Basel 4: The way ahead

Credit Risk - Standardised approach
Bridging the gap to internal models

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Contents

01 Introduction

In December 2017 the Basel Committee on Banking Supervision (BCBS) finalised its reforms for the standardised approach (CR-SA) and the Internal Ratings Based approach (CR-IRB) for the calculation of risk weighted assets for credit risk. The CR-SA also forms part of the output floor, which will limit the extent to which banks can drive down capital requirements through the use of internal models.

The revised CR-SA largely follows the proposals set out in the BCBS's December 2015 consultation paper, including the continued use of external ratings (where available and permitted by national supervisors) for exposures to banks and corporates, and the use of loan to value ratios to determine risk weights for retail and commercial real estate exposures. However, the final standards apply lower risk weights to higher quality credit exposures than had been proposed in the consultation paper, and they allow a loan-splitting approach to residential and commercial real estate, at the discretion of the national supervisor.

The changes from the current Standardised Approach are therefore not as severe as banks once feared, with increased risk sensitivity being visible in several areas such as residential mortgages. Some banks using the CR SA may therefore find the increased operational challenges of data capture and the due diligence requirements for corporate and bank exposures more demanding than the changes in capital requirements. Banks' capital requirements may increase or decrease, depending on the composition and quality of their lending portfolios. In particular, banks with significant exposures to high loan to value residential and commercial property lending and to income producing real estate will face an increase in capital requirements.

The revised CR-SA will apply from 1 January 2022, along with the changes to other risk types and the initial phase in of the output floor.

A companion paper in this series on Basel 4 will cover the changes to the CR-IRB.

02 Implications for banks

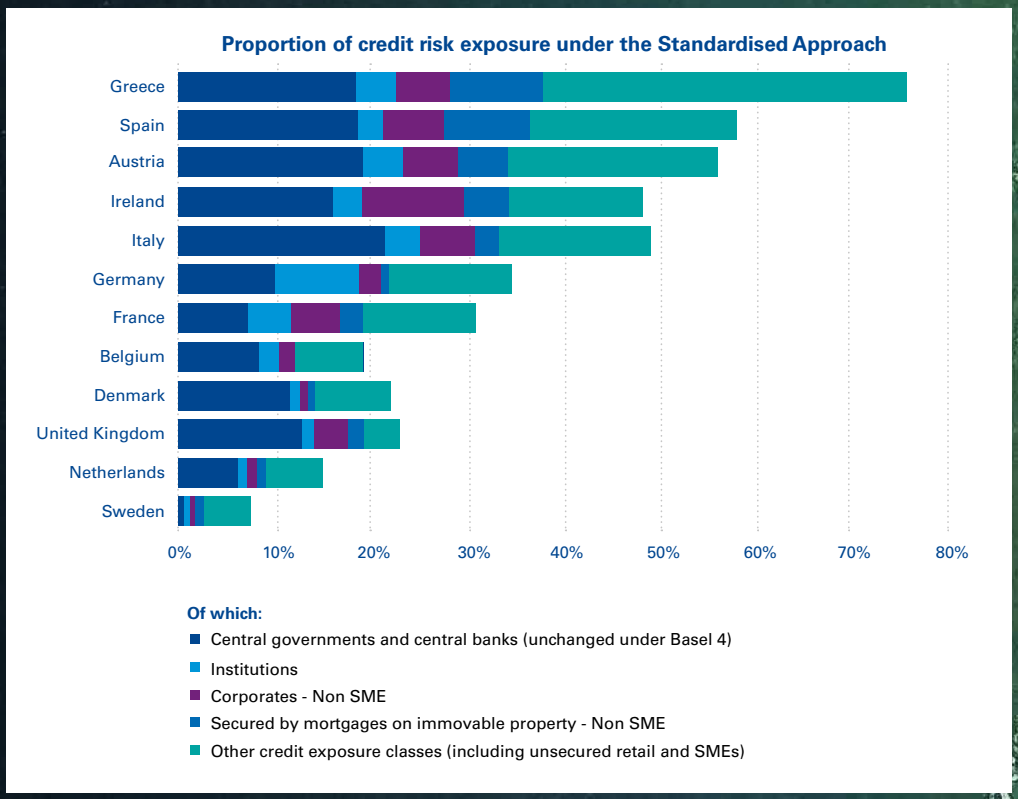
Under the revised SA-CR the recalibration of risk weights in most asset classes will have a direct impact on capital requirements. Potential impacts are examined below, along with considerations for implementing the new standard.

