

June 3, 2016



Mr. William Coen
Secretary General
Basel Committee on Banking Supervision
Bank for international Settlements
CH-4002 Basel
Switzerland

Re: Consultative Document, Reducing variation in credit risk-weighted assets – constraints on the use of internal model approaches

Dear Mr. Coen:

The Institute of International Finance (IIF) is pleased to provide our comments on the Basel Committee's (the "Committee" or "BCBS") above-mentioned Consultative Document on internal modeling for credit risk. We value this opportunity to provide our input on the proposals as well as the ongoing dialogue that the BCBS has conducted with the industry.

As stated on numerous occasions before, the IIF is fully supportive of the goal to reduce RWA variance and to strengthen the regulatory capital framework. That sentiment has informed the input provided to the BCBS throughout the recent reform process, including our comments on this consultation on the IRB approach for credit risk.

Whilst our comments throughout this letter are focused on the specific issues in the Committee's proposals on internal models, we wish to firstly emphasize that this Consultative Document should be considered intrinsically alongside the broader array of current proposed capital reforms. These proposed changes come alongside the developments in the Fundamental Review of the Trading Book in market risk, operational risk, the Standardized Approach for credit risk and the Leverage Ratio, and whilst these each cover distinct risk disciplines, we believe it is absolutely essential to examine them collectively and holistically, rather than in their respective risk silos.

The need for a holistic view is underlined in this Consultative Document with the proposal to move significant customer segments and asset classes from IRB to the Standardized Approach ("SA"). We realize that the BCBS has sought to view the reviews of IRB and the SA as separate processes, but these shifts (and the proposed capital floor) mean that the two are inexorably linked, making it imperative that they are read in direct conjunction.

Furthermore, we reiterate the importance of maintaining risk-sensitivity at the center of the capital framework, and ensuring that capital metrics are at least directionally aligned with risk.

Capital metrics are central not only for demonstrating capital adequacy at the 'top of house' level, but also for a range of downstream applications within the firm: in banks' strategic planning, in how they price deals, in portfolio construction (and the risk of adverse selection), and in how bank staff are assessed and remunerated. This is critical for ensuring appropriate signaling and encouraging desired behaviors.

We are concerned that the Committee is undervaluing risk-sensitivity, particularly when the crisis highlighted the perils of the very simple Basel I capital framework. In this context, it is important to remember that a blunt capital framework prevailed and promoted distortive incentives in the pre-crisis years. In contrast, the subsequent move from Basel I to the risk-based Basel II and III has generated great improvement in risk management, and it has greatly empowered the role of the Risk function within firms – gains which should be maintained and consolidated.

Whilst the IIF and our members continue to stress the value of internal models as the best available means for delivering the risk-sensitivity necessary in the capital framework, we do understand and acknowledge the Committee's concerns in respect of RWA variance and the challenges in modeling those portfolios with limited historical default data.

We recognize that there are some sectors where it is difficult to model because there haven't been many loan defaults or losses in those areas. But in constructing proposals, it is still important to differentiate risk to the greatest degree possible amongst different borrowers. Where low default portfolios are characterized by a lack of historical losses, this certainly does make it difficult to be precise, but it simultaneously reflects the fact that (by their very definition) those assets are relatively low risk. We are concerned that where the treatments set out in the Consultative Document would create anomalies, those anomalies will generally be concentrated against the better-quality borrowers.

Consequently, our primary concern with the Committee's proposals is less about models, and more about the bluntness of the approach that the Committee proposes to replace these with. Under the SA (in the case of banks, financial institutions and corporates) and the current Supervisory Slotting Criteria (for Specialized Lending), all assets are herded into only three or four risk buckets (or less, for unrated corporates), which tend to overstate risk on the best credits but understate it on the weakest. To the extent that the Committee aims to keep the SA simple and fit for purpose for small banks, it is manifestly inappropriate in such cases for large and diversified financial institutions.

Heeding the Committee's concerns but seeking remedies that preserve a greater degree of risk-sensitivity, the IIF is therefore pleased to put forward some constructive alternate solutions. These include:

- a more granular and risk-sensitive version of the BCBS's bucketed proposals for the Banks, Financial Institutions and Specialized Lending asset classes;
- greater use of pooled data across institutions, in the sectors where this can help to overcome the low data challenge, backed by specific guidelines;
- more stringent standards for modeling Corporate exposures, with some important amendments to the Committee's proposals that would help to mitigate the negative downstream impacts
- some targeted adjustments to the Committee's proposed parameter floors; and
- a series of specific and more technical enhancements to models, building on the previous work of the IIF RWA Task Force.

We are also concerned with the proposed 'output floor', which coming on top of the parameter floors and the Leverage Ratio creates an excessive and intricate construct of multiple 'backstop' measures, impeding the comparability of banks' underlying risk profiles and

seemingly contradicting the Committee's desire for simplicity. The calibration of all such backstops is critical; however, we note that the Committee's envisaged timeline for current Quantitative Impact Study (QIS) activity and analysis is particularly tight, especially given the need for such analysis to be thorough and complete. To this end, the IIF plans to contribute to this analysis by undertaking its own QIS study in parallel, which we will aim share and discuss with the Committee as soon as completed.

The industry recognizes that all models are inherently imperfect, and that banks' internal models must continue to be enhanced and rigorously scrutinized; however, they should not be disregarded, as they remain the best available option for estimating the true underlying risks across banks' portfolios. The IIF continues to support proposals for the harmonization of modeling assumptions and parameters, both in the form of the IIF RWA Task Force's own set of 78 recommendations, and the very constructive work that has been mobilized by agencies such as the European Banking Authority (EBA). Such endeavors are reflective of the continuous improvement within the risk management discipline, as well as a means of helping to restore the credibility of internal models within the capital framework.

With the design and calibration of each of these proposed changes being so critical and with such substantial ramifications, we emphasize the importance for regulators and the industry to invest the time to thoroughly explore these issues in a holistic manner. We are concerned that the Committee's accelerated timeline may lead to hasty outcomes, and with the substantial ramifications throughout the industry and the broader economy at stake, we urge the Committee to fully explore our alternate solutions, and to give ample opportunity for detailed model reviews, such as that being pursued by the EBA. The IIF RWA Task Force continues to be a willing and constructive partner in these endeavors.

Finally, we should emphasize that we are particularly conscious of the cumulative impact that this suite of proposals stands to have on the required levels of bank capital, and on the ability of banks to support the economy. In this regard, we welcome the commitment by the Group of Governors and Heads of Supervision (GHOS) to not seek to significantly increase capital requirements, but we are deeply concerned at the potential magnitude of each of these changes, including the proposals in this Consultative Document.

If implemented as currently drafted, the suite of proposals would deliver a material impact across risk-types, contrary to the GHOS mandate, and coming on top of the very substantial increases that have already been achieved through Basel 2.5 and Basel III. When combined with the introduction of TLAC, these current proposals can have negative, non-risk based implications for the financial products that are key for economic growth. Importantly, economic sectors in both developed and emerging markets still highly rely on banks as the main source of funding, and reducing the alignment of capital and risk could negatively affect the availability and pricing of credit to the economy.

Much has been achieved in the last eight years in making the system stronger and more resilient, in improving risk management and in embedding risk-consciousness in key decision-making. We urge great care to avoid reversion of these gains, just as we remain committed to doing our part in driving further improvement of banks' models and risk management practices.

As always, the IIF stands ready to provide further input and any necessary expansions or clarifications on all of our comments. We very much appreciate our ongoing interaction with

the Committee, and we welcome ongoing dialogue on this important matter. If you have any questions on the issues raised in this letter, please contact myself or Brad Carr (bcarr@iif.com).

Sincerely,

A handwritten signature in black ink, appearing to read "A. Portilla". The signature is fluid and cursive, with a large initial "A" and "P".

Andrés Portilla

Managing Director, Regulatory Affairs

Contents

1. In Summary: our Alternate Proposals	6
2. The Applicability of Modeling	10
3. Interaction with the Standardized Approach	14
4. Capital Floor	17
5. Detailed Response on Consultation Items	20
5.1 RWA Approaches for Banks and Financial Institutions.....	20
5.1.1 Banks and Insurers.....	20
5.1.2 Other Financial Institutions.....	24
5.2 RWA Approaches for Corporates	25
5.3 RWA Approaches for Specialized Lending	34
5.4 RWA Approaches for Equities	39
5.5 RWA Approaches for Counterparty Credit Risk and CVA.....	39
5.6 Parameter Floors.....	44
5.7 Parameter Estimation Practices and Fixed Supervisory Parameters.....	46
5.7.1 Probability of Default.....	46
5.7.2 Loss Given Default	49
5.7.3 Exposure at Default.....	49
5.7.4 Maturity.....	51
5.7.5 Credit Risk Mitigation	52
6. IIF RWA Task Force: Additional Ways to Reduce RWA Variance	54
6.1. Data Availability	54
6.2. Segmentation.....	56
6.3. Modeling Techniques.....	57
7. Externalities	61
8. Other Downstream Regulatory Impacts	65
Appendix A: Trends in Risk-weights under Basel I and II/III	67
Appendix B: The Importance of Risk-sensitivity	68
Appendix C: GCD Analysis on Banks Exposures.....	72
Appendix D: IRTF Analysis: EAD/CCF and Timing of Commitments.....	80
Appendix E: Glossary.....	83

1. In Summary: our Alternate Proposals

The IIF shares the BCBS’s desire to reduce the level of RWA variance, and we agree some sectors present added challenges in modeling, where there haven’t been many loan defaults or losses in those areas. Our concerns are with some of the proposed remedies, in particular where the BCBS proposes a much heavier reliance on the SA, with the consequential loss of risk-sensitivity.

Accordingly, we have prepared a series of alternate proposals that we believe address the BCBS’s concerns, whilst enabling a greater preservation of risk-sensitivity. Our proposals are constructive, helping to reinforce stability whilst continuing to support advancements in risk management and modeling capabilities.

These proposals and their rationales are set out more expansively in Section 4, in our Detailed Response on Consultation Items, and an abridged summary is provided as follows:

Banks and Insurers – see Section 5.1.1
Status Quo: Banks with accredited models are permitted to use the Advanced IRB approach
BCBS concerns: Disparities in banks’ calculations for the same counterparty (in particular for LGD), despite high level of public disclosures; perception of this asset class as ‘unmodellable’ (few historical defaults)
BCBS Proposals: Remove the Advanced IRB approach; all exposures to move to the Standardized Approach (risk-weights of 20/50/100/150% if externally rated; 50/100/150% for unrated, with scope for 20% for short-dated exposures only)
Issues: Loss of risk-sensitivity; large cliff effects; over-statement of risk on strong assets; reliance on external ratings
IIF Alternate Proposal:
<ol style="list-style-type: none"> 1. Create a series of designated ‘risk buckets’, similar to the Supervisory Slotting concept for Specialized Lending, but with a wider and more granular range of buckets. 2. Banks continue using their internal models, but only for the purpose of establishing which risk bucket each exposure will go in to. 3. Improve and converge banks’ models, with use of data pooling, more consistent approaches on segmentation, and additional LGD constraints.
Other Financial Institutions – see Section 5.1.2
Status Quo: Banks with accredited models are permitted to use the Advanced IRB approach
BCBS concerns: disparities in the risk weights that different banks calculate for the same counterparty, in particular for LGD
BCBS Proposals: Remove the Advanced IRB approach; all exposures to move to the Standardized Approach (risk-weights of 20/50/100/150% if externally rated; 50/100/150% for unrated, with scope for 20% for short-dated exposures only)
Issues: Loss of risk-sensitivity; large cliff effects; over-statement of risk on strong assets; the absence of external ratings for many of the affected entities
IIF Alternate Proposal: Remove LGD modeling and adopt an approach similar to Foundation IRB, with firms to also apply the actual maturity (refer Maturity section also)

Corporates – see Section 5.2

Status Quo: Banks with accredited models are permitted to use the Advanced IRB approach

BCBS concerns: Disparities in the risk weights that different banks calculate for the same counterparty, in particular for LGD

BCBS Proposals: An array of treatments based on scale:

- exposures to entities within groups with Assets larger than €50b: move to Standardized Approach (risk-weights of 20/50/100/150% if externally rated; 100% for all unrated);
- other entities with Revenue greater than €200m: move to Foundation IRB
- stand-alone entities with Revenue below €200m: Advanced IRB to continue

Issues: Loss of risk-sensitivity; large cliff effects; over-statement of risk on strong assets; reliance on external ratings for those moving to the Standardized Approach; disparities between entities based on whether they are part of a larger group

IIF Alternate Proposal:

- a more stringent standard of default observations for modeling, eg. in line with the UK PRA's benchmarks and complemented with use of external data where necessary
- where such benchmarks aren't met, Foundation IRB for large corporates, higher €-thresholds, and risk assessment to guide treatment of large corporates' subsidiaries

Specialized Lending – see Section 5.3

Status Quo: Banks with accredited models are permitted to use the Advanced IRB approach

BCBS concerns: Disparities in the risk weights that banks calculate; limited default history data

BCBS Proposals: Remove the Advanced IRB approach; all assets are moved to the Supervisory Slotting treatment (risk-weights of 70/90/115/250%)

Issues: Loss of risk-sensitivity; large cliff effects; over-statement of risk on strong assets

IIF Alternate Proposal: Consider the data and risk profiles of each of the different Specialized Lending asset classes on their respective merits; for those that move to Supervisory Slotting, apply wider range of 'slotted' risk-weights than the current approach so as to bring greater granularity and risk-sensitivity: eg. 20/30/50/70/90/120/150/200%

Equities – see Section 5.4

Status Quo: Banks with accredited models are permitted to use the Advanced IRB approach

BCBS concerns: Variance, particularly with common public information available

BCBS Proposals: Remove the Advanced IRB approach; move all assets to the Standardized Approach (single risk-weight of 250% for all assets)

Issues: Loss of risk-sensitivity; over-statement of risk on better or more stable investments

IIF Alternate Proposal: Apply a highly simplified scale, with risk-weights of 150%, 175% & 200% applicable based on the issuer's credit rating

Counterparty Credit Risk and CVA – see Section 5.5

Status Quo: Banks with accredited models are permitted to use the Advanced IMA approach for CVA and the IMM approach (without floors) for CCR

BCBS concerns: Complexity of IMA and Variance in IMM

BCBS Proposals: Removal of IMA for CVA and adoption of an SA-based floor for IMM

Issues: Loss of risk-sensitivity; over-statement of risk on better or more stable transactions

IIF Alternate Proposal: Review of the SA-CVA approach in light of the removal of IMA-CVA; key design considerations in the development of IMM Floor, with industry consultation

PD & LGD Floors– see Section 5.6

Status Quo: Some floors exist at national supervisors’ discretion, but not a global approach.

BCBS concerns: Low-risk assets’ calculations may be based on insufficient default data history, reinforcing some tail risk concerns

BCBS Proposals: New series of floors, summarized as:

	PD	LGD
Corporate	5bp	Unsecured: 25%; secured ranging from 0% to 20% depending on collateral type
Mortgages	5bp	10%
QRRE transactors	5bp	50%
QRRE revolvers	10bp	50%
Other retail	5bp	Unsecured: 30%; secured ranging from 0% to 20% depending on collateral type

Issues: Loss of risk-sensitivity; over-statement of risk on better or more stable assets

IIF Alternate Proposal: Allow the EBA’s model review process to complete its course prior to finalizing calibration of these floors; indicatively, we suggest a small series of amendments to the BCBS’s proposed levels, as follows:

1. Mortgage LGD floor: apply the proposed 10% floor where lenders’ mortgage insurance isn’t held, and a 5% LGD floor for those assets that have LMI.
2. Secured LGD floors on Corporates and Other Retail: streamline the proposals to a 15% floor for all non-financial types of collateral

Exposure at Default, timing of commitments – see Section 5.7.3

Status Quo: Some divergent treatments on the timing of raising a commitment on a new loan; ‘Unconditionally Cancellable’ facilities are not subject to capital requirements

BCBS concerns: Excessive variance on commitment timing; desire for capital to be held on all facilities that might potentially become drawn

BCBS Proposals: (i) requirement to raise a commitment (commence holding capital) when offer is made; (ii) require banks to hold capital on Unconditionally Cancellable facilities

Issues: (i) potential for multiple banks to be holding capital for a potential facility that will only be drawn once; (ii) imposes capital requirements on exposures that could only materialize at the unilateral discretion of a bank

IIF Alternate Proposal: Harmonize treatments within product lines, generally to either (i) when a commitment is accepted by the client, or (ii) when the client satisfies the conditions precedent; preserve the Unconditionally Cancellable treatment (ie. 0% CCF) in cases where appropriate

Maturity, for the Foundation IRB Approach – see Section 5.7.4

Status Quo: A set parameter of 2.5 years is applied

BCBS concerns: None, although the *Regulatory Consistency and Assessment Programme* report of July 2013 identified that maturity is not a source of RWA variance

BCBS Proposals: No change

Issues: This treatment doesn’t reflect that long and short term credits have different risk profiles

IIF Alternate Proposal: Apply the facility’s actual maturity instead of the prescribed 2.5 years

Credit Risk Mitigation: Double Default – see Section 5.7.5

Status Quo: where approved by regulators, banks can reflect the scenario where hedged assets would require both the reference entity and the hedge counterparty to simultaneously default

BCBS concerns: divergences across banks as to whether this treatment is used

BCBS Proposals: remove the availability of double default treatment; allow only substitution

Issues: with the proposal to move banks and insurers to the Standardized Approach, the best available risk-weights will greatly over-state the risk on a hedged asset

IIF Alternate Proposal: retain the ability to model a double default scenario PD, but constrain this with our proposal for Bank and Insurer risk-weights, effectively applying a floor of 10%

Throughout the more detailed sections of our response, we also identify specific areas where we feel that clarification of the BCBS's intended definitions and interpretations is warranted.

In addition to the above specific alternate proposals, we also express some views on concerns on the Consultative Document's proposed Estimated Practices and Fixed Supervisory Parameters in Section 5.7, and we offer suggestions on additional means for addressing RWA variance based on the work of the IIF RWA Task Force in Section 6.

