929	7,267	6.1	6.1	6.8	65.8%	62.8%	59.0%	14,944	13,403	10,465	3.2	3.6	4.7
UK	Standard Chartered	Hold	1323.5	6,416	6,775	7,461	6.3	6.1	5.7	53.7%	53.1%	51.7%	7,443	7,678	7,991	5.5	5.4	5.3

Source: Deutsche Bank estimates

Figure 60: European Banks – Capital ratios and B3 data

Geography	Stock	DB Rec.	Price	Stated Tier 1 ratio			Tangible Equity Tier 1 ratio			Tang Assets/Tang Book value			Loan to deposit ratio			2019 basis B3 CET1 ratio		
			05/06/2014	2014e	2015e	2016e	2014e	2015e	2016e	2014e	2015e	2016e	2014e	2015e	2016e	2014e	2015e	2016e
Austria	Erste Bank	Buy	26.1	11.1%	11.7%	12.0%	9.0%	9.8%	10.2%	21.7	20.2	19.3	106.5%	106.7%	106.9%	10.6%	11.1%	11.4%
Austria	Raiffeisen Bank Intern.	Hold	25.4	11.2%	11.8%	12.6%	10.8%	12.4%	13.7%	14.3	12.4	11.3	115.9%	116.8%	117.1%	10.3%	11.0%	11.9%
Benelux	KBC	Buy	43.0	14.6%	13.4%	13.7%	12.2%	12.9%	13.5%	21.8	20.5	19.6	82.4%	82.4%	82.8%	13.1%	11.9%	12.2%
France	BNP Paribas	Hold	51.5	12.0%	12.4%	13.4%	11.1%	11.1%	11.6%	27.2	26.7	25.7	108.6%	108.6%	108.6%	10.8%	10.8%	11.2%
France	Credit Agricole	Hold	11.7	10.5%	11.1%	11.8%	10.0%	10.6%	11.3%	50.4	46.5	42.7	62.3%	61.1%	59.9%	9.5%	10.1%	10.8%
France	Societe Generale	Buy	43.0	12.4%	12.5%	12.5%	11.2%	11.3%	11.4%	31.2	30.3	29.3	99.6%	99.6%	100.0%	10.7%	10.8%	10.9%
Germany	Aareal Bank	Hold	34.9	14.8%	15.7%	17.0%	12.9%	13.4%	12.5%	23.6	22.7	24.7	107.1%	109.3%	110.6%	12.2%	11.3%	12.0%
Germany	Comdirect	Buy	7.9	14.8%	15.1%	15.6%	21.3%	21.4%	21.9%	26.5	26.6	26.3	1.3%	1.3%	1.3%	14.8%	15.1%	15.6%
Germany	Commerzbank	Hold	11.8	11.8%	12.1%	12.3%	11.4%	11.9%	12.1%	22.4	20.6	19.1	87.2%	81.7%	78.1%	9.5%	9.8%	10.3%
Germany	DAB Bank	Hold	3.8	15.2%	14.9%	14.6%	23.9%	23.4%	22.9%	25.1	27.1	28.3	5.1%	4.7%	4.5%	15.2%	14.9%	14.6%
Greece	Alpha Bank	Buy	0.7	14.4%	14.6%	15.2%	14.7%	14.8%	15.5%	9.2	9.0	8.7	119.9%	117.6%	114.8%	n/a	n/a	n/a
Greece	National Bank of Greece	Buy	2.8	13.6%	15.2%	16.3%	12.1%	12.8%	13.8%	15.9	15.0	13.9	106.1%	104.9%	103.5%	n/a	n/a	n/a
Greece	Piraeus Bank	Buy	1.9	13.3%	13.4%	14.0%	13.6%	13.6%	14.1%	10.7	10.7	10.3	113.8%	112.1%	110.0%	n/a	n/a	n/a
Iberia	Banco de Sabadell	Buy	2.5	12.7%	13.3%	13.6%	13.0%	13.6%	13.9%	17.3	16.9	16.6	105.9%	102.7%	102.7%	10.8%	11.4%	11.7%
Iberia	Banco Popular	Hold	5.2	13.0%	13.8%	14.2%	13.5%	14.3%	15.5%	14.4	13.8	12.7	101.9%	98.8%	100.8%	11.1%	12.0%	12.6%
Iberia	Banco Santander	Hold	7.6	13.4%	14.3%	15.2%	9.5%	10.5%	11.5%	22.0	23.4	21.3	113.0%	112.3%	112.0%	9.0%	10.4%	11.5%
Iberia	Bankia	Hold	1.5	13.7%	15.5%	15.6%	15.0%	16.9%	16.9%	18.5	15.5	14.1	102.1%	98.0%	99.4%	10.0%	11.6%	12.0%
Iberia	Bankinter	Buy	5.9	12.8%	13.5%	14.1%	14.3%	15.0%	15.6%	16.1	15.3	14.7	142.0%	139.1%	139.1%	12.9%	13.6%	14.2%
Iberia	BBVA	Hold	9.6	13.4%	13.7%	14.0%	12.7%	13.0%	13.3%	16.7	16.8	15.9	119.4%	120.5%	120.5%	10.5%	10.8%	11.2%