(i) Capital requirements

Changes in capital requirements as a result of the move to the new CR-SA will depend largely on three characteristics of a bank's credit portfolio – the extent to which a bank uses the Standardised Approach for credit risk, the types of credit exposures in its portfolio, and the quality of its exposures within each asset class.

Data from the 2017 European Banking Authority (EBA) Transparency Exercise show that banks vary considerably in the extent to which they use the Standardised Approach and the asset classes to which this approach is applied. It may also be observed that in many European countries a significant proportion of the assets to which the Standardised Approach is applied are exposures to Central Governments and central banks. The risk weightings for these exposures were left unchanged by the BCBS and are subject to further consultation.

Exposure of European Banks in CR-SA asset classes



Source: KPMG

Within asset classes there can be significant shifts in risk weightings, as shown in the following three examples.

Retail exposures secured by residential real estate

Under the current Standardised Approach, residential mortgages that are "fully secured" are risk weighted at 35 percent, with any unsecured component carrying a higher risk weight. In practice this results in a large majority of banks using the Standardised Approach having a residential mortgage risk weight between 35 percent and 50 percent, with almost half of the EBA sample of European banks having a mortgage risk weight of 35 percent.

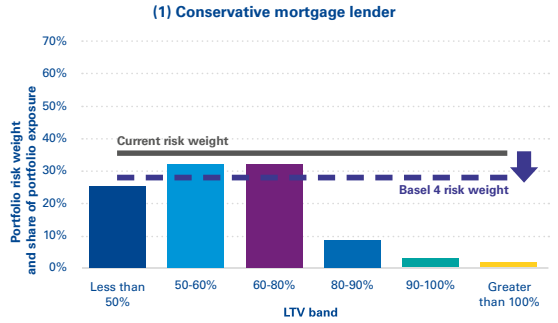
The new CR-SA provides a much greater degree of sensitivity, as seen in the risk weight table below[1]:

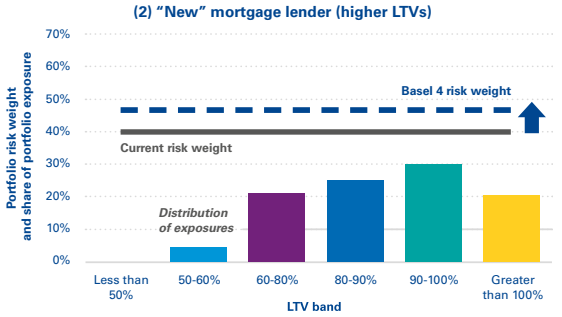
Risk weights for residential mortgages

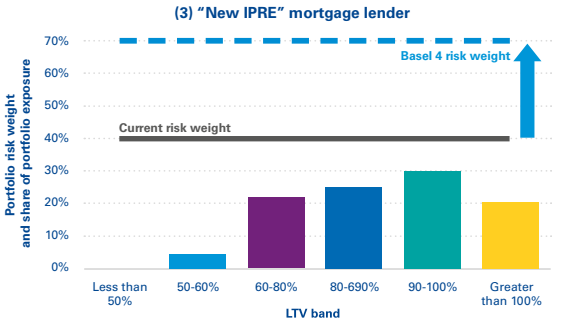
LTV	Below 50%	50% to 60%	60% to 80%	80% to 90%	90% to 100%	Above 100%
General residential	20%	25%	30%	40%	50%	70%
Income producing real estate	30%	35%	45%	60%	75%	105%

What might the effect of this be?

- For a conservative residential mortgage lender there is scope to reduce capital requirements significantly by maintaining a low LTV portfolio (see Chart 1, where the shaded bars represent an illustrative portfolio distribution of exposures). However, there may be a trade-off here because lower LTV residential mortgages also tend to carry lower interest rates and hence lower interest income for the bank.
- Chart 2 simulates a "high LTV" mortgage lender, with a significant proportion of loans in the greater than 100 percent LTV category. Risk weights under Basel 4 would be noticeably higher, suggesting banks should carefully consider the impacts of lending at such levels and set LTV limits as appropriate.
- By contrast, however, mortgages based on income producing real estate (IPRE) are likely to see dramatic increases in risk weightings (see Chart 3, which uses the same distribution of exposures as in Chart 2, but is only based on IPRE exposures). In some countries this type of exposure has not yet evidenced default rates higher than mainstream mortgages, which may lead to complaints that this type of lending is being unfairly squeezed when it comes to capital requirements.