2. The Applicability of Modeling

The IIF acknowledges the Committee's concerns on variance and the limitations of models for Low Default Portfolios (LDPs). It was similar concerns that motivated the creation of the IIF RWA Task Force (IRTF), an industry project comprising 43 banks that undertook a thorough exercise to examine risk modeling practices, as a support to regulatory policy makers.

We also share the Committee's concerns on the need to improve comparability and transparency of banks' models. Amongst the multiple prongs of the IRTF was a focus on the benchmarking and disclosure of models, including proposals for new explanatory disclosure of RWA differences, following the line of questions raised by investors, analysts and rating agencies, including peer comparison of RWA and model performance.

RWA Variance

While we maintain that internal models should continue to play a critical part in the regulatory capital framework, the IIF accepts that the level of unexplained variation between individual banks' RWA calculations needs to be reduced and that improvements to the IRB framework are therefore necessary. Although the BCBS's 2013 Regulatory Consistency Assessment Programme (RCAP) attributed as much as three-quarters of RWA variance to legitimate factors such as "underlying differences in the risk composition of banks' assets", with only one-quarter then attributed to variations in bank and supervisory practices, we agree nonetheless that the overall level of variance needs to be narrowed.¹

The IIF RWA Task Force identified a range of sources of variance between banks' internal models, which can be categorized into three broad groups:²

- national factors, including domestic laws governing insolvency and credit collection, accounting treatments, taxation, different regulatory treatments, and particular market or country-specific factors;
- inherent differences between banks, reflecting distinct risk practices, policies and the fact that portfolios are not homogeneous; and
- where banks, within the scope of existing regulation and supervisory guidance, have made varying assumptions and used different parameters and inputs in the course of their modeling approaches.

These categories are not always exclusive, and there are some areas of overlap. It is not always a simple, discrete task, but the objective of any reform should be to acknowledge and preserve genuine underlying differences (ie. the first two categories) in how credits are assessed, while seeking to harmonize modeling techniques in those areas and factors where risk differentiation is not warranted.

In support of these principles, the banks participating in the IRTF agreed to a diverse suite of 78 recommendations, addressing where banks' credit risk modeling assumptions and parameters could be harmonized.

¹ Basel Committee on Banking Supervision, *Regulatory Capital Assessment Programme (RCAP) – Analysis of Risk-Weighted Assets for Credit Risk in the Banking Book*, July 2013, <http://www.bis.org/publ/bcbs256.pdf>.

² The substantial insights generated from this exercise were documented in our IIF RWA Task Force Final Report, which was shared with regulators in November 2014, and has subsequently served as an input for some regulators' review activities, including at the European Banking Authority. The IRTF's analysis was complemented by numeric impact analysis undertaken by Global Credit Data (GCD), which helped to identify which parameters and modeling assumptions contributed the most to the overall quantum of variance.

Reiterating the three categories of variance described above, pursuing this harmonization agenda would still see some level of variance - but it would narrow the scope of variance to those underlying differences between dissimilar banks and known, jurisdiction-specific, differences in national legal, insolvency and accounting frameworks and local market idiosyncrasies, all of which could be transparently disclosed.

Amongst some of these harmonization recommendations, we also identified some areas that would benefit from clearer regulatory guidance and/or greater supervisory consistency. We commend initiatives such as the European Banking Authority (EBA)'s recent Consultation Paper on the Definition of Default as representing a highly constructive step in the pursuit of this agenda, both in providing greater regulatory clarity as well as championing the process of harmonization.³

Looking beyond Definition of Default, we note that the EBA has set out its agenda for a broad range of review activities over the next 18 months, and has already commenced similar work on PD & LGD.⁴ Similarly, the Single Supervisory Mechanism (SSM) has also commenced a Targeted Review of Internal Models (TRIM) for banks in the Eurozone. The IIF strongly supports such initiatives, and believes these should be given every opportunity.

As well as reducing RWA variance, the industry also remains committed to increasing transparency of internal risk metrics. We see this as a necessary part of the continuous improvement of models. We note that the implementation of such a harmonization agenda would be a substantial, arduous and costly undertaking, particularly where banks have large historical data sets that have been constructed in particular formats. Nevertheless, we recognize this as a worthwhile effort to pursue, if it is to help preserve risk-sensitivity in the capital framework.

Low Default Portfolios

We agree that there are added challenges in modeling for those portfolios where there is limited historical default data. Concurrently though, we note that a lack of historical defaults or losses is emblematic of a relatively low risk sector.

We also believe there are a number of initiatives that can be pursued to help enhance modeling capabilities in these areas.

Firstly, it is important to distinguish between 'Low Default Portfolios' and 'Low Data Portfolios'. We define these respectively as:

- (i) where all banks have to cope with few historic default observations; and
- (ii) where an individual bank lacks a full default history, but can remedy this by making use of external data.

³ Please note that the EBA's definition of default revisions are still to be finalized and implemented; consequently, the BCBS's current QIS activity is being undertaken on the basis of current definitions, which may quickly become obsolete, prior to the implementation of the input floors proposed in this consultation. We recommend that the BCBS takes this into account this issue when analyzing QIS results.

⁴ European Banking Authority, *Opinion of the European Banking Authority on the implementation of the regulatory review of the IRB Approach*, February 2016, <http://www.eba.europa.eu/documents/10180/1359456/EBA-Op-2016-01+Opinion+on+IRB+implementation.pdf>.

Whilst the Low Default Portfolio challenge is a legitimate concern, some of these may in fact be of the 'low data' nature, and able to be remedied through the use of pooled data to widen samples. We provide some of the IRTF's analysis and recommended guidelines for data pooling in Section 6.1.2.

Another common issue is segmentation: whether 'adjacent' sectors (such as banks, insurers, funds) are each modeled as a separate group, or whether these are clustered together as a means of overcoming a small data sample size. The IRTF identified this as an additional source of variance in LDPs, with further details in Section 6.2.

Performance of Internal Models

We accept there are indeed limitations on the effectiveness of models, and we agree that the problem of RWA variance is a genuine one that does need to be addressed. But there are many areas and scenarios where banks' models have proven to be highly effective. Firstly, we highlight Moody's 2014 & 2015 reviews, which supported the predictive performance of RWA based on banks' internal models as the basis of the best indicator of potential default through the crisis, observing:

"in our failure study, the TCE/ RWA [Tangible Common Equity divided by RWA] measure was the most predictive indicator of failure amongst a number of other measures, including an un-weighted leverage measure."⁵

Significantly, Moody's findings are recent, based on data where RWA reflects the Basel II/III Internal Ratings Based approach. In contrast, when Bank of England Executive Director Andrew Haldane argued that risk-based capital ratios were no better at predicting bank defaults than a Leverage Ratio historically, he cited data across a sample that ran only up until 2006 – ie. the period that Haldane referred to was prior to the commencement of Basel II and the adoption of internal risk models.⁶ The so-called "risk-based ratios" that he refers to are those of Basel I – which weren't actually risk-sensitive at all.⁷

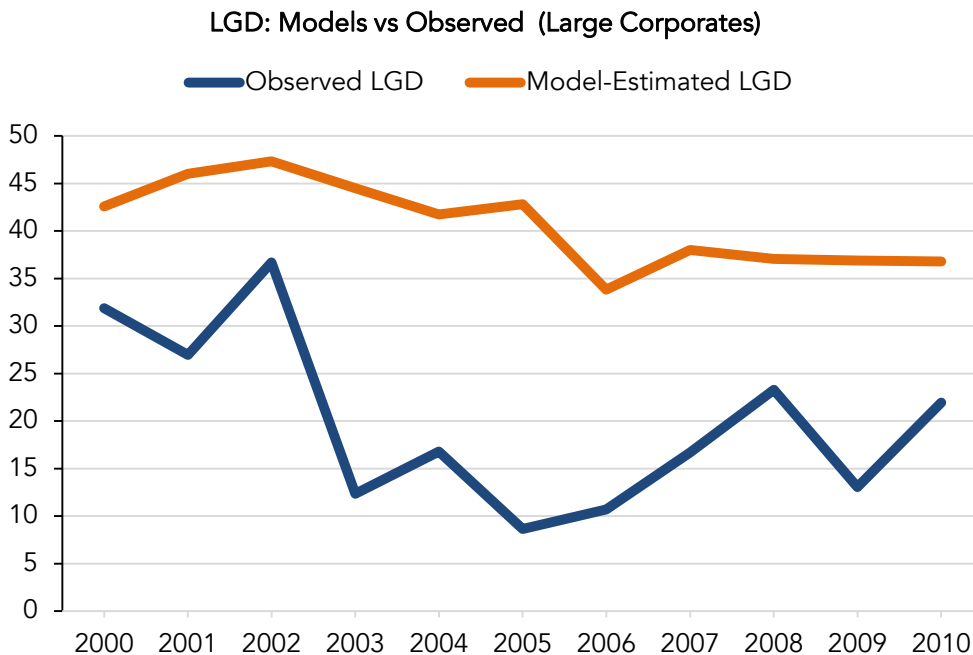
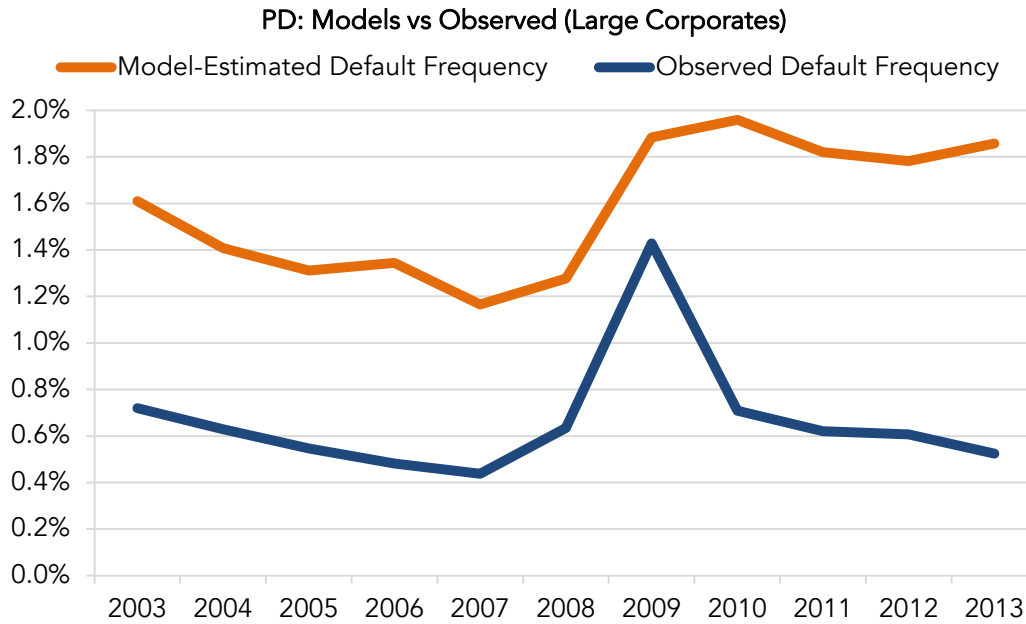
Analysis by Global Credit Data (GCD) demonstrates that banks' models are calibrated conservatively, such that they commonly over-state observed default and loss rates across various asset classes. Significantly, GCD's analysis focuses specifically on wholesale portfolios (ie. the segments where this Consultative Document proposes removing IRB).

The following two charts represent the comparisons of model-estimated values (ie. the predictions of IRB models) against the observed (actual) values that transpired, respectively for PD and LGD.

⁵ Moody's Investor Service, *Proposed Bank Rating Methodology*, September 9, 2014; and Moody's Investor Service, *Rating Methodology: Banks*, March 16, 2015.

⁶ Andrew Haldane, "The Dog and the Frisbee" (Speech, Federal Reserve Bank of Kansas City's 366th economic policy symposium, "The Changing Policy Landscape", Jackson Hole, August 31, 2012).

⁷ For more details, see both (i) IIF, *Basel's evolution: a retrospective*, April 2016, and (ii) Patricia Jackson, *Simpler capital requirements versus Risk-based – the evidence*, SUERF (European Money and Finance Forum) Conference Proceedings 2016/2: Banking Reform.



These comparisons demonstrate that whilst corporate default and loss rates increased at the height of the crisis, they always remained below the levels predicted by banks' internal models. This is not surprising, given the multiple layers of conservatism applied to banks' models.

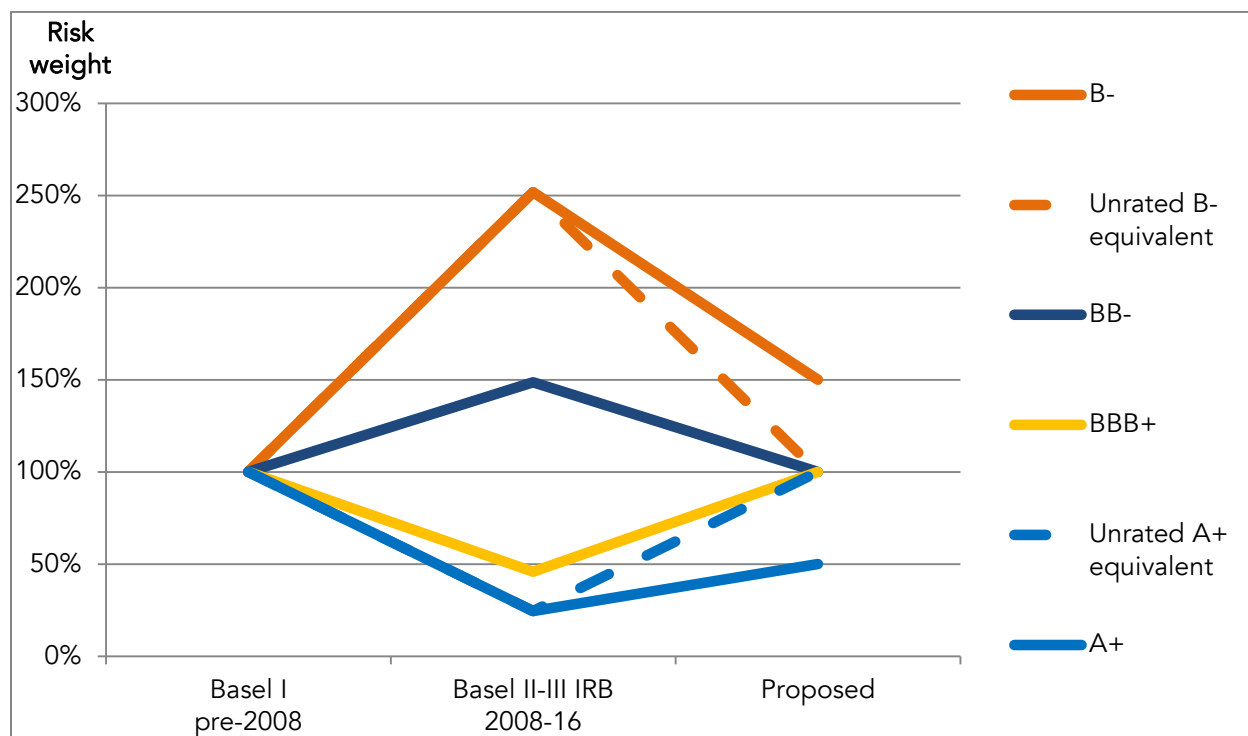
Furthermore, where some have expressed concerns that the IRB framework might generate incentives or opportunities to reduce capital requirements, the observed data highlights that it was actually under the simpler regime of Basel I where this was an issue. Average RWA fell consistently through the period when Basel I prevailed, adopting a more stable trend since the first banks were approved to use their IRB models in 2008 (see Appendix A for details).

3. Interaction with the Standardized Approach

The IIF understands the Committee’s desire to ensure the revisions to the Standardized Approach (“SA”) for Credit Risk are simple and focused on the structure of that framework and its particular impact on smaller banks. However, as we emphasized in our comments on the SA Consultative Document, revisions to the SA and changes to the IRB approach, alongside implementation of capital floors based on the SA, cannot be separated in terms of impact.⁸ There is an imperative need for a holistic review of the interaction for credit portfolio risk in this regard to ensure the mitigation of potential unintended consequences for downstream lending activity for banks of all sizes and in all jurisdictions.

As this Consultative Document proposes moving significant customer segments and asset classes from the IRB approach to the SA, we believe it is critical to consider cases where the SA (in its current proposed format) is distinctly inappropriate for large and diverse banking groups. There are also some areas where this Consultative Document would seem to contradict the recent SA Consultative Document, most notably in the area of Counterparty Credit Risk (please refer to Section 5.5).

Whereas the implementation of Basel II and III IRB has supported marked improvements in banks’ portfolio composition and risk profiles, the SA more closely resembles the Basel I treatments that applied pre-crisis. The SA delivers very limited sensitivity, and then only in the few cases where external ratings are held, as shown in the following for Corporate loans:



⁸ IIF, Response to the Second Consultative Document on Revisions to the Standardized Approach for Credit Risk, March 11, 2016.

The SA treatment of bank exposures also presents a less granular approach to risk weighting, particularly under the Standardized Credit Risk Assessment Approach (“SCRA”) for unrated exposures of banks incorporated in jurisdictions that allow the use of external ratings for regulatory purposes and for all exposures of banks incorporated in jurisdictions that do not allow the use of external ratings. The grading approach with defined buckets under the SCRA narrows the scope of RWs for counterparty institutions and could significantly increase capital requirements when moving from the IRB to the SA as proposed by the Committee.

In the case of specialized lending, if the same risk weights apply to transactions of very different risk levels, banks’ decision making might become biased towards higher risk transactions which will have higher levels of return for the same amount of regulatory capital. In such a case, the quality of banks’ portfolios would over time deteriorate, and the better quality lending activity may increasingly shift into the unregulated sector.

We recognize there are limitations to the IRB approach which need to be addressed, but the SA does not offer an appropriate replacement. Where this SA framework is designed for banks without the necessary or approved structure for internal risk modeling, applying it to large and more sophisticated banks will lead to distortions across market segments.

Capital Methodologies and Incentives

If banks were to be prevented from using their internal models for the purposes of regulatory reporting and demonstrating capital adequacy, they could retain some of the technical capabilities to be able to measure and calculate a theoretical price for risk – the issue is in the practical application, under which those technical capabilities would likely be overwhelmed by the reality of a flatter capital measure as the binding constraint on the firm’s business.