Iberia	CaixaBank	Hold	4.6	14.0%	14.6%	15.2%	17.5%	18.3%	18.7%	14.9	14.2	13.9	108.5%	106.3%	106.3%	11.5%	12.0%	12.6%
Ireland	Bank of Ireland	Hold	0.3	13.1%	13.7%	14.2%	11.5%	12.3%	13.7%	20.3	18.9	17.0	110.6%	110.4%	112.8%	7.2%	8.3%	10.2%
Italy	Banca Popolare di Milanc	Hold	0.7	9.2%	11.2%	11.1%	9.7%	11.8%	11.7%	11.9	11.9	11.8	88.7%	88.8%	91.1%	8.4%	10.1%	10.0%
Italy	Banco Popolare	Buy	14.0	13.5%	13.3%	13.8%	15.4%	15.9%	16.2%	16.4	16.3	16.3	93.9%	94.8%	97.7%	10.2%	10.3%	10.7%
Italy	Credem	Hold	7.3	11.7%	12.3%	12.9%	11.7%	12.3%	13.0%	16.3	15.9	15.5	99.0%	98.1%	97.2%	11.6%	12.1%	12.8%
Italy	Intesa SanPaolo	Buy	2.5	13.0%	13.1%	13.1%	13.9%	14.1%	14.3%	15.0	14.8	14.8	92.9%	94.6%	96.8%	12.6%	12.2%	12.2%
Italy	UBI Banca	Hold	6.9	12.9%	13.0%	13.3%	12.1%	12.3%	12.6%	17.0	16.6	16.2	178.7%	175.9%	173.1%	10.4%	10.6%	10.9%
Italy	UniCredit	Hold	6.7	12.7%	12.8%	13.0%	12.6%	12.8%	13.1%	18.4	18.0	17.5	78.0%	77.7%	77.3%	10.6%	10.8%	11.3%
Nordics	Danske Bank	Hold	154.4	14.4%	15.3%	16.3%	15.6%	16.6%	17.4%	24.7	23.3	22.3	202.2%	199.6%	197.3%	13.4%	14.3%	15.2%
Nordics	DNB	Buy	115.4	13.9%	15.7%	16.6%	13.8%	15.1%	16.4%	16.9	15.7	14.9	149.3%	149.3%	149.3%	14.7%	16.3%	17.3%
Nordics	Nordea	Buy	10.9	17.0%	16.9%	16.7%	17.4%	17.4%	17.2%	24.6	24.6	24.8	170.6%	170.6%	170.6%	16.0%	15.9%	15.7%
Nordics	SEB	Buy	92.3	19.1%	19.3%	19.6%	20.1%	20.5%	20.8%	23.9	23.4	23.1	147.1%	147.1%	147.1%	17.1%	17.4%	17.7%
Nordics	Svenska Handelsbanken	Hold	335.8	21.8%	22.2%	22.5%	20.4%	20.9%	21.4%	26.3	25.6	25.0	199.1%	199.1%	199.1%	19.8%	19.9%	20.0%
Nordics	Swedbank	Buy	177.2	20.6%	20.9%	21.6%	20.7%	21.2%	22.0%	21.9	21.4	21.0	195.3%	195.3%	195.3%	19.7%	20.0%	20.7%
Switzerland	Cembra Money Bank	Hold	58.0	20.4%	21.1%	21.8%	23.2%	23.9%	24.6%	5.5	5.3	5.2	229.8%	219.0%	223.4%	20.4%	21.1%	21.8%
Switzerland	Credit Suisse Group	Buy	27.1	16.7%	18.5%	19.6%	12.5%	14.5%	16.1%	25.9	23.0	20.9	78.6%	78.6%	76.3%	10.6%	12.9%	15.0%
Switzerland	EFG International	Hold	10.3	16.5%	17.0%	17.4%	7.1%	8.0%	8.8%	54.6	49.9	46.9	64.1%	63.8%	63.6%	16.5%	17.0%	17.4%
Switzerland	Julius Baer	Hold	38.8	19.0%	21.1%	24.1%	18.1%	20.3%	23.4%	23.4	20.2	16.9	53.4%	53.4%	53.4%	16.4%	18.7%	21.8%
Switzerland	UBS	Buy	17.8	18.7%	20.5%	20.5%	18.7%	21.4%	22.4%	23.0	20.7	18.6	75.6%	74.2%	72.8%	14.0%	16.4%	17.6%
UK	Barclays	Buy	240.3	12.4%	13.1%	13.7%	11.3%	11.6%	12.0%	26.0	24.0	22.2	103.7%	101.4%	100.7%	10.0%	10.4%	10.8%
UK	HSBC	Hold	620.9	12.4%	13.0%	13.6%	12.2%	12.6%	13.1%	18.4	18.5	18.4	81.7%	81.7%	81.7%	11.3%	11.8%	12.4%
UK	Lloyds Banking Group	Buy	78.8	15.9%	16.8%	17.6%	14.7%	15.9%	16.8%	21.7	20.2	19.1	110.9%	115.8%	114.7%	11.8%	13.0%	14.0%
UK	RBS	Hold	337.2	12.9%	14.9%	16.2%	10.5%	14.2%	15.4%	23.5	20.9	18.8	99.4%	96.4%	92.9%	9.6%	11.3%	12.5%
UK	Standard Chartered	Hold	1323.5	12.5%	12.4%	12.5%	12.2%	12.2%	12.3%	16.1	16.3	16.4	78.3%	79.8%	81.3%	11.2%	11.3%	11.4%