Source: KPMG

[1] A loan-splitting approach is also allowed, where the risk weight of the counterparty is considered depending on the LTV.

Exposures to Corporates (non SME)

Under the new CR-SA the corporate exposure class will distinguish between general corporates and specialised lending. Focusing on the general corporate risk weights, the only change in risk weights is for exposures with an external weighting of between BBB+ and BBB-. However this grade covers a relatively high degree of exposures (currently around 75 percent of large European banks have an average corporate risk weight between 90 and 100 percent).

Risk weights for non-SME corporate exposures

External Rating	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to BB-	Below BB-
Current	20%	50%	100%	100%	150%
Basel 4 CR-SA	20%	50%	75%	100%	150%

Source: KPMG

Further granularity is provided for unrated exposures (an 85 percent risk weight if the exposure is to a corporate SME), and for Specialised Lending (where the risk weight can range from 80 percent for high quality project finance to 150 percent for exposures rated below BB-). As with residential real estate, the changes appear to hit hardest certain "niche" lenders where the characteristics of the exposure can be associated with a higher risk volatility.

Exposures to Banks

Under the new CR-SA some of the exposures in the risk weight table have been recalibrated, and there is a more granular approach applied when the exposure is unrated (or when ratings are not permitted for regulatory purposes).

In the latter case the Standardised Credit Risk Assessment Approach (SCRA) is used. This is more granular than the current procedure. Banks should, according to several quantitative and qualitative criteria, classify unrated banks into different grades. For banks there will be three different grades, with risk weights ranging between 20 and 150 percent. This represents a more risk sensitive approach, not one that is necessarily "harsher" or more lenient on capital requirements.

Based on current risk weights of European banks, exposures to banks (institutions) typically attract a risk weight in the region of 10 to 30 percent, which suggests that the CR-SA may not lead to a great deal of change for this asset class, with the recalibrated risk weight table only changing for one rating bucket, and that to a lower risk weight.

The EBA's impact assessment

In December 2017 the European Banking Authority (EBA) published its impact assessment of the Basel 4 changes. Based on data provided by banks, the EBA estimated the change in Tier 1 "minimum required capital" (MRC) across a sample of 149 European banks.

The EBA's assessment shows a marked difference in capital impact depending on whether the bank is "Group 1" (banks with Tier 1 capital in excess of EUR 3 billion and which are internationally active) or "Group 2" (all other banks). Group 1 banks would expect an increase in MRC of 5.3 percent (only due to the Standardised Approach) while Group 2 banks would see a decrease of 5.2 percent. While the EBA does not explain this difference, a number of reasons can be suggested, for example the differing concentration of exposure in the real estate classes and the tendency for larger banks to have more "atypical" portfolios on the Standardised Approach.

(ii) Implementation

Because of the introduction of the output floor, all banks will need to calculate the CR-SA, even those banks using the CR-IRB. This in itself will be an additional burden for banks using the CR-IRB. Moreover, where banks use external ratings in the CR-SA (for example for exposures to corporates or banks) the bank will be required to follow a "Due Diligence" process to confirm that the risk rating is appropriate. If this due diligence test fails then a higher risk weight would be applied, while if due diligence processes are not in place then supervisory measures are to be applied.

Similarly, for residential real estate exposures there are higher operational and data hurdles to overcome. There are a number of requirements that a loan must meet in order to apply the risk weights defined by LTV and IPRE classification. These operational requirements include proper documentation relating to the borrower's ability to repay and the valuation of the property, which may be difficult to evidence for older loans. If the operational requirements are not met then a higher risk weight, based on the counterparty type, would be applied. There is however still some uncertainty about how to interpret some of these operational requirements. Another aspect relating to real estate is that an LTV definition is used which is based on the property value at origination unless the national supervisor chooses a more conservative form of property valuation.

The application of national discretions will be of particular significance for the real estate asset class due to the different characteristics of real estate markets across Europe. The BCBS standards allow supervisors to apply higher risk weights if the supervisor feels that the CR-SA risk weights are too low based on default experience or other factors.