Where some banks have historically attempted to redistribute a flat regulatory capital measure internally along on a more risk-aligned basis, this has invariably necessitated the use of unsustainable cross-subsidization or unstable scaling factors that ultimately erode credibility.

In cases where cross-subsidization has been attempted by some banks using the Basel II Standardized Approach, it has had the short-term consequence of enabling the lower risk portion to grow faster than the rest of the portfolio – but over the medium-term, this growth mismatch (as there ceases to be sufficient high-yield assets to subsidize the low-risk ones) has eroded the capacity of the high-risk portfolio to support other transactions, and reduced the bank’s ROE. Divorcing business planning and decision-making from your binding capital requirements very quickly becomes an unsustainable practice.

Furthermore, cross-subsidization can only be attempted by banks that are diversified across multiple business lines (eg. wholesale, corporate and retail segments), inclusive of different portfolios where risk that is both under- and over-stated by Standardized regulatory capital. Banks that are in purely or primarily one segment (eg. largely an investment bank, or a mortgage bank) could only achieve this by either:

- (i) making an acquisition (where allowable under structural reform and ring-fencing regulations), or
- (ii) expanding into a new business line and under-cutting pricing to achieve the desired growth, and a risk profile that they may be unfamiliar with.

As such, the cross-subsidization model can apply only in limited circumstances, and cannot be sustained for the long-term, before the regulatory capital measure again asserts itself as the binding constraint in credit and pricing decisions.

The adoption of the Basel II Advanced IRB approach had enabled many banks to overcome such tensions, as economic capital and regulatory capital measures became broadly aligned in their design and risk-sensitivity. Notably, banks that operate under the Standardized Approach have not had the same benefit.

Moving IRB-accredited banks back towards non-risk-sensitive measures as the dominant measure of their capital would un-do much of the progress that has been made.

Consistency of application

We also note the statement in the consultation that "jurisdictions will be considered compliant with the Basel framework if they do not implement any of the internally modelled approaches (ie. they allow use of the standardized approaches only)." We are concerned that this has the potential to introduce further variance, and we feel that this runs against the trend of the BCBS's significant work to reduce national discretions in the capital framework, noting the 2015 statement that "the use of national discretions can... impair comparability across jurisdictions and increase variability in risk-weighted assets".⁹ With the reduction of RWA variance being a core objective in this Consultative Document, introducing added scope for national discretions seems counter-intuitive.

We understand that for emerging market economies, the cost of developing the supervisory infrastructure and personnel to review banks' internal models may not be an efficient use of resources. But where Basel III standards are intended to apply to large, internationally active banks, we believe the Committee should be encouraging those jurisdictions with such banks to harmonize and promote level playing fields to the extent possible. The risk sensitivity of the internally modelled approaches reinforces and is consistent with the sophisticated risk management approaches that should be expected of large, complex banks. We don't believe any jurisdiction should be able to simply opt of implementing advanced approaches.

Furthermore, we note that asset class definitions provided under IRB and the SA are not always aligned, for instance in the application of different thresholds within the Corporate asset class. This can compound the variance issue with greater discrepancies in comparability as well.

We also note that the Committee's recent Standards on Interest Rate Risk in the Banking Book supports an approach that firstly relies on internal models, but reverting to the Standardized Approach in cases where data or systems for internal models are of an insufficient quality.¹⁰ We consider this appropriate, but it seems inconsistent for the Committee to concurrently over-ride credit risk internal models with the SA, particularly when data and systems are generally more sophisticated and proven on credit risk than for other risk types.

⁹ Basel Committee on Banking Supervision, *Basel Committee removes selected national discretions and replies to frequently asked question on funding valuation adjustment*, April 21, 2015, <http://www.bis.org/press/p150421.htm>

¹⁰ Basel Committee on Banking Supervision, *Standards - Interest Rate Risk on the Banking Book*, April 2016.

4. Capital Floor

The IIF also continues to have serious and material concerns on setting a capital floor based on the Standardized Approach, either at the aggregate, risk category or exposure class level for IRB banks.

We note that the leverage ratio has been consistently described by the Basel Committee as a “supplementary” or “backstop” measure.¹¹ At best, a capital floor becomes a second backstop, which seems unduly duplicative. This is then further compounded by the proposal to have both an output capital floor and the series of parameter input floors as well. We do not believe it is necessary or appropriate to have both an output floor as well as the series of parameter input floors, and such a combination can undermine the Committee’s objectives of simplicity and comparability, as well as risk-sensitivity.

Adding an additional floor dimension might give an illusion of comparability but it will not enrich the understanding of stakeholders. Rather, it would distort the meaning of some of the measures, increasing complexity for investors seeking to understand a bank’s risk portfolio, and for the banks seeking to allocate capital effectively. This additional layering brings undue complexity and instability to the capital framework.

The industry does acknowledge the need to have a backstop measure to risk-based capital; however, great care should be taken in determining how such a backstop is calibrated, to ensure that banks’ key strategic drivers and performance measures are not compromised in their sensitivity to the underlying risk.

For each of the proposed backstops, the key becomes in the calibration: if appropriately set, these measures can address model risk and constrain outliers with divergent modeling assumptions or concentrated portfolios, without over-riding the risk-based approach for all.

However, if the capital floor is set at a high level (as suggested by the 60-90% range described in the Consultative Document), the effect is to over-ride the risk-based approach, for all but the weakest of credits, transmitting its blunter risk profile across more than just outliers. It materially raises capital requirements for strong assets but not weak ones, across the whole industry.

Basel III by Stages and Components

The Basel III capital reforms implemented so far have increased capital levels and buffers, together with improved quality of capital, and with specific targeted impacts such as the CVA Capital Charge, incentives for central clearing of trades, and the Asset Value Correlation (AVC) multiplier for banks’ exposures to other financial institutions. Besides those targeted intended impacts, the consequential increase in capital ratio requirements and RWA changes have been broadly proportional in their increase in capital across all assets. The sensitivity of the capital framework to underlying borrowers’ risk (and to the rank ordering of different risks within banks’ balance sheets) has been largely preserved, and these reforms are acknowledged as having helped make the system safer and more stable.

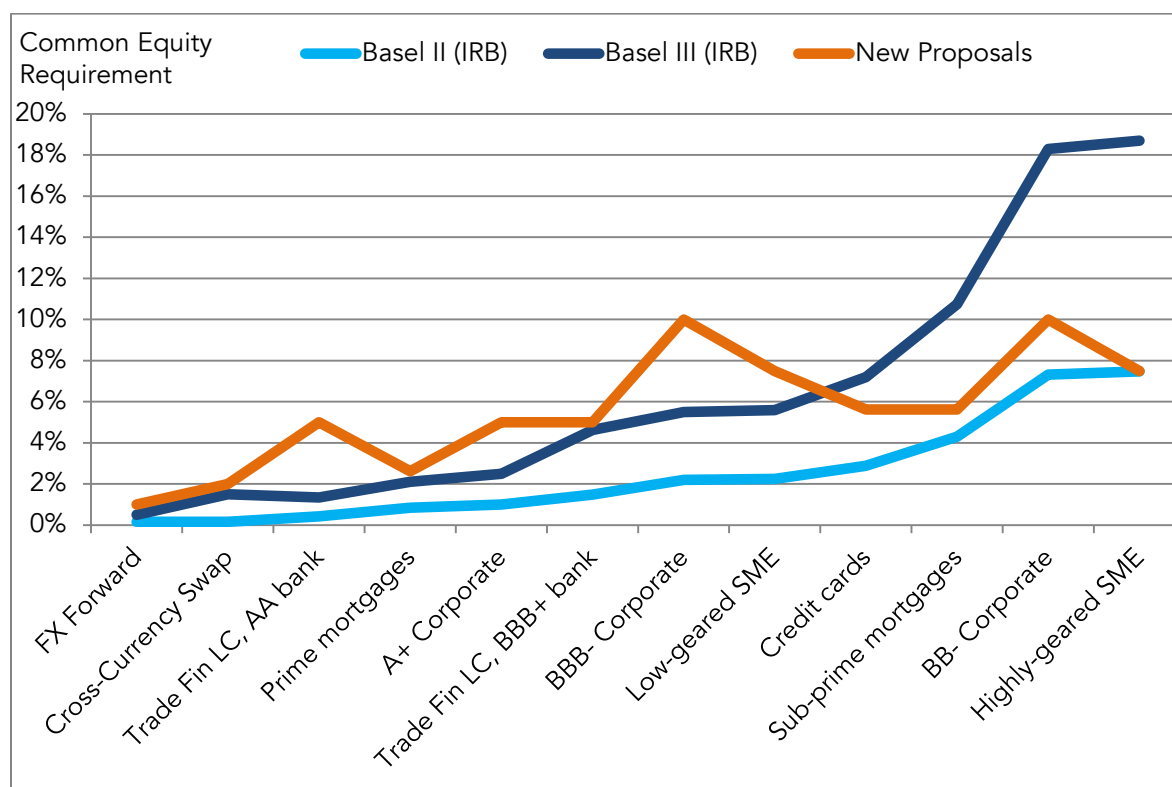
¹¹ Basel Committee on Banking Supervision, Basel III: A global regulatory framework for more resilient banks and banking systems, December 2010 and June 2011.

We therefore see an important distinction between:

- (i) the Basel III initiatives introduced since the crisis to increase banks' required capital levels and improve risk coverage, and
- (ii) initiatives proposed in this Consultative Document for internal models and capital floors.

The new proposals stand to have concentrated impacts on specific asset types and business units. These initiatives could fundamentally re-orient banks' capital allocation strategies and business mixes, penalizing low-risk lending whilst favoring the high-risk end of the borrower spectrum.

If we assume a capital floor at 75% (the midpoint of the range described in the Consultative Document) and apply this to the asset classes where the BCBS proposes the continued use of IRB, the series of impacts across the credit spectrum is as follows:¹²



If calibrated at such a level where it will bind on the industry, the capital floor effectively serves to import the bluntness of the Standardized Approach, and applies it even to the sectors where the BCBS accepts and supports IRB.

¹² The BCBS's new proposals are reflected in this chart by a combination of (i) the Standardized Approach, for those asset classes where this Consultative Document directs such, and (ii) the assumption of a binding capital floor calibrated to 75% of the Standardized Approach for all other assets. Common equity requirements are assumed at an effective level (ie. including buffers) of 4.0% and 10.0% under Basel II & III respectively.

With the SA over-stating risk on strong assets and under-stating on weaker ones, this can (together with the Liquidity Coverage Ratio) drive banks towards barbelled balance sheets, and push the better credits out of the regulated sector (see Appendix B for more details).

Quantitative Impact and Timelines

We believe it is therefore critical that the BCBS and the industry alike each invest the time for thorough analysis of the impacts at a holistic level, but also across segments and risk profiles, to ensure any floor is calibrated at appropriate levels.

We appreciate that a more comprehensive QIS activity is currently underway, and we consider it essential for the industry to be given the opportunity to comment on the entire set of proposals once the QIS results are available. While a comprehensive QIS is of course necessary to calibrate the final framework, banks have been given just 1.5 months to complete their input in the current activity.

We acknowledge the Committee's goal to finalize its programme by the end of 2016, however, this very short time period is undesirable given the substantial change being envisaged and the potential RWA and capital impacts that the proposals are likely to have.

These current proposals represent the most fundamental conceptual change that has taken place since the advent of Basel II, and will apply to the largest category of risk weighted assets globally. They should therefore be subject to the same level of consultation and analysis as other proposals of the same magnitude, as per Basel II and FRTB.

Such would also enable sufficient review to ensure that the finalized floor design does not interfere with capital buffers or have a cumulative impact on top of Total Loss Absorbency Capacity (TLAC) requirements.

5. Detailed Response on Consultation Items

The IIF recognizes that there are some sectors where it is difficult to model, just because there haven't been many loan defaults or losses in those areas. We agree that such challenges undermine the ability for precision, and that they increase the sensitivity to modeling assumptions and parameters, with the potential to exacerbate some sources of variance. The BCBS's desire to address this is understandable.

Where our views diverge from the Consultative Document is in the proposed remedy. In coming up with a solution, we believe there should still be an aspiration to differentiate risk to the greatest degree possible amongst different borrowers. We note that where a particular borrower segment is characterized by a lack of historical losses, this might be challenging in a data sense, but it is in itself a positive sign in risk profiling, reflecting a relatively low risk of default.

Accordingly, we are pleased to submit alternate proposals that we believe address the BCBS's concerns, whilst enabling a greater preservation of risk-sensitivity across obligors.

5.1 RWA Approaches for Banks and Financial Institutions

We note that the second Consultative Document on the Standardized Approach for Credit Risk makes a distinction within the category of Financial Institutions between (i) banks, and those that "are subject to prudential standards and a level of supervision equivalent to those applied to banks", and (ii) other financial institutions. Making the assumption that the other equivalently regulated firms would predominantly be insurers, we have grouped our proposals under (i) "Banks and Insurers" and (ii) "Other Financial Institutions" such as leasing companies, pension funds, mutual funds and asset managers.

But whilst the Consultative Document acknowledges these other financial institutions as inherently different to regulated banks and insurers, we note that it proposes to nevertheless move all of these assets to the same SA also, confirmed in the Ad-hoc QIS guidance.¹³ We feel this is inappropriate not only in the broad brush view taken across the many diverse types of entities in the financial sector, but specifically in that the same LDPs data issues don't necessarily apply to all types of financials.

Accordingly, we propose two distinct sets of alternate proposals for these two sub-categories of Financial Institutions.

5.1.1 Banks and Insurers

In acknowledging the challenges in modeling assets where there is limited historical data, we also note (and agree with) the BCBS's assessment that these issues relate primarily to LGD, more so than to PD.

We also stress that it is important to differentiate risk across borrowers, and we are concerned by the extremely limited differentiation that the SA supports. We wish to highlight that the risk profile across exposures varies markedly according to factors such as collateral, maturity and

¹³ Basel Committee on Banking Supervision, Additional guidance for completing the IRB quantitative impact study, May 2016.

product-type – for instance, a trade finance exposure supported by a shipment of tangible goods on a 60-day tenor is a very different proposition to a 5-year unsecured note, even if that note ranks senior.

Similarly, we also stress that insurers have different risk profiles to banks: different balance sheet structures, different liquidity profiles, and different exposures to external risk events. We believe these separate business types should be modeled differently, each on a fit for purpose basis.

We agree that the status quo reflects a situation where models attempt a level of precision that may go beyond what some data sources support – but we don't feel that this warrants moving to the opposite extreme, and applying a blunt and highly simplified SA.

Our Alternate Proposal

We propose that instead of moving these asset classes to the Standardized Approach, these should instead be subject to a more granular, bucketed approach. Internal models would still be utilized within the process, but only to assign assets to the prescribed risk buckets rather than to generate a precise risk-weight value. Further enhancements to internal models would also be pursued, including greater use of pooled data.

There are three concurrent and cumulative steps within this proposal:

1. The creation of a series of designated 'risk buckets', similar to the concept that applies for Supervisory Slotting for Specialized Lending, but with a wider range of buckets than currently applies under that system or the SA.
2. Banks' internal models continue to be involved within the capital calculation process, but only for the purpose of establishing which risk bucket each exposure will go in to – ie. if a model output currently is "risk-weight of 22.4%", under this proposal, the model's output might instead be "bucket 2". External benchmarking (subject to approval by supervisors) would be used as part of ensuring an appropriate mapping of internal models to the appropriate risk buckets.
3. As well as the above two steps, banks may continue to implement other enhancements to their models to progress harmonization and reduce variance. Principal amongst this would be the use of data pooling, and a more consistent view on segmentation. If the BCBS's noted concerns about LGD in particular merit further convergence, then removing LGD modeling (eg. an approach akin to Foundation IRB) could also be considered.

It is noted that in the Consultative Document, the BCBS credited banks' models for how they assess the relative riskiness of obligors (ie. the rank ordering of risk, from lower risk obligors to higher risk ones), whilst highlighting concerns at the variance in the values generated. This approach stands to carry forward that ability to discern riskiness amongst borrowers, whilst enforcing a convergence that would help to reduce variation in RWA.

The particular risk buckets might be, for instance, 10%, 20%, 30%, 40%, etc, through to 150%; or 10%, 25%, 40%, through to 160%. One option could be to have separate sets of risk buckets for long and short-dated exposures (like the SA), although this is perhaps unnecessary where maturity is factored in as one of the considerations within banks' internal models. We note the

ability to use a single set of buckets would help to support the Committee’s objective of simplicity.

For comparison to current IRB model outcomes, GCD have analyzed the status quo values generated from AIRB models. Across a sample of 14 large and internationally-active banks, using the mean PD across the 14 banks, modeled outcomes are as follows:¹⁴

	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to BB-	B+ to B-	CCC, CC, C
Medium/long-term exposures	21%	31%	62%	119%	185%	262%
Short-term exposures	6%	12%	33%	81%	150%	231%
Implied short-term exposure with 15% LGD ¹⁵	2%	4%	11%	27%	50%	73%

On this basis, our proposed 10% first risk bucket would essentially become a ‘floor’ for the very high-grade short-term and secured exposures, addressing any concerns about insufficient capital levels for tail risks (please see Appendix C for further details of GCD’s analysis, including comparisons against the SA).

As well as addressing the BCBS’s concerns about RWA variance and ‘unmodelability’, our proposal would deliver a number of additional benefits when compared to moving the asset classes to the SA.

Firstly, it delivers far greater granularity, and therefore risk-sensitivity. It allows differentiation according to counterparty strength, the collateralized or subordinated nature of any position, and the tenor/maturity. This greater granularity and risk-sensitivity means that regulatory capital can maintain a strong directional alignment to other modeled values of risk, and preserve the desired signaling in support of effective risk management.

Secondly, by preserving a role for internal ratings as the basis for assigning assets to risk buckets, it removes the reliance on external ratings, which is especially critical for markets such as the US where the use of external credit ratings is explicitly prohibited. Where the SA allows a minimum risk-weight of 20% under an external rating approach, and 50% otherwise, this creates a material area of new inconsistency and variance that we believe is best avoided.