Source: Deutsche Bank estimates

Appendix A

G-SIB list – November 2013 update

Figure 61: G-SIBs as of November 2013 allocated to buckets corresponding to required level of additional loss absorbency

Bucket	G-SIB in alphabetical order within each bucket
5 (3.5%)	---
4 (2.5%)	HSBC
	JP Morgan Chase
3 (2.0%)	Barclays
	BNP Paribas
	Citigroup
	Deutsche Bank
2 (1.5%)	Bank of America
	Credit Suisse
	Goldman Sachs
	Group Crédit Agricole
	Mitsubishi UFJ FG
	Morgan Stanley
	Royal Bank of Scotland
	UBS
1 (1.0%)	Bank of China
	Bank of New York Mellon
	BBVA
	Groupe BPCE
	Industrial and Commercial Bank of China Limited
	ING Bank
	Mizuho FG
	Nordea
	Santander
	Société Générale
	Standard Chartered
	State Street
	Sumitomo Mitsui FG
	Unicredit Group
	Wells Fargo

Source: Deutsche Bank, BIS

Link to Financial Stability Board update:
http://www.financialstabilityboard.org/publications/r_131111.pdf

Appendix B

Relevant CRR text for PD and LGD credibility

In relation to PD floors

"(a) **the model shall have good predictive power and capital requirements shall not be distorted as a result of its use**. The input variables shall form a reasonable and effective basis for the resulting predictions. The model shall not have material biases;" (CRR 174).

In relation to PD calibration

"(a) an institution's own estimates of the risk parameters PD, LGD, conversion factor and EL shall incorporate all relevant data, information and methods. The estimates shall be derived using both historical experience and empirical evidence, and not based purely on judgmental considerations. The estimates shall be plausible and intuitive and shall be based on the material drivers of the respective risk parameters. **The less data an institution has, the more conservative it shall be in its estimation**;" (CRR 179).