(iii) Business model

The new BCBS standards may also have longer term implications for how banks manage their capital adequacy and business lines. In particular:

- The merits of staying on the CR-SA or applying for IRB approval will remain dependent on operational as well as capital requirement considerations. Previous concerns that the CR-SA would be overly harsh and operationally complex have partially receded, and the lower risk weights available in certain asset classes will benefit some banks on CR-SA. It is not expected that IRB banks will decide, or actually be allowed by regulators, to fall back to the CR-SA apart from in rare cases. The perception that the IRB approach offers better understanding and management of risk is still embedded in the BCBS standards, and the differential between CR-SA and CR-IRB risk weights, while narrowing under Basel 4, will still remain, leaving the IRB approach an attractive option for many banks.
- Obligor and facility characteristics of portfolio exposures will need to be examined from several angles by bank management. As well as income related factors, the cost of capital and volatility of impairment charges under IFRS 9 will make some products more attractive than others. As an example, new real estate exposures with long terms will end up carrying relatively high lifetime loss provisions and potentially higher risk weights (due to LTV), however it would be difficult to believe that banks will significantly limit lending in this area. More likely would be a re-examination of pricing strategy for those products with high costs of capital, while using simulation tools to further test and optimise portfolio management decisions. Banks should be factoring in these decisions today as new long term exposures are likely to still be on banks balance sheets as the new rules phase in.
- In a European environment of low interest rates the business model of many banks is coming into question more generally, and European banking supervisors have already expressed their expectations around an increase in consolidation in the banking sector. The move to the new CR-SA will make it more difficult for some (but not all) banks to earn their cost of capital, leading to more difficult conversations to be had about the path to long-term viability and sustainability.

03 The new standardised approach for credit risk

Since the implementation of Basel 2, banks could either use a regulatory "standardised" approach to calculate credit risk capital requirements, or follow an IRB approach by leveraging their internal understanding of risk measurement. This discretion has seen rise to a common complaint that risk weights are not comparable across banks, and that some banks have been too aggressive in using models to drive down risk weights. Under Basel 4 these issues are addressed by restricting what is accepted in the IRB approach, by applying a floor to the extent to which risk weights can be driven down by the use of internal models, and by making the Standardised Approach more risk sensitive.

Some of the key changes to the Standardised Approach are:

- The approach for assigning risk weights to residential real estate exposures will experience a significant change due to the finer granularity of risk weight buckets, split by the loan-to-value (LTV) ratio and by whether the exposure is to income-producing residential real estate (IPRE) or general residential real estate. Commercial real estate risk weights will – similar to residential real estate but in a less granular manner – also be determined by LTV ratios
- Retail exposures excluding real estate secured exposures will be treated more granularly with regard to the exposure and obligor type.
- A more granular risk weight look-up table has been created for exposure to corporates, with SMEs assigned a specific flat risk weight. Specialised Finance becomes a separate exposure class, with its own treatment.
- Where external ratings are not permitted for exposures to banks and corporates (or where a bank itself is not rated) a new "standardised credit risk assessment approach (SCRA)" is applied which is more granular than the current procedure.
- There will be a granular stand-alone procedure for covered bonds based on either issue-specific ratings or issuer-specific external ratings.
- Subordinated debt and equity exposures will receive more granular risk weights depending on the type of exposure.
- Credit conversion factors, applied to off-balance sheet exposures, have been made more risk sensitive.

04 How KPMG can help

KPMG member firms have established teams of specialists able to support banks in a number of risk management fields, covering both financial and non-financial risks.

For the CR-SA changes, KPMG professionals can assist in the following areas:

- Impact assessment of the changes, covering both quantitative impacts as well as the impact on capital planning and risk adjusted performance measures. KPMG professionals have developed a broad ranging benchmarking tool, "Peer Bank" to allow banks to examine the impacts of the new BCBS standards on their capital ratios (see box below for details).
- Gap analysis against the new requirements, including developing roadmaps for implementation.
- The preparation of internal, external (Pillar 3) and regulatory reporting.
- Advise on data collection and operational requirements for the CR-SA, for example documentation requirements for secured loans.
- Help banks to plan and execute a move from the Standardised Approach to the IRB Approach. KPMG professionals have assisted numerous European banks in achieving and maintaining regulatory approval for use of the IRB approach, including model approvals.