Additionally, it is significant that models would still have a role, albeit a constrained one, and with enhanced robustness from pooled data. Acknowledging the concerns about the imprecision of estimates in cases with low data, it is still desirable for banks to have a tangible motive for investing and maintaining their models for LDPs (and the expertise of their modeling staff), and we believe this will have wider benefits as learnings and knowledge in modeling that can be leveraged across other asset classes as well. Whilst major sophisticated banks would no doubt look to continue modeling risk even without application in the regulatory capital process, there is invariably competition for investment expenditure. Having an active role in regulatory capital calculation (even a constrained one, as per our proposal) helps make the investment case much more compelling.

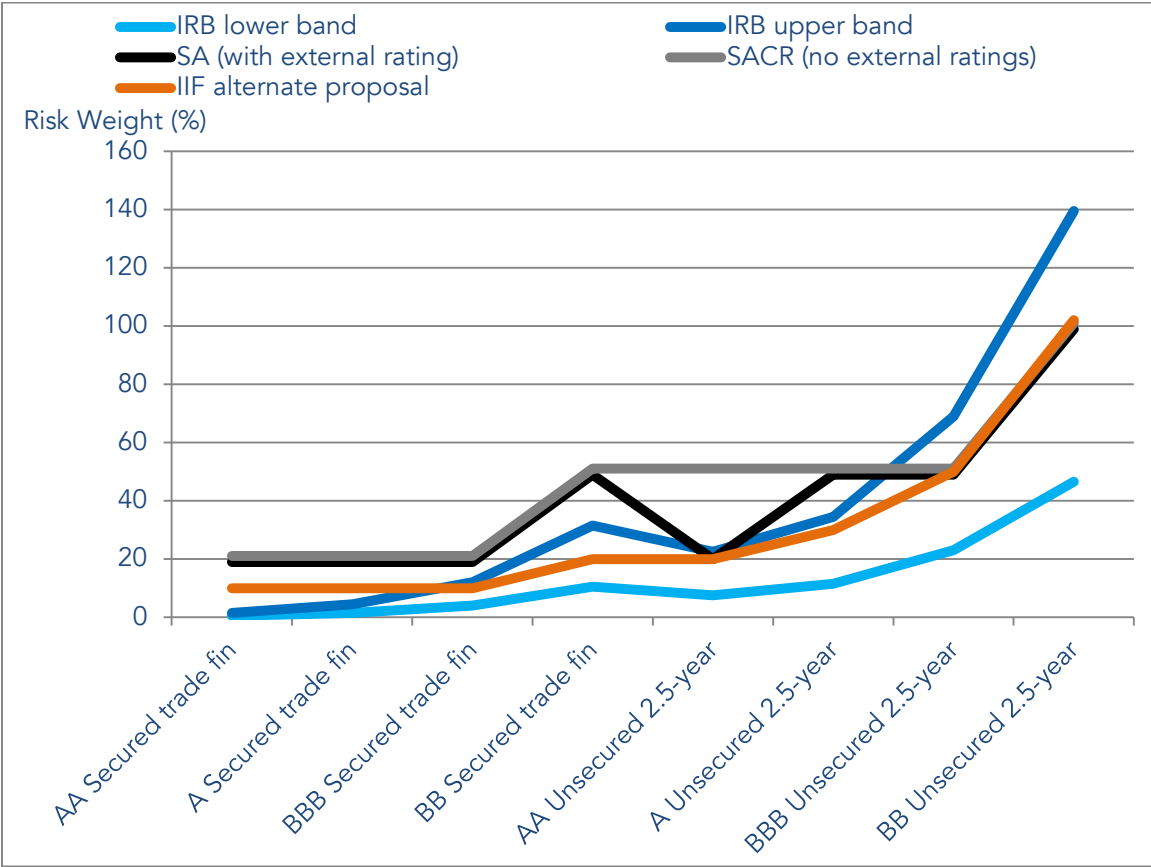
¹⁴ The modeled numbers reflected assumptions of a 45% LGD and maturities of 2.5 years for the medium/long-term and 3 months for the short-term exposures, with the Asset Value Correlation multiplier having been included within these calculations; these assumptions are applied together with the 14 banks’ actual PD model outputs.

¹⁵ The 15% level is chosen as an example of a secured facility, and is in line with the proposed parameter-level LGD floors (refer Section 5.6 also)

Furthermore, our proposal helps to keep IRB and the SA fit each for their respective purpose. We acknowledge the BCBS’s point that when they previously consulted on changes to try to bring a small amount of risk-sensitivity into the SA in December 2014, the BCBS encountered a mix of feedback globally, in that some complained that the proposals (such as using simple matrices on two risk drivers) weren’t risk-sensitive enough, whilst others complained that it was too complex and burdensome.¹⁶ Our proposal avoids that dilemma, allowing the SA to remain simple for banks on that approach, whilst having a method for greater granularity for IRB banks that still converges risk-weights and addresses imprecision.

We would envisage that our proposed risk buckets would also apply to assets subject to credit risk mitigation (please refer to Section 5.7.5).

Using the above-mentioned analysis of risk-weights based from GCD, and assuming a dispersion of +/-50% for upper and lower bands, the relativities of the status quo, the BCBS’s proposals under the SA and SACR, and our alternate proposals would reflect the following trajectory:



We note the BCBS’s commitment to the GHOS that they will be able to demonstrate the impact of their proposed changes to the capital framework. We have included this alternate proposal as part of an industry shadow QIS exercise that we are undertaking, and we look

¹⁶ Stefan Ingves, Chairman of the BCBS and Governor of Sveriges Riksbank, speech at the 2015 IIF Annual Membership Meeting, Lima, Peru, October 9, 2015.

forward to being able to share the results of this with the BCBS ahead of final calibration decisions later in the year.

Lastly, we emphasize that the IIF RWA Task Force has identified a number of steps that can be pursued to improve modeling for these portfolios. We believe there is an important distinction between ‘Low default portfolios’ (where there have been few defaults historically, such as for sovereigns) and ‘Low data portfolios’ (where an individual bank has insufficient data points in its own historical data set). The use of external (pooled) data can help to complement for the latter category, and would help to reduce variance. How adjacent borrower types are segmented in models is another consideration. These are described further in Section 6.

5.1.2 Other Financial Institutions

We firstly reiterate that the definition of financial institutions needs greater clarity, particularly regarding the assessment of Low Default Portfolio status. For instance, there are a number of leasing companies and non-bank lenders that would not be considered such, and the various categories of financials have vastly different revenue models, capital structures, cost-bases, market connectedness and regulatory and compliance frameworks.

Subject to the particular data set (and considerations such as data pooling and segmentation), where banks have the ability to model such counterparties, we believe this should be preserved and encouraged.

We also stress that many such institutions are not part of consolidated groups, and that these entities do not always have external ratings, exacerbating our concerns regarding application of the SA.

We note the variety of business models and risk profiles within the funds sector, across the likes of pension funds, asset managers, and mutual funds. These also are not necessarily Low Default sectors, and there is available data that reflects their respective underlying risk profiles. Investment funds, for instance, might differ on attributes such as their gearing levels, their liquidity proposition for investors (redemptions), their asset allocations, and the volatility profile of their underlying assets.

As a highly simplified example, consider the scenario of four funds, that between them follow two gearing structures and investment profiles:

	Funding mix	Asset-type
Fund A	80% investors’ funds; 20% debt	Blue chip bonds and equities traded on major exchanges
Fund B	80% investors’ funds; 20% debt	Tech stocks and junior mining companies
Fund C	40% investors’ funds; 60% debt	Blue chip bonds and equities traded on major exchanges
Fund D	40% investors’ funds; 60% debt	Tech stocks and junior mining companies

Clearly, these funds have different risk profiles, and should not be herded to a singular Standardized risk-weight. Furthermore, there is considerable data on the price volatility of the assets invested in, and on concentration risk if the investments are not diversified. A lender may also stipulate particular covenants that serve to limit risk.

Our Alternate Proposals

We see certain valid alternatives for these sectors.

Firstly, we stress the availability of data for modeling PD estimates, and reiterate our agreement with the BCBS's assessment that the majority of the variance in banks' treatments is in LGD. Accordingly, we propose an approach similar to the Foundation IRB approach (FIRB) for these assets: that LGD modeling is removed, but that banks could model the PD, with an amendment to allow banks to apply the actual maturity of a transaction instead of the fixed Maturity parameters in the FIRB approach. As we describe in Section 4.7.4, the BCBS's analysis indicates that Maturity is not a significant source of RWA variability, and we believe the benefits of additional risk-sensitivity from the maturity adjustment would outweigh any concerns Basel may have on comparability.

Where appropriate for specific segments, this should be complemented by the use of pooled data, in the manner described in Section 5.1.1.

Concurrently, we note the BCBS's objective of increasing simplicity. Whilst we believe the likes of leasing companies and funds are legitimately different to banks and insurers, a second alternative would be to apply the same risk bucketing approach that we have proposed for Banks and Insurers in Section 5.1.1.

5.2 RWA Approaches for Corporates

The IIF recognizes the need to address the BCBS's concern in terms of the amount of RWA variability and the data limitations for portfolios for which there are very few historical defaults to calibrate and validate models.

However, in acknowledging those concerns, we have identified two major themes that we feel need to be addressed in the BCBS's proposal for corporate exposures:

- (i) that the current thresholds set out in the Consultative Document to mandate the use of SA or FIRB would capture exposures where we believe there is sufficient data to produce reliable risk estimates, and
- (ii) the BCBS's view that the proposed restriction would only impact a very small group of large exposures does not recognize technical challenges associated with unrated subsidiaries and unrated corporates.

We believe that a proposed solution should allow for a better level of differentiation amongst different borrowers than the thresholds set out in the consultation. Risk models are embedded in internal credit processes and are reflective of portfolio risks, therefore supervisory model reviews may entail a certain cost, but at the same time provide supervisors with information and insights on bank's portfolios and risks which are invaluable and not easily obtained otherwise.

We are concerned that the revised proposals do not provide a risk sensitive outcome for certain borrowing segments, in addition to highly penalizing a large group of unrated subsidiaries and unrated corporates. Moving whole groups of exposures that may have sufficient data will affect banks in materially different ways, and lacks recognition of the quality

of a bank's risk management. The nature of the client-bank relationship and private information are also key parameters that will be overlooked.

Furthermore, comparability across jurisdictions will be diminished by the fact that (i) certain jurisdictions do not allow the use of the external ratings that are so critical within the SA, and/or (ii) do not have a Foundation IRB (FIRB) approach in place.

Accordingly, the IIF has come up with an alternative proposal that addresses the BCBS's concerns, whilst preserving a greater role for risk-sensitivity in the capital framework.

Our Alternative Proposal

The proposals to remove AIRB for large corporates, and move the middle market to the FIRB, do not capture exposures where we believe there is sufficient data to produce reliable risk estimates, and do not recognize the technical challenges associated with unrated subsidiaries and unrated corporates.

Our alternative proposal consists of four parts. Firstly, we propose the adoption of a common benchmark for having sufficient data for modeling, with that standard to be raised and made more stringent where necessary.

Secondly, for cases where banks' modeling fails to meet the required benchmark in the case of LGD, we would propose the use of FIRB instead of the SA.

Thirdly, we propose assessing subsidiaries for their inclusion in groups for this purpose as per the basis of the risk assessment for each entity, so as to not unduly penalize all subsidiaries.

Fourthly, we believe IRB should be preserved as it is superior to the SA for this asset class, however in cases where banks can't meet those benchmarks to supervisors' satisfaction, we would suggest raising the BCBS's proposed thresholds, so as to minimize the scope of the distortions that are created.

Stringent Data Benchmarks for AIRB Modeling

Firstly, we advocate the continued use of AIRB but under more stringent rules, such as requiring banks to demonstrate that they have a sufficient number of defaults to develop sound models. One possibility would be shadow the UK Prudential Regulation Authority (PRA) framework for the use of IRB approaches, where the minimum threshold for use of AIRB is having more than 20 relevant default observations of recoveries in a specific region for an individual type of exposure.¹⁷ This being just one example, it could be an appropriate benchmark, accompanied by allowances for the use of external or pooled data and the ability to combine regions or countries with similar economic structures and legal systems where appropriate.

In respect of corporate LGD estimates, a set of specific hard guidelines might include for each data point to be independent, representative, and an accurate record of the recovery for that exposure or collateral type in that specific region. LGD estimates should be applied at

¹⁷ Bank of England's Prudential Regulation Authority, *Supervisory Statement / SS11/13, Internal Ratings Based (IRB) approaches*, Appendix C, December 2013, (Updated November 2015), <http://www.bankofengland.co.uk/pru/Documents/publications/ss/2015/ss1113update.pdf>

transaction level, with the derivation of each estimate identified and explained at a granular level, including how internal, external or pooled data have been used. Estimates also need to incorporate effective discrimination on the basis of security type and geography. In cases where these drivers are not incorporated into LGD estimates, the firm should be able to demonstrate why these are not relevant.

In demonstrating its attainment of the required data benchmarks, we reiterate that a bank should be allowed to use external or pooled data in order to estimate parameters, subject to minimum requirements set by the regulator. Please see Section 6.1.2 for more detail on the use of external or pooled data.

Where firms can demonstrate that credit processes are consistent across countries, data sourced from these countries could be combined to estimate the EAD for each product.

Foundation IRB for Large Corporates

If a bank fails to meet the more stringent data requirements to estimate LGD or CCF, we would propose that the FIRB method be used for large corporates. We recommend that regulatory parameters be grounded on empirical analysis and set consistently with AIRB floors, in order to avoid cliff effects on segments subject to different approaches. If a bank fails to meet the data requirement to estimate PD, the SA should apply.

In regards to jurisdictions that do not allow the FIRB approach, in order to avoid creating more variance and unduly penalizing high quality corporates, we suggest a bucketed approach (similar to our approach for Banks and Insurers). It is noted in the Consultative Document that the BCBS credited banks' models for how they assess the relative riskiness of obligors (ie. rank ordering of risk), but expressed concerns at the variance in the specific values generated. We suggest that banks in such jurisdictions be allowed to use their internal models for the purpose of working out which bucket each exposure goes in to, but use a series of designated 'risk buckets', where the particular risk buckets might be, for instance, 25%, 50%, 75%, 100%, 125% and 150%. Additionally, in order to avoid unduly penalizing effects, the rule should be applied in combination with the final stage of our approach, that subsidiaries can be eligible for IRB methods, or allowing the parent company rating extension. This approach allows firms to retain the ability to discern riskiness amongst borrowers, whilst still enforcing the Committee's desired convergence of the numeric values across banks.

Raise the proposed thresholds for SA and FIRB treatment

The current thresholds set out in the Consultative Document would capture exposures where we believe there is sufficient data to produce reliable risk estimates.

To the extent that the BCBS is motivated by concerns on tail risk scenarios for large corporates, we believe that these concerns can still be addressed if the Total Assets threshold was to be set at €100b, instead of the proposed €50b. This would still capture a material number of corporate groups, and would minimize the scope of the blunt Standardized Approach's adverse consequences on strong investment-grade credits.

Moreover, we believe tail risk concerns on the unforeseen default of a large corporate can be better addressed through other means. Such tail risk scenarios relate more to the size of each bank's exposure to that defaulting corporate, rather than the size of the corporate. To the extent that such a tail risk is a concern, we believe this is better dealt with via the framework for large exposures than by unduly penalizing corporates based on their own balance sheet size.

Diversification in this sector is of utmost importance. Its preservation should be encouraged, not only for risk management at the firm level, but also in support of efficient capital markets that can facilitate the global flow of capital, benefiting the economy. Financial markets liquidity allows for an efficient allocation of economic resources through several channels; for instance, liquidity in stock markets has a statistically significant relationship with future rates of economic growth, capital accumulation and an increase in productivity growth.¹⁸

Well-functioning capital markets also provide diversified sources of funding. To this end, it can be desirable, both for market functioning and to mitigate the impact of any tail risk event on a single bank, for a corporate to have a diversified syndicate – which in turn suggests a need to encourage more banks to lend to this sector, rather than deter them.

Where the Committee’s proposals stand to increase risk-weights to levels above those of risk-based calculations, we urge the Committee to not under-estimate the potential impacts. We note that there has been a demonstrable reduction in financial market liquidity for corporate bonds. For instance, European corporate bond trading volumes have declined by up to 45% between 2010 and 2015.¹⁹ Evidence suggests that large fixed income trades are becoming more difficult to execute, and the illiquid premium on fixed income instruments is increasing. To the extent that the Committee might anticipate that its proposals may have a smaller impact on the basis that such corporates can access capital markets for their funding, the observed reduction in market liquidity contradicts this; a more likely scenario is that the cost of bank funding and market funding increase simultaneously.

To fully gauge the implications of moving these assets to the SA, it is important to also understand the landscape of rated and unrated entities. In conjunction with GCD, we conducted a Quantitative Survey, in which banks were asked to provide estimates of the percentage of their existing corporate and SME portfolios that are externally rated.²⁰ The GCD Quantitative Survey shows that the majority of large corporate exposures and nearly all exposures to SMEs are unrated. Only 2.5% of the non-investment grade corporate exposures (rating of BB+ and below) are rated, and a small percentage (18.5%) of the investment grade corporate exposures (rating of AAA to BBB-) are rated.

Significantly, whilst most of the ‘parent’ companies in groups with Total Assets above the €50b (and above our suggested €100b) threshold have external ratings, many of their subsidiaries do not. Raising the threshold can help to reduce the scope of those entities that would be subject to the SA’s flat 100% risk weighting for unrated entities.

Lastly, we also highlight that the observance of the proposed thresholds will be affected by the accounting standards applied to each individual company, which can differ significantly by jurisdiction. Raising the proposed thresholds would help to mitigate any undue impacts.

¹⁸ Maria Caporale, Peter GAH Owells, and Alaa M Soliman, “Stock market development and economic growth: the causal linkage”, *Journal of Economic Development*, Volume 29, p 33-50, June 2004; and Thorsten Beck and Ross Levine, *Legal Institutions and Financial Development*, Working Paper 10126, National Bureau Of Economic Research, December 2003.