"(d) the population of exposures represented in the data used for estimation, the lending standards used when the data was generated and other relevant characteristics shall be comparable with those of the institution's exposures and standards. **The economic or market conditions that underlie the data shall be relevant to current and foreseeable conditions**. The number of exposures in the sample and the data period used for quantification shall be sufficient to provide the institution with confidence in the accuracy and robustness of its estimates;" (CRR 179)

In relation to LGD

"5. Based on the data collected under Article 101 and taking into account forward-looking property market developments and any other relevant indicators, the competent authorities shall periodically, and at least annually, assess whether the minimum LGD values in paragraph 4 of this Article are appropriate for exposures secured by residential or commercial immovable property located in their territory. **Competent authorities may, where appropriate on the basis of financial stability considerations, set higher minimum values of exposure weighted average LGD for exposures secured by property in their territory**." (CRR 164)

"6. EBA shall develop draft regulatory technical standards to specify the conditions that competent authorities shall take into account when determining higher minimum LGD values.

Power is delegated to the Commission to adopt the regulatory technical standards referred to in the first subparagraph in accordance with Articles 10 to 14 of Regulation (EU) No 1093/2010." (CRR 164)

"7. **The institutions of one Member State shall apply the higher minimum LGD values that have been determined by the competent authorities of another Member State** to exposures secured by property located in that Member State." (CRR 164)

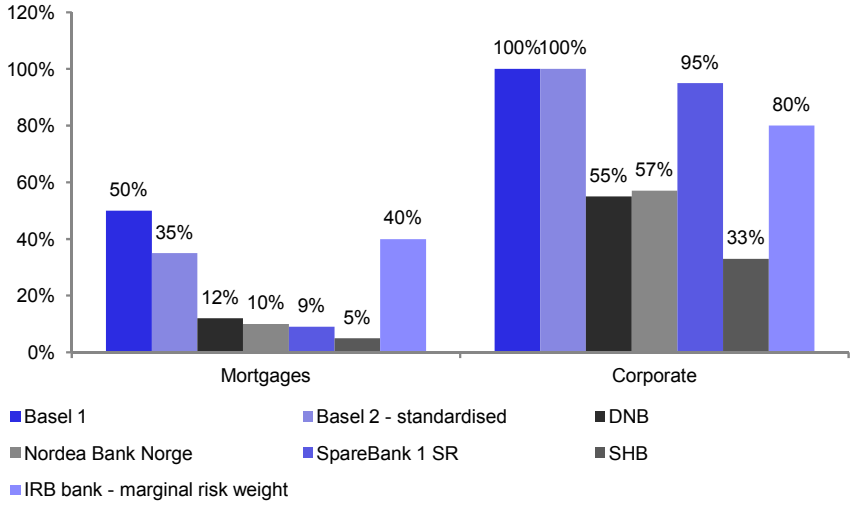
Appendix C

Norway FSA – Risk weights for mortgages paper

Norway FSA published a paper on 15 January 2014. The findings were that "historical data used for PD calibration were of poor quality, the observed PD might drift far from the calibration target, downturn LGD adjustment for LGD parameters were not sufficiently empirically grounded, the models include behavioral variables that indicate an imminent default and that some banks rate a large portion of the their exposures with very low PD." Solutions proposed include:

- PD calibration – The FSA proposes a 20% weight on the FSA's downturn PD estimate and then an 80% weight on the banks own PD estimate for the non-crisis years (FSA estimates a PD of 4% for the downturn period). The weights allow for four downturns per century, each lasting five years and include a safety margin. The downturn estimates were based on the 1990 Norway crisis.
- PD floors – assessment that a concentration of exposures with very low PD does not reflect underlying risk and current models do not provide meaningful differentiation. FSA suggests PD floor of 0.2-0.3%.
- Downturn LGD and floor – a floor set of 20% with effect from 1 January 2014. Also, a downturn in LG must meet a minimum set by a simplified LGD model, which includes a 45% valuation haircut assumption.

Figure 62: RW for mortgages and corporate loans in Norway under different calculation approaches, 2012 (Norway Central Bank)



Source: Deutsche Bank

Appendix 1

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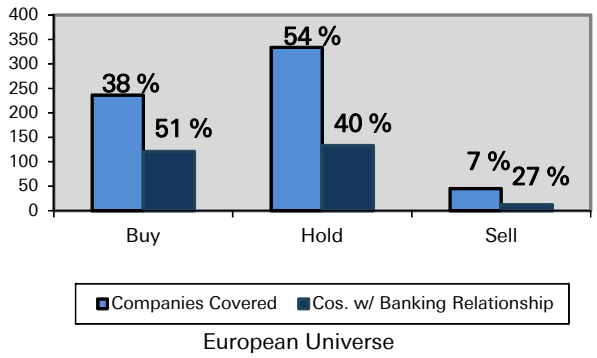

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