KPMG Peer Bank

KPMG Peer Bank is a benchmarking tool that offers varying levels of analysis for banks to understand their position among peers. The tool is populated with data from recent EBA transparency exercises and includes a **Basel 4 Calculator** that allows banks to proxy for potential Basel 4 effects for themselves or for their peers.

The calculator uses a set of assumptions on risk weights on line item level and accounts for the Basel 4 output floor. Average risk weights can easily be adjusted by the user to account for bank-specific effects.

Banks that are interested in learning more about the Peer Bank tool should contact the KPMG ECB Office, whose contact details are included on the back cover.

05 Annex: Risk weights under the new standardised approach

Exposures to banks (and short-term exposures)	Exposures to corporates
Ratings permitted:	**Ratings permitted:**
20% (20%): AAA to AA-	**20%**: AAA to AA-
30% (20%): A+ to A-	**50%**: A+ to A-
50% (20%): BBB+ to BBB –	**75%**: BBB+ to BBB –
100% (50%): BB+ to B-	**100%**: BB+ to BB-
150% (150%): Below B-	**150%**: Below BB-
Ratings not permitted or Unrated:	**Unrated**
40% (20%): Grade A	**100%**: General Corporate
75% (50%): Grade B	**85%**: Corporate SME
150% (150%): Grade C	**Ratings not permitted:**
	65%: General Corporate (Investment grade)
	100%: General Corporate (all other)
	85%: Corporate SME

Exposures to covered bonds	Exposures to specialised lending
Ratings permitted:	**Ratings permitted:**
10%: AAA to AA-	**20%**: AAA to AA-
20%: A+ to BBB –	**50%**: A+ to A-
50%: BB+ to B –	**75%**: BBB+ to BBB –
100%: Below B-	**100%**: BB+ to BB-
	150%: Below BB-
Ratings not permitted or Unrated:	**Ratings not permitted or Unrated:**
10%: RW of issuer bank is 20%	**130%**: Pre-operational phase Project finance
15%: RW of issuer bank is 30%	**100%**: Operational phase Project finance
20%: RW of issuer bank is 40%	**80%**: Operational phase (high quality) Project finance
25%: RW of issuer bank is 50%	**100%**: Object and Commodity finance
35%: RW of issuer bank is 75%	
50%: RW of issuer bank is 100%	
100%: RW of issuer bank is 150%	

Source: KPMG

Exposures to residential real estate (and IPRE)	Exposures to commercial real estate
Whole loan approach:	**General CRE, Whole loan approach:**
20% (30%): LTV below 50%	**Min (60%, RW of counterparty)**: LTV below or equal to 60%
25% (35%): LTV between 50% and 60%	
30% (45%): LTV between 60% and 80%	
40% (60%): LTV between 80% and 90%	**RW of counterparty**: LTV above 60%
50% (75%): LTV between 90% and 100%	
70% (105%): LTV above 100%	
Loan splitting approach:	**General CRE, Loan splitting approach:**
A supervisory risk weight of 20% is applied to the portion of the exposure that is below 55% of the property value and the risk weight of the counterparty is applied to the remainder of the exposure.	A supervisory risk weight of 60% is applied to the portion of the exposure that is below 55% of the property value and the risk weight of the counterparty is applied to the remainder of the exposure.
	Income Producing Real Estate:
	70%: LTV below 60%
	90%: LTV between 60% and 80%
	110%: LTV above 80%
	150%: Criteria not met
	Land acquisition, Development & Construction:
	150%: Loan to company / SPV
	100%: Residential ADC loan

Exposures to retail (excluding real estate)	Subordinated debt and equity (excluding amounts deducted)
Regulatory retail:	
75%: Non-revolving	**150%**: Subordinated debt and capital other than equities
45%: Revolving Transactors	**100%**: Equity exposures to certain legislated programmes
75%: Revolving Non-Transactors	**400%**: "Speculative unlisted equity"
	250%: All other equity exposures
Other retail	
100%	

Credit conversion factors for off-balance sheet exposures
10% CCF: UCCs (unconditionally cancellable commitments)
20% CCF: ST self-liquidating trade letters of credit arising from the movement of goods
40% CCF: Commitments, except UCCs
50% CCF: NIFs and RUFs, and certain transaction-related contingent items
100% CCF: Direct credit substitutes and other off balance sheet exposures

Source: KPMG

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