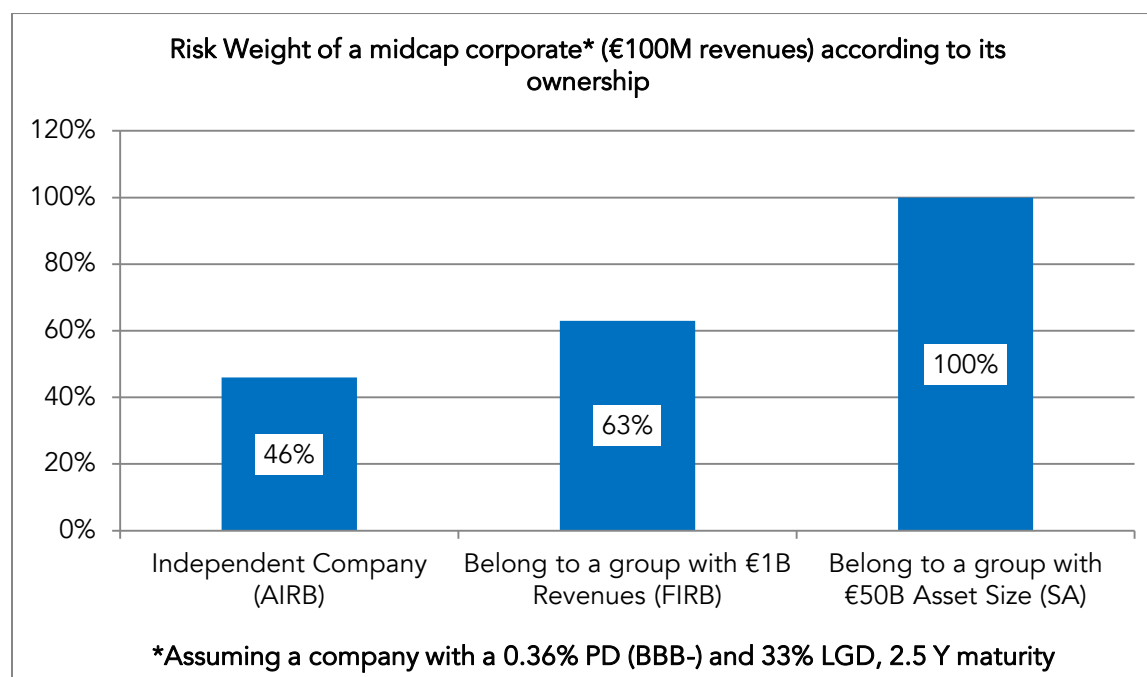
¹⁹ PwC, Global Financial Markets Liquidity Study, August 2015.

²⁰ 17 of the IIF member banks participated in the GCD quantitative survey with banks based in Europe (8 banks), Asia Pacific (5 banks), North America (2 banks), and other region (2 banks). The survey was carried out in late 2015.

Treatment of Large Corporates' Subsidiaries

Lastly, we propose to treat subsidiaries in line with a risk assessment of the level of support they receive from their parent company, so as to not unduly penalize these entities.

The following chart illustrates the applicable risk weight of a middle market company, according to the new BCBS proposal, with an average risk that varies according to its ownership:²¹



As seen, the larger the scale of the broader group, the higher the risk weight for the particular corporate, even for the same corporate's risk-profile.

Accordingly, we believe it is critical that subsidiaries are treated on the basis of the due diligence and risk assessment that banks undertake when considering the level of support they receive from their parent company, to ensure that they are not unduly penalized. The risk drivers of this assessment could include:

- inclusion of the subsidiary in consolidated financial statement
- level of parent's percentage of the ownership and / or voting rights
- material implicit support
- industrial and/or commercial integration
- economic and financial integration
- sharing of brands
- strategic relevance of the company for the group

A simple rule might be that if the two first risk drivers of these point to it being a subsidiary, plus at least two of the others, then it is possible to apply the extension; if not, the subsidiary should be segmented and evaluated (and therefore risk-weighted) on a stand-alone basis.

²¹ AIRB and FIRB risk-weights are based on a large European bank's Pillar III disclosures.

IRB and Standardized Comparisons

The SA corporate treatment may be suitable for relatively simple portfolios, but it will be considerably more problematic to represent and rank order complex heterogeneous portfolios. The SA has limitations in recognizing portfolio diversification, and does not capture private information that banks have on this sector.

The table below shows that investment grade ratings are most impacted, in particular in jurisdictions that do not allow the use of external ratings for regulatory purposes. Better ratings are the most impacted even though they are often externally rated. For non-rated counterparties of investment grade risk the proposed risk weights under the SA are very punishing, with a relative mean increase up to approximately 550%. The SA proposal causes a problem at the 20% to 50% cutover point and at the 50% to 100% cutover point, where there are cliff effects, as seen by the gap between AA- and A+.

S&P Rating Grades	Bloomberg Data Exercise (1)	GCD AIRB RWs (2)			Ext. Rated EAD RW (SA)	Ext. Unrated EAD RW (SA)
		P25	Mean	P75		
AAA	3	7%	11%	13%	20%	100%
AA+	2	13%	13%	13%	20%	100%
AA	7	11%	14%	14%	20%	100%
AA-	16	13%	16%	17%	20%	100%
A+	15	13%	16%	17%	50%	100%
A	19	18%	21%	22%	50%	100%
A-	26	20%	24%	25%	50%	100%
BBB+	16	31%	33%	35%	100%	100%
BBB	17	40%	42%	45%	100%	100%
BBB-	11	53%	56%	60%	100%	100%
BB+	3	67%	73%	80%	100%	100%
BB	5	80%	89%	96%	100%	100%
BB-	2	99%	106%	113%	100%	100%
B+	1	110%	119%	126%	150%	100%
B	1	134%	143%	152%	150%	100%

(1) Column 2 is Bloomberg data, only including corporates with active trading status, with total assets of more than EUR50B as of 2015 data. It does not take into account subsidiaries, and corporates under the Financial (financial services, asset managers, investment services, equities investment instruments, non-equity investment instruments, real estate, etc.) and Insurance industries.

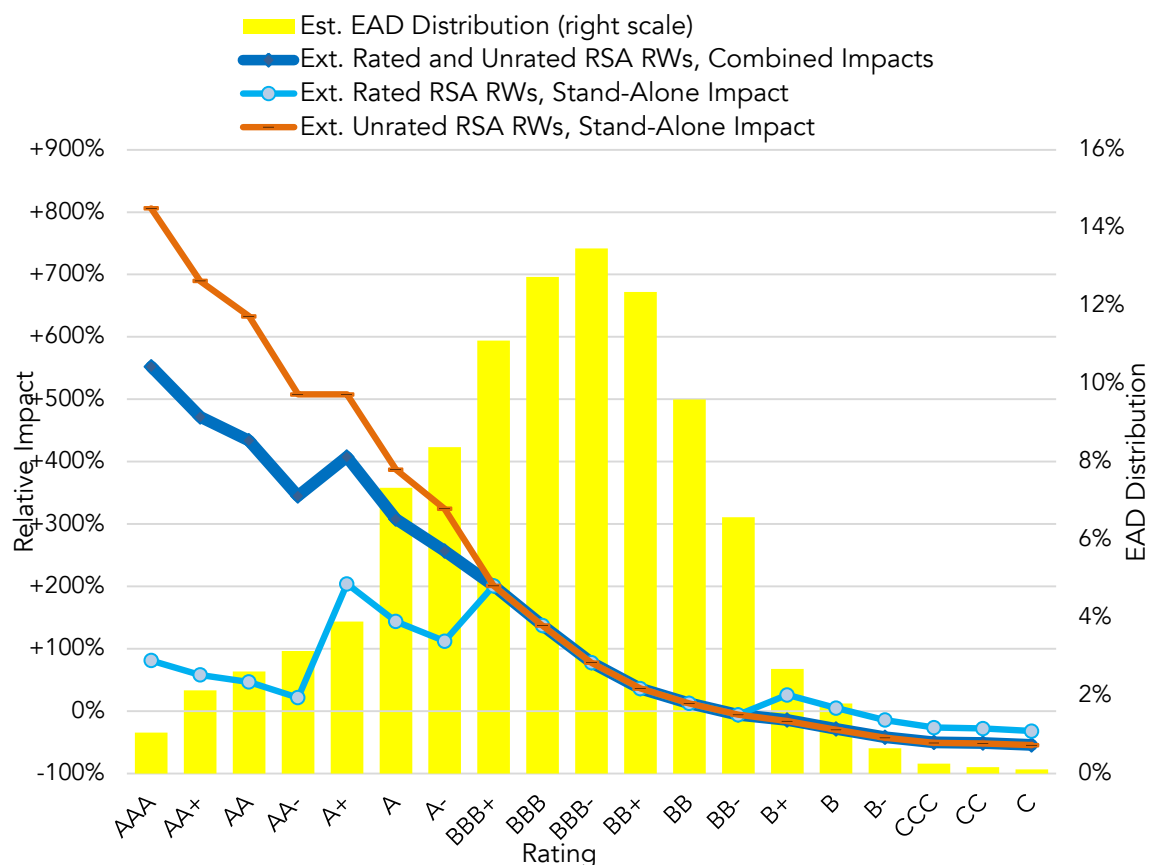
(2) Columns 3, 4 and 5 are RW levels which Advanced IRB banks give to these counterparties using constant 38% LGD, and 3 different PD levels at the 25th percentile, mean, and 75th percentile. Impact Analysis was done by GCD as part of the work for the IIF response to the Second Consultative Document on Revisions to the Standardized Approach for Credit Risk²².

This gap between risk grades is seen more clearly in the chart below, which shows that the spread between the two boundaries is widening for the top investment grade ratings.

The bold-blue curve has two boundaries: (i) the orange curve, based on the proposed Revised SA risk weights when the exposure is not externally rated, and (ii) the light-blue curve, based on Revised SA risk weights when the exposure is externally rated. Therefore, in jurisdictions where most of the EAD is externally rated, the bold-blue curve will move toward the light-blue

²² See full results on GCD Impact Analysis on Appendix 2 of the IIF response to the Second Consultative Document on Revisions to the Standardized Approach for Credit Risk.

curve, whereas in jurisdictions where most EAD is not externally rated, the bold-blue curve will move toward the orange curve.



Source: GCD Impact Analysis²³

Note: The combined impact (ie. the bold-blue curve) is a function of the percentage of exposure that is externally rated.

This chart clearly illustrates the considerable increase in RWA that would follow the BCBS's proposed changes. Only the riskiest counterparties (rated B+ and under, and representing only a small fraction of the total EAD), would see smaller RWA, while the great majority would see significant increases, up to as much as 800%.

Even excluding subsidiaries (both rated and unrated) and all corporates within the financial and insurance industry, Bloomberg data shows that 158 corporates are above the €50B total assets threshold, with the majority clustered between AA- and BBB-. Within that subset, we identified 14 unrated corporates. This subset only includes corporates with active trading status, with total assets as of 2015 data. The following table provides a breakdown with averages by rating grade, as well as some selected examples:

²³ Global Credit Data, *Impact Analysis on BCBS Revised Standardized Approach*, proposal for IIF response to the Second Consultative Document on Revisions to the Standardized Approach for Credit Risk, December 2015.

Short Name Ticker	S&P Rating Grade	Bloomberg Subset (number of counterparties)	Total Assets: 2015	Revenue: 2015	Average Total Assets: 2015	Average Revenue: 2015
	Unrated	14			107b	78,319m
PETROCHINA-H			340b	247,562m		
AUDI AG			57b	58,420m		
	AAA	3			197b	118,293m
EXXON MOBIL CORP	AAA		310b	213,485m		
	AA-	16			129b	64,403m
AMAZON.COM INC	AA-		60b	96,467m		
TOYOTA MOTOR	AA-		371b	196,465m		
	A-	26			128b	50,456m
CITIC	A-		808b	48,469m		
SUNCOR ENERGY	A-		52b	20,609m		
	BBB+	16			113b	71,375m
AT&T INC	BBB+		371b	132,342m		
MCKESSON CORP	BBB+		50b	141,980m		
	BBB-	11			98b	50,336m
OIL & NATURAL GA	BBB-		50b	20,849m		
GENERAL MOTORS C	BBB-		179b	137,350m		
	BB-	2			86b	32,776m
	B+	1			209b	88,241m

A few points are worth noting: (i) the size of a corporate (total assets) does not have a direct correlation with the rating grade, and (ii) corporates with higher revenues do not always have higher total assets.

For instance, the highest rating (AAA) is given to Exxon Mobil with Total Assets of €310b, but Citic (A-) has the highest total assets figure. Likewise, the two BBB+ corporates listed have significantly different total assets, but their total revenue does not reflect this difference.

In considering these discrepancies across the BCBS's mix of measures, it is worth noting that the IIF RWA Task Force identified that one of the main sources of variance was the different approaches that banks take in segmenting their portfolios. For example, some banks regard 'very large' corporates as LDPs, but not mid-corporates. It is this combination of differences in degree of segmentation and LDP treatment which is likely to lead to RWA differences. Please see Section 6.2 for more details.

Specifically within LGD, bank loans have historically yielded higher recovery rates than bonds (although most of the publically-reported empirical data relates to bonds). This set of superior recovery outcomes on loans is for reasons such as:

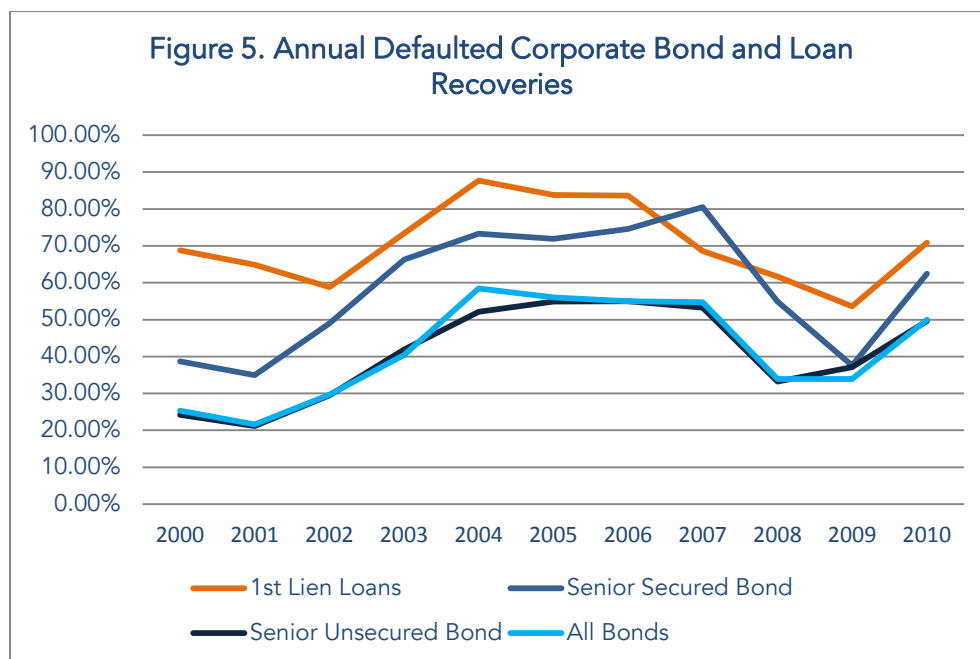
- (i) being more senior in the capital structure,

- (ii) having superior knowledge of borrowers both at inception of loans and as financial conditions deteriorate, and
- (iii) having the ability to negotiate more tailored covenants.²⁴

In addition, banks have more freedom than bond trustees to work with borrowers to achieve recovery. Thus, it follows that AIRB should remain for banks that can prove validity of their LGD modeling, including those with *exposures belonging to consolidated groups with total assets less than or equal to €50b, and annual revenues greater than €200m* (herein referred as the “middle market”).

We observe that banks’ experience supports the view of a €500m threshold, as corporates below this threshold are commonly focused on their domestic market, showing frequencies and pattern of default similar to SME, while corporates above the threshold very often operate at an international level.

The efficacy of banks’ modeling is supported by Moody’s analysis, in which recoveries on first lien corporate loans have consistently outperformed senior bonds, as shown in the following:



Source: Moody’s Investors Service, 2011

This suggests that bond recovery rates can be a misleading proxy for bank loan recoveries and Loss Given Loss, let alone for Loss Given Default (which also includes cure rates).

Consequently, there would seem to be some validity in reflecting how each bank applies the proven outcomes of their deeper knowledge of individual borrowers and their ability to apply conditions and loan covenants, rather than over-riding all with a standard (and perhaps proxy-based) value.

²⁴ Amihud, Y., Garbade, K., Kahan, M. “An Institutional Innovation to Reduce the Agency Costs of Public Corporate Bonds”, *Journal of Applied Corporate Finance*, Vol. 13, No.1, Spring 2000.

5.3 RWA Approaches for Specialized Lending

In the Consultative Document, the BCBS proposes to remove the IRB approaches for specialized lending (SL), leaving only the standardized approach (SA), and the IRB supervisory slotting approach. Our interpretation of this is that it effectively would mean that all IRB-accredited banks would be required to use the IRB supervisory slotting approach for these asset classes.

The IIF agrees with the BCBS's continued recognition of the need for SL exposures to be subject to regulatory capital treatment distinct from other exposure classes, as they do each represent different risk profiles to other assets such as corporate lending.

But we also note that the various asset classes within SL are also quite distinct from each other, with different cash flow patterns and different types of collateral. Income Producing Real Estate (IPRE), for instance, hardly resembles Commodity Finance. As such, we believe it is inappropriate to over-ride a risk modeled approach with the same set of very blunt risk weights for each of these asset classes.

We do recognize that for some of these asset classes, a shortage of historical default data can make it difficult to model for these segments. In some areas, the smaller volume of historical defaults (compared to the corporate, SME and retail sectors) is also compounded by the very individualized deal structures that often apply in the Project Finance (PF) and commercial property businesses, making it challenging to have sufficient historical defaults that are representative of each new deal.

However, this same tendency towards very individualized deal structures also means that a simple, straitjacketed approach is grossly inappropriate for this business type, and will not give an accurate reflection of underlying risk levels. We are deeply concerned by the bluntness and lack of risk-sensitivity in the current supervisory slotting approach, which is simply not capable of reflecting the actual risks that each deal contains. In particular, the current slotting risk-weights serve to over-state risk on the strongest assets, in particular those with valuable collateral.

In the case of Commodity Finance, the tendency is for more standard trade instruments, guarantees, borrowing base financing and receivables financing, but these are tailored for particular needs. The need for granularity in capital allocation is critical, given that the same product is delivered to different sets of counterparties in different jurisdictions, transforming the risk profile.

Accordingly, we believe the regulatory treatment of each of the asset classes within SL should be considered on their respective merits, rather than as an artificial collective, and that the modeling of PD and LGD is a superior means that has the ability to reflect tailored risk profiles on specific deals. For those asset classes where the Committee believes that historical data is insufficient or insufficiently representative, the IIF has developed an alternative proposal that builds on the suggested supervisory slotting approach, but with a number of amendments that will provide a more risk sensitive, granular approach for these exposures than the current slotting approach.

Our Alternative Proposal

Taking the BCBS's proposal to use the IRB supervisory slotting approach we propose a few amendments that will allow better discrimination and provide a more risk sensitive approach.

Our proposal takes into account the emergent issues listed above, and suggests appropriate calibration of risk weights and more granular categories that are supported by S&P Capital IQ and Moody's data²⁵.

Our proposed risk weights for a revised, granular Supervisory Slotting approach are as follows:

Proposed Expanded Supervisory Slotting

	Slot 1	Slot 2	Slot 3	Slot 4	Slot 5	Slot 6	Slot 7	Slot 8
Risk Weight	20%	30%	50%	70%	100%	120%	150%	200%

There may be a case for having different slots for the different asset classes within Specialized Lending, in particular for Commodity Finance, and we do advocate greater sensitivity to the individual risk profile of each asset class. That said, we acknowledge the Committee's goal of simplicity, and we would propose that this same set of more granular slots could be applied across those asset classes with data shortages.

As with our proposal for Banks and Insurers, we suggest that banks should use their internal models to determine which slot each asset should go into. This reflects the known strength of models in rank-ordering risk, and is also the practice already used in jurisdictions where IRB Supervisory Slotting is currently applied.

Slot Calibration

Our proposed table of risk-weighted slots is aligned with S&P's observed default rates for project finance assets graded A, BBB and BB, which were 0.13%, 0.30% and 0.90% respectively, and average recovery rates of between 74% and 84% (including during the period of recession). For 5+ year exposures, this implies appropriate risk weights for A, BBB and BB graded exposures of 32%, 46% and 70% respectively.

Viewing this across tenors, generally the risk weight for an asset rated A is approximately two-thirds of the one for BBB, as shown below:²⁶

Project Finance	Risk Weight(%)/term(year)						
	1	2	3	4	5	8	10
S&P's A	13	18	23	27	32	46	55
S&P's BBB	22	28	34	40	46	64	76
S&P's BB	40	48	55	62	70	91	106

We note that these estimates are indicative, and that S&P and Moody's differ slightly in their relative treatments of PD and LGD. For clarity, we do not believe an external rating should be a prerequisite for application to a particular slot, but these are useful data-points for benchmarking and calibrating our alternate approach.

²⁵ S&P Capital IQ, "Annual Global Project Finance Default and Recovery Study" and "Project Finance Default and Recovery: Shale Gas Fuels Rise In U.S. Defaults."; Moody's, "Default and Recovery Rates for Project Finance Bank Loans, 1983-2013"

²⁶ Ibid

For further validation, the average default rate calculated using project finance consortium data is 1.39%, slightly better than the corporate default rates of 1.615% and 1.5% under Moody's and S&P respective corporate data sets. Accordingly, we would expect that the risk weights for project finance exposures should not be higher than those for corporates, and they should follow similar trajectories.

	Risk Weight(%) / term(year)				
	1	2	3	4	5
Project Finance	48	56	63	71	78
Moody's Corporate & Industrial ²⁷	59	68	76	85	93
S&P Corporate & Industrial ²⁸	58	66	75	83	92

Additional Considerations

Acknowledging the BCBS's concerns on data, some tight guidelines could be applied for the 20% slot, to permit its use only on limited cases, such as where a project has very low gearing, a long-term rental or off-take agreement, or is a monopolist provider of essential services. Such limited cases may encompass:

- If there is a 40% equity or subordinated mezzanine debt that ranks below the bank debt facility;
- If there is a long-term lease or off-take agreement in place with a government counterparty; or
- A commercial property with a 10-year rental lease with a government department, a water or power project with a long-term off-take agreement with a government-owned utility, or an infrastructure project for which the cash flows are contracted to be paid by the government on an availability fee basis will fall under these limited cases scenarios.

For the 30% and 50% slots, this may well apply for other facilities with relative low gearing, or other low risk projects, such as essential infrastructure (eg. power, water) projects that aren't government-backed but are low risk due to their essential nature and monopolist or near-monopolist market position.

Well-structured SL deals have historically had very low levels of risk, and removing correct risk recognition may add cost and erode the sound development of financial markets for SL exposures. SL is a type of lending that allows banks to finance real assets in the economy at the cheapest cost of capital. For example, where a completed wind farm is on a good site with good technology, priority grid access and feed-in tariffs, this is a sound asset, with low risk.

Our alternative proposal uses historical data to build on the suggested supervisory slotting approach, with a number of amendments to provide a more risk sensitive, granular approach for these exposures compared to those proposed by the consultative document.

We identified three main reasons for amending the current IRB supervisory slotting approach.

Firstly, the current IRB supervisory slotting approach lacks granularity, in that it only has four categories for non-defaulted borrowers. Slotting by definition is a less risk sensitivity approach

²⁷ Moody's, Corporate Default and Recovery Rates, 1920-2015

²⁸ S&P, Annual Global Corporate Default Study And Rating Transitions, 2014

to determine the risk of an exposure. The current slotting approach is not representative of the individual deal structures, is overly conservative, and risks causing undesired cliff effects.

The lack of granularity of the slotting categories results in distinct deal structures being assigned the same risk weight. Thus, transactions with different risk characteristics are grouped together for simplicity-sake into the same category, given the same risk weight and expected loss.

The slots are overly conservative, and should better align with true risk levels. For instance, the findings of the 2015 EBA study on the use of the slotting approach by EU banks notes that 23% of all SL exposures under the IRB approaches are currently treated under the slotting approach²⁹. From this group, 70% are classified under Category 1 or Category 2 exposures. Category 1 exposures correspond to a 50% risk weight (for maturity less than 2.5 years) and 70% risk weights (for maturity equal to/more than 2.5 years), and Category 2 to a 70% (for maturity less than 2.5 years) or a 90% risk weight (for maturities equal to/more than 2.5 years).

This lack of granularity gives the illusion of comparability, and can impact the ability to write business and support customers. It may lead to step jumps in capital, and push banks to turn down business. We believe that more granular slot categories with risk weights below 70% would allow banks to support a wider range of risks.

Secondly, it is a misconception that SL exposures historically exhibit higher risk and losses than other types of corporate exposures, including unsecured corporate lending.

GCD data supports the view that typical, comparable risk weights for SL should be lower than for unsecured corporate exposure, as per the following:

Borrower Grade (equivalent)	Corporate				Specialized Lending			
	PD	LGD	Maturity	IRB RWA	PD	LGD	Maturity	IRB RWA
BB+	0.75%	40%	3 years	83.8%	0.66%	25%	5 years	64.2%
BBB-	0.42%	40%	3 years	65.8%	0.42%	25%	5 years	54.3%

According to GCD data, SL portfolios have median obligors between BBB and BB, making the example of a BB+ obligor with a 64.2% risk-weight a reasonable proxy for an SL portfolio. Additionally, long-term default and recovery statistics show that performance for this lending category is better than that of unsecured corporate lending (PD of 1.5% and LGD of 23%) over the last 15 years³⁰.

Calibration of the slotting risk weights for project finance should therefore reflect these data and be lower than those for unsecured corporate risk weights.

For project and object finance, structures are put in place so that the lender not only controls the cash flows generated from the underlying asset but also benefits from the security of the asset itself, leading to lower loss rates. Whilst losses are on average low, these depend on the

²⁹ European Banking Authority, Consultation Paper on Draft Regulatory Technical Standards on Assigning Risk weights to Specialized Lending Exposures under Article 153(9) of Regulation No 575/2013 (Capital Requirements Regulation CRR), 11 May 2015.

³⁰ Standard & Poor's, *Annual Global Project Finance Default and Recovery Study*, S&P Capital IQ, December 2015. Note that the discount rate is the loan rate.

level of conservatism, structuring and protection built into each individualized deal structure. For example, banks can structure loans with conservative terms and LTVs, and tight collateral structures, or with higher LTVs and looser ones. With SL products generally being undertaken by specialists under sound risk management, key risk mitigation is generally in place, with specialists able to anticipate potential problems and take protection. Banks benefit from diversification across their specialized lending portfolios, including different infrastructure assets, aircraft, vessels, rolling stock and various commodities.

Thirdly, the blunt and over-stated risk-weights under the existing slots serve to penalize markets with a high demand for large infrastructure, asset and raw materials financing. SL provides finance for the creation of real infrastructure and transportation assets, as well as the working capital required for commodity logistics at minimal capital cost.

For example, for aircraft finance, industry loss data shows sustainably low credit losses with an average observed default frequency (ODF) of 1.96% and LGD of 16%, as follows:³¹

	Observed Default Frequency	Loss Given Default	Loss Rate
Aircraft Finance	1.96%	16%	0.31%
Shipping Finance	3.13%	13%	0.41%
Commodities Finance	0.89%	13.3%	0.12%
Project Finance	1.50%	23%	0.35%

Under the current SA proposal, a loan to an airline without security on an aircraft would receive a lower RW (100%), than a loan with an SL structure, ie. with a 1st lien security on the aircraft. This example appears to give a negative contribution to the value of collateral, even though lending for an aircraft on a 12-year full payout lease is a better risk proposition than unsecured lending to the airline. Specialized lending has evolved to provide lower cost alternatives through better risk management.

Given that LGDs on SL are considerably lower, the current slotting approach is also penalizing for defaulted assets, as the expected loss is calculated with a fixed LGD of 50%. The coverage ratio (ie. provisions) is generally lower, reflecting the high degree of collateralization, security package and other risk mitigations typical of these portfolios. For example, if we assume 20%, the difference will create a considerable shortfall equal to 30% of the gross value, which at 8% is equivalent to a RW of 375% of the gross value, or to 469% of the net value. We would instead suggest that the LGD for defaulted assets could follow the Committee’s proposal for FIRB (see the table on page 9 of the Consultative Document) setting it at around 20-25%.

Lastly, we wish to highlight the growth implications of the Committee’s proposals, noting the economic importance of the affected sectors, including infrastructure and commodity trade. This is particularly concerning for emerging market economies, where there is a high reliance on commercial banks to provide development finance for key infrastructure projects and to provide the linkages to commodity markets.

³¹ Global Credit Data (GCD) data on Aircraft & Shipping Finance: risk free discounting rate, +5% added to historical LGD.

5.4 RWA Approaches for Equities

The IIF recognizes that, in the context of the Committee's assessment criteria and in particular data availability and information advantage, the decision to adopt a more standardized approach for equity investments held in the banking book appears reasonable at this time.

However, we do not believe that applying a "one-size-fits-all" approach is appropriate. The Standardized Approach's single risk-weight suggests that a very low volatility, low risk equity investment such as a monopoly utility business has the same risk profile as a high-tech start-up company, for example.

The PD/LGD approach is the most appropriate for reflecting the creditworthiness of a counterparty. Acknowledging the Committee's desire for greater simplicity, we therefore propose a highly simplified approach whereby equity investments mirror their issuer's credit rating.

Our Alternate Proposal

Rather than applying a single risk-weight for all equity investments, we propose the following simple scale:

- an investment in a company rated 'A-' or higher would carry a risk weight of 150%
- for a company rated investment grade (BBB- or higher), a risk-weight of 175%
- for unrated companies, a risk weight of 200% would apply

In the case of unrated entities being at 200%, this level is two times the Standardized Approach's risk weight for unrated senior debt corporate exposures, and so aligns to the same relationship that applies for the LGD under the FIRB Approach (ie. 45% for senior debt and 90% for equity).

We further suggest that this could be reassessed in the future, as and when greater data availability may emerge. We also recommend that transitional arrangements be established in relation to current equity investments in the banking book, to permit banks to liquidate those existing holdings that they wish to sell due to the changed capital treatment, in an orderly fashion over an appropriate time period. This would also assist to minimize any equity market disruption which could occur as a result of this changed capital environment.

5.5 RWA Approaches for Counterparty Credit Risk and CVA

CVA

The IIF acknowledges the BCBS's concerns on RWA variance with CVA. We feel that the decision to remove the IMA-CVA approach from the framework under-estimates the value of risk-sensitivity, but it would appear that the decision has been made. We are disappointed that such a significant change is to be implemented in the absence of a consultation. We wish to highlight that when the industry responded to the BCBS Consultative Document *Review of the*

Credit Valuation Adjustment Risk Framework, we did so on the understanding that the internal models approach to CVA (IMA-CVA) would be available.³²

Consequently, a more intensive review of SA-CVA reveals significant shortcomings. For example:

- The lack of alignment between Regulatory CVA and Accounting CVA could lead to perverse and undesirable outcomes in bank risk management with respect to derivative exposures;
- The lack of risk sensitivity manifests itself in inappropriate capital outcomes with respect to areas such as the treatment of proxy hedges for illiquid counterparties; and
- The calibration of IR and FX capital charges is too conservative.

Should the Committee proceed to remove the IMA-CVA from the framework, we would encourage the BCBS to exercise great care in the final design and calibration of the SA-CVA and BA-CVA, in order to ensure that the framework not only achieves the objectives of simplicity and consistency but that the capital requirements appropriately reflect CVA risk. In the absence of a consultation on the removal of IMA-CVA, we encourage the BCBS to actively engage with the industry in finalizing the design and calibration of the SA-CVA.

As one specific example which illustrates the concerns of the industry, SA-CVA fails to adequately recognize proxy-hedging which is one of the stated objectives of the Basel review of the CVA risk framework. For the sake of illustration, let us consider the stylised example of a high-yield basic materials corporate (bucket 11) with 125 €/bp CVA counterparty sensitivity. Whenever the bank hedges CVA PnL of counterparties without CDS, the bank incurs higher SA-CVA capital charges than if it were not hedging.

Hedge / Proxy spread mapping	Hedge CS01 (€/bp)	CVA PnL	SA-CVA K (option 1)	SA-CVA K (option 2)
No hedge	0	open/risky	131,250,000	132,350,000
CDS referencing counterparty ("liquid name")	125,000	First-order flat	13,125,000	13,125,000
Proxy CDS referencing different entity in same bucket (#11)	125,000	First-order flat	150,223,000	150,223,000
Proxy CDS referencing different entity in IG bucket (#4)	125,000	First-order flat	166,859,000	176,744,000

This example simply illustrates that hedges commonly used by CVA desks are actually likely to generate a higher capital charge than if the CVA exposure remains unhedged which is highly undesirable. The industry is more than willing to discuss potential solutions so as to appropriately achieve the Committee's objectives.

³² Basel Committee on Banking Supervision, *Consultative Document Review of the Credit Valuation Adjustment Risk Framework*, July 2015, <http://www.bis.org/bcbs/publ/d325.pdf>.

Counterparty Credit Risk – Floor on Internal Model Method (IMM)

Firstly, we wish to stress that the IMM framework is well established as both an input into regulatory capital requirements and for setting internal limits on potential future credit exposure to a bank's counterparties. The IIF has serious and material concerns on setting exposure floors using a standardized approach (SA-CCR) which is based on notionals as a measure of risk.

We believe it is imperative to once again reiterate the importance of risk-sensitivity to the capital framework and the internal risk monitoring and management performed by credit risk departments. The IMM framework encourages banks to invest in systems, personnel and risk management techniques that are used on a daily basis to safeguard a bank against credit losses.

We would highlight that the data concerns that may affect modeling of counterparty default are not the same for IMM where there is a rich dataset of historical market prices and volatilities for equities, interest rates, FX, commodities and credit markets through a cycle that includes periods of stress. We note that the BCBS's RCAP report on risk-weighted assets for CCR ("BCBS 337") did not identify data quality as a driver of variability and did not raise any recommendations related to choice of calibration (see Section 3.4.2.2 of BCBS 337).³³

The availability of robust modeling techniques which can be independently validated is a prerequisite used by the Committee and supervisors to determine 'modelability', and eligibility for the IMM approach. The benchmarking exercise of 2014 found IMM variability to be broadly similar to that seen across Market Risk models. The principles for CCR backtesting are also well established, and set out in the BCBS Sound Practices paper.³⁴ Where banks do not meet the necessary validation and back testing requirements, they may not receive IMM approval or only receive approval for specific products.

The IMM approach is already subject to a floor at the portfolio level which was prescribed in the Basel 3 framework. Under the Basel 3 framework banks must use the greater of the portfolio-level capital charge based on Effective EPE using current market data and the portfolio-level capital charge based on Effective EPE using a stress calibration. This must be applied at the total portfolio level and is not applied on a counterparty by counterparty basis. This floor was only implemented at the beginning of 2014 and required significant investment in computing power to run all simulations twice under different assumptions. The current IMM floor has had less than 18 months in place before being replaced by another IMM floor. We would strongly recommend that the BCBS gives the current floor time to be reviewed and reconsiders the application of the proposed IMM floor.

We also wish to point out that, during the 2013 consultation period for the SA-CCR, Advanced Banks reviewed and responded to that consultation on the understanding that they would be applying the IMM. (Indeed that original consultation on SA-CCR was designated the "Non-Internal Model Method"³⁵ which encapsulated the intended scope of application for the SA-CCR). However since completion of that 2013 consultation process, the BCBS has now

³³ Basel Committee on Banking Supervision, *Regulatory Consistency Assessment Programme (RCAP) – Report on risk-weighted assets for counterparty credit risk (CCR)* October 2015 <http://www.bis.org/bcbs/publ/d337.pdf>

³⁴ Basel Committee on Banking Supervision, *Sound practices for backtesting counterparty credit risk models*, December 2010, <http://www.bis.org/publ/bcbs185.pdf>.

³⁵ Basel Committee on Banking Supervision, *Consultative Document The non-internal model method for capitalizing counterparty credit risk exposures*, June 2013, <http://www.bis.org/publ/bcbs254.pdf>

determined that it is considering a floor to the IMM based on the SA-CCR. Consequently the significance and relevance of the SA-CCR to IMM banks has been profoundly altered, but well after the consultation, and therefore evaluation, of the SA-CCR has been undertaken and completed.

Therefore, to the extent that the BCBS finds it necessary to introduce an additional capital floor for the IMM approach, we encourage the Committee to undertake consultation with the industry in finalizing the design and calibration of the floor.

In order to preserve risk-sensitivity and reduce the risk of unintended consequences, engagement with the industry will help to incorporate appropriate design considerations, including by way of example:

- that the design should not interfere with banks' capital attribution processes;
- any floor should be calibrated at a level where it can be an effective backstop without over-riding a risk-based approach
- if the BCBS introduces a new floor, the Committee should consider the removal of the stressed EPE portfolio floor
- ideally an IMM floor should be based on a measure of risk rather than the notional based measure of SA-CCR
- whether the floor applies at the Exposure (or EAD) or RWA level
- that in adopting the SA as a reference point for a floor, the fact that the SA treatment for CCR has already been inflated through the 1.4x multiplier for model risk should be considered as part of the final calibration.

Linkage Between IRB and IMM, Repo VaR & Own estimates

Section 4.5 of the Consultative Document appears to state that banks who don't use IRB will be unable to use Own estimates of haircuts, or Value at Risk (ie. Repo VaR) for portfolios which are not on IRB approach. Similarly, the Standardized approach for credit risk consultation paper also implies that IMM (Collateralised OTC derivatives), Repo VaR, and Own estimates for collateral haircuts may not be permitted for portfolios which are not on IRB, and that the Standardized Approach for Counterparty Credit Risk ("SA-CCR") or Supervisory method should be used.³⁶ The implications of these changes are that banks may not be able to use internal model methods to compute exposures for any derivatives or securities financing transactions to Banks, FIs and large corporates.

We do not believe that there is any rationale for installing any link between IRB approval and use of Own estimates, Repo VaR and IMM. We request that the BCBS change or clarify the proposed regulation to state that banks are permitted, subject to regulatory approval, to use Own estimates, Repo VaR or IMM on any exposures, irrespective of whether they have IRB model approval for those exposures. Our reasons are as follows:

First, we note that the data concerns expressed by the BCBS in respect of Low Default Portfolios are not relevant for IMM, Own estimates or Repo VaR. Where we acknowledge data and modeling challenges for LDPs, this scenario does not apply for the modeling of exposure

³⁶ Basel Committee on Banking Supervision, *Second Consultative Document Revisions to the Standardised Approach for Credit Risk*, December 2015, <http://www.bis.org/bcbs/publ/d347.pdf>. See Annex 1 (Article 119) and Section 2, p.18.

estimates to these counterparties, where there are large volumes of good quality data available. This includes the volatilities of equity, interest rate, FX and credit spread markets, which are the primary inputs for EPE, VaR or collateral haircuts on derivatives and securities financing transactions.

As noted previously, the BCBS report on risk-weighted assets for CCR did not identify data quality as a driver of variability and did not raise any recommendations related to choice of calibration (see BCBS 337, Section 3.4.2.2).³⁷ Furthermore, the market data used in IMM, Repo VaR or own estimates exposure to Small Corporates (which may be excluded from the IRB framework under the current proposal) is in principle the same as that used to model exposure to Banks and Large Corporates (which are excluded by the proposal).

Second, we note the potential that current proposals could lead to inconsistent use of IMM across the CCR framework. The recent SACR Consultative Document set out the removal of IMM as a permitted approach for Standardized portfolios for collateralized OTC transactions only, but allows IMM to continue for uncollateralized transactions.³⁸ Such a move would not incentivize collateralization, and is inconsistent with the impending market regulation introducing mandatory margin requirements for non-centrally cleared derivatives. Furthermore, prohibiting IMM/ Repo VaR/ own estimates for non-IRB portfolios would mean IMM/ Repo VaR/ own estimates being applied inconsistently for the same exposure types across the portfolio. For example, IMM would be permitted to model exposure arising from a 2 year interest rate swap with a Small Corporate but not for the same trade with a Large Corporate, even though the modeling issues and exposure outcome should be identical.

Third, further consistency and coherence issues arise with other ongoing consultations, such as the Consultative Document 'Review of the Credit Valuation Adjustment Risk Framework', which considers whether exposure profiles generated via accounting CVA exposure models (Option A) or via IMM exposure models (Option B) should be used in the standardized approach for CVA within the FRTB-CVA framework. Removal of IMM as a permitted approach for Banks and Large Corporate counterparties would largely negate the viability of Option B.

Lastly, we note the materiality of capital impacts if IMM/ Repo VaR/ own estimates were to be prohibited for those asset classes where IRB is removed. If IMM, Repo VaR and Own estimates were removed as a permitted approach for non-IRB portfolios, this would certainly add pressure to the BCBS's ability to meet its stated aim of not significantly increasing overall capital requirements.

We do note that footnote 10 of the Consultative Document states that the proposals to require the use of the Standardized Approach to calculate credit risk weights for exposures to certain counterparties (eg. Banks and Financial Institutions, Large Corporates) does not preclude the use of IMM to estimate the exposures to these counterparties. We also note the "additional guidance for completing the IRB QIS"³⁹ issued by the BIS on May 6, 2016 includes further clarification that paragraph [119] of the standardized approach is only applicable if the bank does not use the IRB approach for any of its exposures. These statements suggest that the

³⁷ Basel Committee on Banking Supervision, *Regulatory Consistency Assessment Programme (RCAP) – Report on risk-weighted assets for counterparty credit risk (CCR)* October 2015 <http://www.bis.org/bcbs/publ/d337.pdf>

³⁸ BCBS 347, Annex 1, Article 119.

³⁹ See "Additional guidance for completing the IRB quantitative impact study", page iv; http://www.bis.org/bcbs/qis/biiiimplmoninstr_addguideirb_may16.pdf

BCBS may not intend to restrict the use of IMM to portfolios only on IRB, provided that the bank has some undefined part of their total portfolio on IRB.

Given the importance for consistent interpretation on this point, and to avoid variability in interpretations across banks and supervisors, we recommend that drafting be applied in both the new Standardized Approach for credit risk and in the finalization of IRB treatments to confirm that, subject to approval by the relevant supervisory authority, there is no restriction on the use of IMM as well as Repo VaR and Own estimates to portfolios on the IRB approach. In other words, regulation should clearly state that banks can use these internal modeling techniques for exposure measurement irrespective of whether they have any IRB approval.

5.6 Parameter Floors

As a general comment, the IIF is wary of the use of floors, noting that floors will invariably impact on the stronger credits, but have no bearing on the weakest – an impact that from a risk management perspective seems counter-intuitive.

That said, the extent of the impact of floors is inevitably about the level that they are calibrated to. In this context, we note that the EBA has launched a thorough review of all modeling practices and parameters, and that the EBA's process will run through into 2017. We believe it would be more appropriate to allow the EBA review to complete its course prior to finalizing the calibration of the floors proposed in this Consultative Document.

In terms of the values set out in the Consultative Document, we consider most to be moderate, and with their adverse impacts directed to a few specific jurisdictions and products. Understanding that the calibration of these proposed floors has been the subject of some debate, we are far more concerned at some of the suggested levels in the BIS's Ad Hoc QIS, issued a few weeks after this Consultative Document.

Where floors are to be imposed, we recommend that these be applied at portfolio level rather than at exposure level. Whilst we understand from public statements that the BCBS has envisaged these floors at the exposure level, applying them instead at a portfolio level would help to support the Committee's objectives of consistency and comparability without unduly penalizing the strongest assets within portfolios.

Proposed Calibrations

Based on 2015 Pillar 3 disclosures of large and internationally active banks (the GSIBs plus the Canadian and Australian DSIBs), 32 banks reported their average mortgage LGD, all of which were above 10% and 27 of which were below the 30% level that is indicated in the QIS. 3 banks reported the average LGD for their top credit band at levels less than 10%. Consequently, the proposed 10% floor would have a capital impact (especially if imposed at an exposure level), but not impact risk-sensitivity for the majority of the industry – whereas the QIS proposed version most certainly would.

Similarly for Corporate PDs, 2 banks out of 36 report a total portfolio average PD lower than 5bp, but 19 out of 26 banks reported an average PD for their top credit band below that level. On this basis, the Consultative Document's floors will be reasonable if they can be applied in a way that minimizes the harm to high-grade credits.

We therefore propose a small series of targeted amendments to the proposed levels for parameter floors as set out in the Consultative Document, as follows:

1. Mortgage LGD floor: whilst the proposed 10% seems reasonable for most portfolios, this will over-state the risk on specific assets such as where lenders' mortgage insurance (LMI) is held. If the BCBS is to apply these floors at an individual exposure level, we would propose having the 10% floor apply only for uninsured assets, and a 5% LGD floor for those assets that have LMI.
2. Secured LGD floors on Corporates and Other Retail: on the understanding that "financial collateral" includes financial securities (after hair cut) as well as cash, we suggest that the floor applying to all other types of collateral could be converged to 15% (ie. move the 20% floor for other physical collateral to 15%, such that it will then be in line with that for receivables and commercial or residential real estate). This aligns the Committee's simplicity objective, and support banks' ability to quickly implement the floors from an operational perspective. It would also ensure that there is a sufficient available increment between the AIRB secured floor and both (i) the AIRB unsecured floor and, (ii) the FIRB treatment, each of which are 25%.

We also highlight the need to consider the total risk of PD and LGD together, particularly for secured lending products such as equipment finance. Secured finance is important in the SME sector, in support of the real economy, and an unduly conservative LGD floor (without simultaneously considering PD), could unreasonably increase the capital requirements for that sector. Our proposal to moderately reduce this proposed floor would help to mitigate this concern.

We also seek clarity on the definitions of QRRE Transactors and Revolvers, in particular as to the criteria for when a customer might migrate from one to the other, and the timeframe in which a customer's behavior would change in order to prompt a switch. Whilst the principle in differentiating these assets is reasonable, we feel this needs greater clarity in its application, particularly in those markets where both types of customer behaviors are commonly observed. We agree that these categories of borrowers should have different risk profiles, and banks' models should already reflect that, but urge care to ensure that the operationalizing of a floor doesn't add an unnecessary complication.

5.7 Parameter Estimation Practices and Fixed Supervisory Parameters

5.7.1 Probability of Default

Rating systems

The IIF seeks clarification on the BCBS's proposal to limit the range of practices that banks take on PD estimation.⁴⁰ We feel that the language on the consultation leads to ambiguity, even within banks there are varying views as to what is exactly being requested, specifically:

- "Rating systems should be designed in such a way that assignments to rating categories generally remain stable over time and throughout business cycles"
- "Migration from one category to another should generally be due to idiosyncratic or industry-specific changes rather than due to business cycles."

In order to avoid unnecessary variance arising from the differing interpretations, we ask the BCBS to provide further input on the ambiguity tied to what exactly "assignments to rating categories" means.

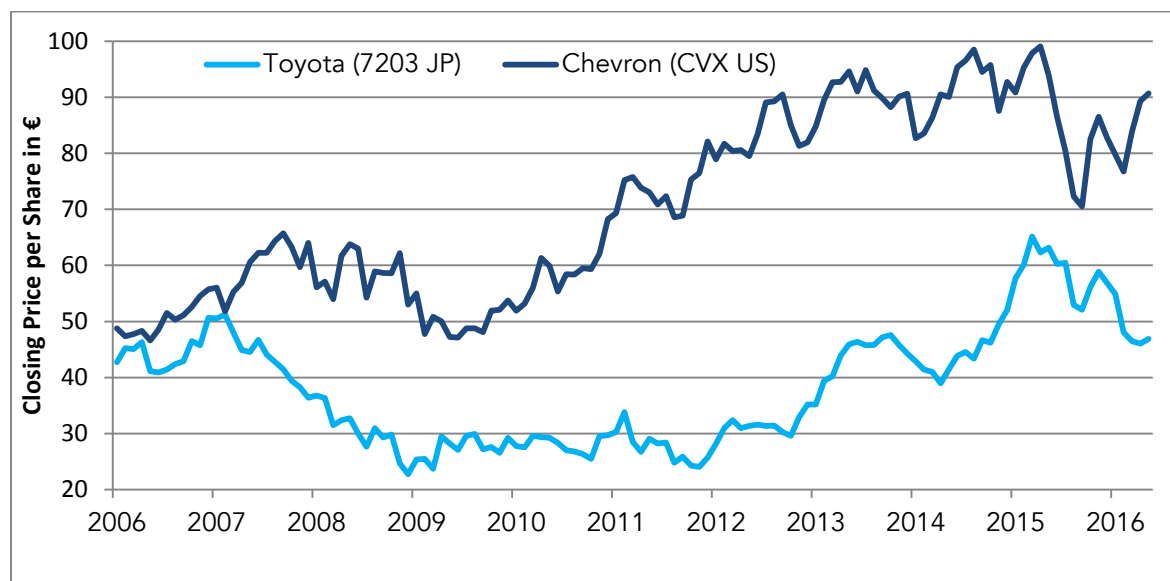
Two main interpretations have come from our discussions; the first one is that the wording above is stating that the financial ratio criteria used to assign obligors to a rating category should remain stable over time. The second interpretation is that the wording is now requiring not only for PDs to remain stable over time and throughout business cycles, but also for rating systems to be designed in such a way.

If the first interpretation applies, then that would be in line with what most banks currently do, and there would still be migration across rating grades driven by the increase or decrease in stress associated with the business cycle. That migration will be, however, inconsistent with the guidance that migration across rating categories should not occur systematically as a result of the business cycle.

Some industries are more cyclical than others, and will always be subject to risk grade migration under adverse business cycle conditions. To illustrate this point, below is a chart showing the performance of a cyclical company, Toyota (dark blue line), and a classic non-cyclical company, Chevron (light blue line). This chart demonstrates how each company's share price reacts to downturns in the economy. Notice how Toyota's share price drastically reduced between 2007 and 2008, whereas the growth of Chevron's share price was not affected by the slowdown.

⁴⁰ The IIF has done extensive analysis of banks' modeling practices and the diversity of approaches to how PD values are assigned to a customer. See Box 1 for more detail.

Monthly Percentage Change in Share Price



The alternative interpretation is that the BCBS is now requiring that the assignment of an obligor to a risk grade should be calibrated in a way, that seeks to predict the kind of business cycle driven risk grade migration that sees a counterparty's financial ratios decline under adverse conditions. It is not clear however why a risk grading system operating in this manner should be required to forego sensitivity when the same degree of stability in the capital requirement could be better achieved via other explicitly counter-cyclical mechanisms such as the "Expected Loss Shortfall" deduction working in conjunction with the Counter-cyclical Capital Buffer.

Pro-cyclicality of the capital requirement is a complex topic that requires a holistic approach encompassing the interactions of many inter-related components. Any consideration of the stability or risk sensitivity of the rating system must also consider the extent to which the CET1 capital deduction for "Expected Loss Shortfall" and the variable Counter-cyclical Capital Buffer operate to stabilize the capital requirement across business cycles. Greater clarity on how these inter-related components of the capital adequacy framework are intended to operate will help ensure consistency in the way that pro-cyclicality is managed across different jurisdictions while maintaining the desirable risk sensitive elements of the capital framework.

We believe it will also be useful to distinguish between the kinds of volatility associated with relatively high frequency (ie. 7 to 10 years) but low amplitude "business cycles" and the less frequent but more severe disruptions to economic activity associated with the "financial cycle"⁴¹. We note that financial cycle style disruptions are typically associated with relatively high levels of credit expansion that are also one of the factors considered in choosing to implement the counter-cyclical capital buffer.

⁴¹ Claudio Borio, *The financial cycle and macroeconomics: What have we learnt?*, BIS Working Papers No 395., December 2012, <http://www.bis.org/publ/work395.pdf>.

Box 1: IRTF studies on TTC and PIT systems

The IIF has done extensive analysis of banks' modeling practices and the diversity of approaches to how PD values are assigned to a customer. It is important to note that both Point-in-Time (PIT) and Through-the-Cycle (TTC) approaches are important, as these serve different purposes.

A requirement to use the TTC approach solely would lead to inconsistencies in internal risk management, as for example the PIT approach is needed in provisioning. Furthermore, a pure TTC approach may conflict with fundamental risk appetite and strategy priorities, for instance short-term exposures may be incorrectly assessed on a TTC basis. Additionally, PIT approaches have validity in particular for origination, stress testing and planning.

Nevertheless, we welcome the BCBS's view of reassessing PIT and TTC approaches, but suggest that, based on our findings and the EBA's conclusions presented in their recent review of the IRB approach⁴², that "attention should be focused on the application of hybrid approaches, and what level of risk sensitivity would be viewed as desirable".

To summarize our main findings, the process of obtaining PDs and the rating protocol varied widely among surveyed banks. Rating systems are tailored for each bank, and are less comparable in terms of model architecture. Models can be constructed to predict directly their rating, or they may predict an intermediate result that is then used to produce a rating. For other banks however, the rating occurred through the use of approved PD models developed by the credit risk management function, in which the last step is when the rating master scale translates the PD into a rating. Our first survey as part of the IRTF Final Report found that around half banks set the rating first, and then set a PD.

Rating Migrations

It is important therefore to note that although a large group of banks (62.5% for other non-retail, 66.7% for LDPs, and approx. 47% for retail) have PDs that are TTC, only 41.7% for other non-retail, 37.5% for LDPs, and less than 20% for retail portfolios have a TTC rating systems. Banks' have the choice of using a PIT, TTC or a hybrid of these two approaches.

One of the main findings of the IRTF Final Report was that in practice most banks use a hybrid rating model, in the case of low default portfolios over 70% of banks reported this practice, and over 75% for retail exposures. In addition, there is a large group of banks that report sizeable rating migrations in their practices, with 16.7% for low default portfolios, and 25% for other non-retail exposures. Additionally, our most recent survey queried banks on whether the term "Long Run Average" (LRA) of 1-year default and "TTC default probability modeling approach" are seen as synonymous. More specifically, 48% of banks did not agree with this statement. The most shared view among European banks and one North American bank is that LRA is seen as model calibration, ie. the process of assigning PD estimates to individual rating grades, and does not factor in rating migrations. A rating system can therefore be sensitive to macroeconomic factors, and still be calibrated to LRA.

⁴² European Banking Authority, *Regulatory Review of the IRB Approach*, February 4, 2016.

5.7.2 Loss Given Default

We highlight paragraph 4.2.3 of the Consultative Document, where the Committee proposes to apply a floor to the downturn add-on in addition to the floor on the overall LGD. We note that such a floor unduly overlaps with the general parameter floor, creating a complex framework that warrants further clarification on how these LGD floors will interact if they are to avoid double counting.

Moreover, it should be noted that data samples used to estimate LGD often place a greater weighting on recession periods, so a fixed or minimum downturn value can create a clear double counting. We therefore see the inclusion of a specific input floor on downturn LGD as inappropriate.

Additionally, the LGD floor described in paragraph 4.2.4 of the Consultation (AIRB fully and partially secured exposures) will effectively enforce the simplified supervisory collateral haircuts (50%) in order to calculate the level of secured exposures (Es). This flaw may be an unintended consequence in the proposal; its applicability by capping at the exposure value does not recognize any benefit for over-collateralization.

5.7.3 Exposure at Default

12-month Fixed Horizon Requirement

We seek clarification to the wording “EAD estimates must use a 12-month fixed horizon estimation approach”. We believe that the choice of estimation approach should be left to banks, however if a single approach is required then this should be in line with the banks’ PD estimation approach.

In the recent Committee’s Regulatory Consistency Assessment Programme (RCAP), the Committee indicated that the approaches to estimating EAD vary, with some banks using (a) a fixed horizon approach, where defaults are assumed to occur 12 months from the observation date; (b) a cohort approach, where obligors are grouped and defaults could occur any time over the forthcoming 12 months (or another defined period); or (c) a multiple horizon (or variable period) approach, where exposure is considered at several different intervals over the horizon period.⁴³ The RCAP findings showed that the horizon methodologies vary widely by different banks and within the same bank. It was also noted that the Committee needed to consider both the benefits and the undesirable consequences of requiring a single approach among the currently used approaches.

Unconditionally Cancellable Commitments

The Committee’s proposal to remove the treatment of Unconditionally Cancellable Commitments (UCCs), as currently applied under paragraph 83, would materially change how the distribution of credit currently operates in many markets. We note there are many cases where the terms and conditions of facilities enable firms to suspend their commitments, or where the product requires the banks’ authorization before the client can make use of the facility; in some jurisdictions, this may be considered as not being a commitment at all. As

⁴³ Basel Committee on Banking Supervision, *Regulatory Capital Assessment Programme (RCAP) – Analysis of Risk-weighted Assets for Credit Risk in the Banking Book*, April 2016, <http://www.bis.org/bcbs/publ/d363.htm>.

such, we believe that the Committee's proposal is unwarranted, and can have far-reaching implications for the allocation of credit in some economies.

Consumer protection or other laws do not have an influence on the lenders' decision-making powers. This is particularly true in the corporate space, but can equally be the case in the consumer space where the impact of consumer protection laws does not change the nature of the commitment from being unconditionally cancellable. In such cases, reputational risk considerations do not constrain the firm in its ability to unilaterally cancel these commitments. For product types that truly allow the bank to cancel the facility at any time in practice and where there are demonstrable controls and legal rights, monitored through robust internal governance, a 0% CCF is fully justified, and supported by the empirical evidence of banks' mean observed CCF.

Imposing a non-0% CCF to UCCs would in substance equate to imposing capital requirements on exposures that could only materialize at the unilateral discretion of a bank. Moreover, in many jurisdictions these types of commitments are not recognized in banks' financial statements, so creating a new capital requirement would create a further mis-alignment with accounting figures.

If 0% CCFs are removed for UCCs, banks would no longer have any incentive to issue unconditionally cancellable commitments. Currently, UCCs are typically favorably priced for the benefit of clients (and the broader economy), and the Committee's proposals stands to have a direct impact on the ability to continue this support.

We note also that in the revision of the SA, the first Consultative Document proposed a CCF for UCC of 10%, which was subsequently raised to 50%/75% for corporates in the second Consultative Document. As well as recommending the retention of the 0% value in IRB, we therefore also propose that the SA's CCF for UCC should be revised to 0%, or at maximum in the range of 0 to 10%, whilst factoring in the prevailing accounting treatments.

Timing of raising a commitment

We note that the Consultative Document also proposes changing the definition of "commitment" in both the IRB and SA approaches, specifically in relation to the timing of when a commitment is raised.

This was a key source of variance identified by the IIF RWA Task Force, which highlighted a variety of practices as to whether a commitment was raised:

- (i) when an offer is made,
- (ii) when a customer indicates their acceptance of that offer,
- (iii) when conditions precedent are satisfied and the offer becomes unconditional,
- (iv) upon a contract being executed, or
- (v) first draw down.

The IIF RWA Task Force's findings also reflected differences across products and segments, for instance with mortgages and business loans treated differently to credit card offers made as part of a marketing campaign. The IRTF had identified this as a potential area for harmonization, specifically that there should be harmonization across the industry within each product line. Details of the IRTF's analysis on this topic are set out in Appendix D.

We believe that the Committee's choice to harmonize to the point where the customer accepts the offer is appropriate for many product lines, but not for all. As indicated above, we consider this inappropriate for facilities where the bank can unconditionally cancel at any time, where the 0% CCF treatment should continue. It is also inappropriate for facilities where the offer is conditional, and the borrower still needs to perform particular tasks or be successful in a tender in order to satisfy those conditions.

Where a client needs to satisfy a series of conditions precedent, we believe a commitment should be raised upon the satisfaction of those conditions. To the extent that the BCBS may wish to define and constrain such treatment to particular circumstances, we feel the following are justifiable conditions:

- purchase of a particular asset (eg. where the borrower is in a bidding scenario)
- tendering for a contract
- construction loans, where the borrower is contractually required to complete preparatory site works or to have an independent engineer's certification of the cost to complete

Without such recognition of conditions, we see a risk that where multiple investors, consortia or prospective home-buyers are each bidding for the same asset, there would potentially be multiple series of capital being held across the industry, in anticipation of a loan that will proceed in only one of those cases. Such would be highly inefficient in an economic sense, and as each bank seeks to recoup its cost of capital by charging the bidders, an added transaction cost to functioning market auctions and tenders.

5.7.4 Maturity

We have concerns with both aspects of this section of the Consultative Document, both in (i) the requirement to apply facility expiry date for some transactions, and (ii) the prevailing treatment under Foundation IRB.

Trade Finance facilities

Where the consultative document proposes that banks be required to determine the maturity parameter (M) under IRB based on the expiry date of a facility, we are concerned about the potential impacts that this could have for trade finance facilities. This proposal would base maturity under the IRB on the facility review date, rather than the transaction tenor date and could have material consequences if not clarified in the light of modifications to the maturity calculation undertaken by the Committee in its 2011 review of the Treatment of Trade Finance under the Basel Capital Framework.⁴⁴

As part of the clarifications that emanated from that review, the Committee noted that Basel II requires banks, when calculating risk weighted assets under the AIRB, to measure the effective maturity for each facility subject to the provision that it cannot be less than one year. However, the Committee agreed to waive this requirement for short-term, self-liquidating trade finance

⁴⁴ Basel Committee on Banking Supervision, *Treatment of trade finance under the Basel capital framework*, October 2011, <http://www.bis.org/publ/bcbs205.pdf>.

instruments (including issued and confirmed letters of credit) and base the calculation on the effective maturity for transactions with a maturity of less than one year.

Given the average tenor for these trade finance products is well below one year, it would be inappropriate and a possible unintended consequence of the current IRB reform package to potentially negate or confuse the clear intent of the 2011 reforms.

The IIF encourages the Committee to provide clarity that the maturity waiver agreed for trade finance remains applicable as the rule under revisions to the determination of M under the new standard. Formal clarification is also needed that the maturity floor waiver will still also apply under for the FIRB approach to avoid variance in national regulatory interpretation.

Foundation IRB Maturity

Where the FIRB approach applies a fixed maturity at 2.5 years, we emphasize that maturity is not self-estimated and thus doesn't contribute to the RWA variance. Whilst some supervisory FIRB parameters are appropriate, we note that this is not in line with Basel's own analysis on risk weight variability, where it was concluded that "Maturity does not appear to be an important source of RWA variations."⁴⁵ The report indicates that for the Corporate and Sovereign exposures classes there is "no observed impact" on RWA variability from the Maturity parameter.

On that basis, we believe there is no meaningful reason to exclude maturity from the capital framework for the purpose of increasing comparability, especially where it is at the expense of risk sensitivity.

Where the Committee concluded in the Basel II Accord that both intuition and empirical evidence indicated that long-term credits are riskier than short-term credits, we believe this concept should be retained: shorter term transactions should have lower capital requirements to reflect the lower credit risk.

Our Alternate Proposal

For exposures on Foundation IRB, we recommend that a fixed Maturity of 2.5 years should be replaced with the Maturity of the actual transaction in years.

5.7.5 Credit Risk Mitigation

Whilst we note that there are varied practices in the use of double default or PD substitution approaches to reflecting credit risk mitigation, we are surprised at the assertion in the Consultative Document that the "double default" methodology is not widely used. There are some local jurisdictional treatments that make it difficult to implement double default in some markets, but there are indeed many banks in various regions that do indeed use this practice.

We certainly appreciate the issue of variance, but concurrently note that the principle and mathematical concept of double default is logically sound – that where you have an exposure to Corporate X and you elect to buy credit protection from Bank Y (and assuming that it is a

⁴⁵ Basel Committee on Banking Supervision, *Regulatory Consistency and Assessment Programme (RCAP): Analysis of risk-weighted assets for credit risk in the banking book*, July 2013, <http://www.bis.org/publ/bcbs256.pdf>.

matching hedge), then Corporate X and Bank Y would both need to simultaneously default before you could incur any potential loss. The risk of both defaulting on the same obligation at the same time may be substantially lower than the risk of only one of the parties defaulting.

Furthermore, the treatment of credit risk mitigation needs to be read in the context of the Committee's other proposals for exposures to banks and financial institutions. With exposures to banks being moved to the SA, this could mean that the best possible risk weight achievable for a hedged asset would become 20% in the case of jurisdictions that can use external ratings, or 50% in others. Such would grossly over-state risk, and provide a disincentive for buying credit protection.

Accordingly, we believe that maintaining some form of double default treatment is appropriate, though at the same time converging the current risk-weight outcomes.

We therefore propose that the option of modeling for a double default PD be maintained, but for the outcome to then be subject to the same risk bucketing approach that we have proposed for Banks and Insurers in Section 5.1.1.

This would preserve some risk-sensitivity for credit risk mitigation transactions, but would also narrow the amount of variance, and essentially apply a 10% risk-weight floor.

Indeed, we note that the Consultative Document is silent on how the treatment of credit insurance and guarantees could apply across the mix of AIBB, FIRB and SA treatments that would apply across assets. We believe our Alternate Proposals would address these issues for the Committee.

6. IIF RWA Task Force: Additional Ways to Reduce RWA Variance

In 2014, the IIF RWA Task Force (IRTF) undertook a thorough analysis of banks' RWA models and practices in a geographically diverse sample of 43 banks, which were summarized in the 2014 IRTF Report. This section builds on the IRTF analysis to present additional areas that could reduce RWA variance, over and above those mentioned in the Consultative Document.

The analysis identified specific causes of variance, across three groups:

- (i) national/local implementations of the Basel rules;
- (ii) inherent differences between banks' risk practices; and
- (iii) variance arising from varying assumptions made in modeling choices (different parameters/inputs used).

The 2014 IRTF Report culminated in 78 recommendations of specific items for improvement, harmonization and/or further study.

The alternative proposals we have described in Section 4 are consistent with the IRTF's intent in promoting harmonization across the industry and restoring the credibility of internal models, but are also driven in part as a response to the proposals presented by the Committee. The additional proposals listed within this Section complements those with further opportunities to reduce and understand variance, and deals to the Committee's criteria for assessing modelability: data availability, information advantage, and modeling techniques and validation.

6.1. Data Availability

6.1.1. Low Default vs. Low Data Portfolio

The IRTF findings showed that these two terms are sometimes used interchangeably. When asked for a definition of low-default portfolio, 25% of surveyed banks define it as portfolios with insufficient data for a statistically valid model to be created, 55% define it as portfolios with few defaults. Because 21.9% of the banks indicated that they were prevented from using internal LGDs by their regulators, we note that this inconsistency in the definition of LDP could lead to RWA variances.

The IRTF supports the view that clarification is needed to properly distinguish between a portfolio for which a bank lacks a robust and complete data set (low data portfolio), and a portfolio which displays a lack of default data (low default portfolio)⁴⁶. The IRTF report also proposed to distinguish between the following two phenomena⁴⁷: i) where all banks have to cope with few historic default observations; versus ii) where an individual bank lacks a full default history, but can be remedied by making use of external data, data pooling, or expert judgement.

We also note that banks indicated applying margins of prudence or building expert judgement models as an approach for LGD. For PD models, margins of prudence and expert judgement are also ranked the two most frequently used approaches to deal with data scarcity in model validation. Generally for all exposures and modeling practices where margin of prudence is

⁴⁶ Institute of International Finance, *IIF Risk Weighted Assets Task Force (IRTF) Final Report*, November 2014. See LGD Proposal #2 and PD Proposal #2.

⁴⁷ IRTF Final Report, November 2014, LGD Proposal #2.

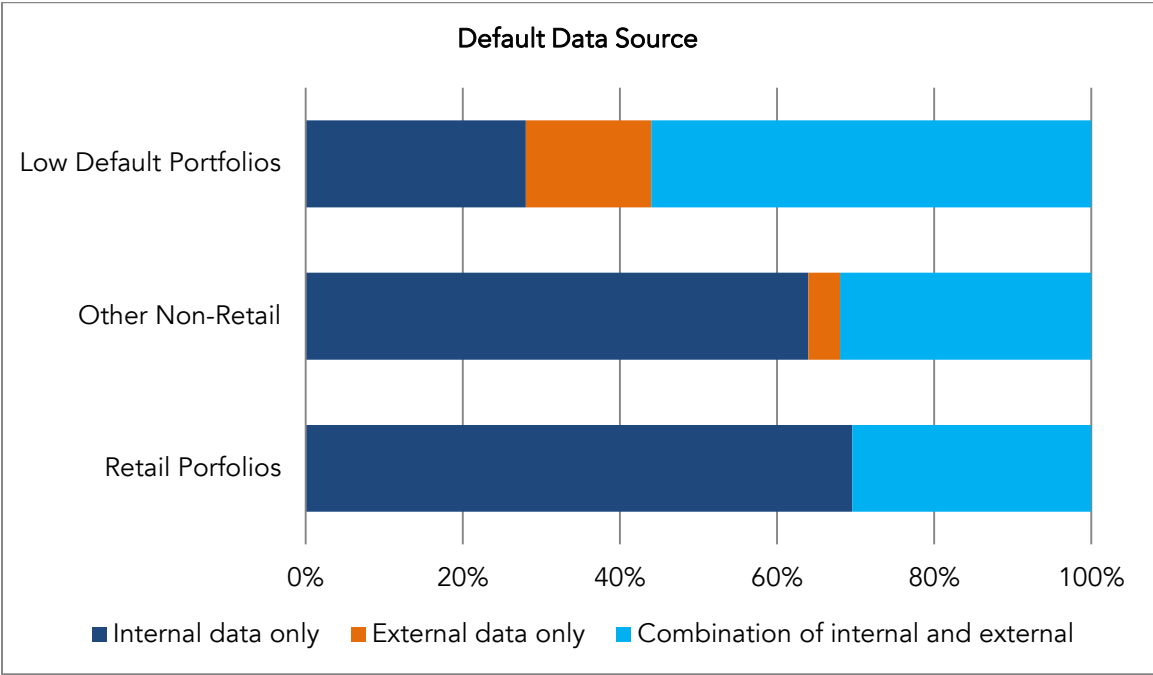
applied, the IRTF report recommended harmonization on the criteria for use, adjustment methodologies and indicators identifying the severity/height of adjustments for margin of prudence in both PD and LGD modeling.

6.1.2. Data Pooling

Within the category of low data portfolio, there are sometimes diverging views as to whether external data is representative of a bank’s own portfolio. Banks reported some very different experiences in supervisors’ attitudes ranging from some supervisors that insisted on the use of external data, to others that explicitly prohibited it.

As perhaps a more balanced finding (and in line with the principle of using external data as a complement in Low Data Portfolios), the IRTF supported the view that banks should more commonly concentrate on their internal data for retail portfolios, but utilize pooled data for financial institutions and corporates. Such reflects that a bank’s own strategies in origination and credit management might deliver more unique outcomes in retail segments.

In line with this, the IRTF Final Report found that for retail portfolios, 70% of banks currently use internal data only, with 30% using a combination of internal and external/pooled data, whereas for wholesale segments, just 28% used only their internal data, 16% used only external data, and 56% used a combination.



Based on our findings and discussions with members, the IRTF believes that greater use of external/pooled data under a set of consistent guidelines can help to overcome the BCBS’s concern on the quantity and quality of relevant data available for the risk on portfolios. Data pooling is a powerful tool that can be used to overcome data scarcity issues, with such pools

now available from commercial, public and non-profit organizations, rating agencies and industry groups.

Whereas data pooling could enhance the modeling and risk management of low data portfolios, it may be that the BCBS's proposals for wholesale segments could perpetuate the problem of data scarcity, and discourage the risk management of low data portfolios.

We also believe that the use of data pooling needs a set of consistent guidelines. In pursuing such an approach, we propose a set of hard guidelines to be adopted for Data Pooling, such as the following:

- External data should be from lenders or loans with comparable definition of default and if not then sufficient detail should be available to make adjustment for this factor
- External data should be sufficiently detailed as to key drivers such as geography of borrower, collateral, borrower size, facility type, etc. to enable the bank using the data to create a fair sub-data set to compare to their own data and portfolio
- The source of the External Data should be transparent so as to enable the bank using it to determine that it is an adequate match for their portfolio
- The External Data should have sufficient detail to ensure that biases due to incomplete years, geography types of borrowers etc. are not present
- External data should disclose the distribution of outcomes, not just simple averages or averages plus a standard deviation, in order to enable the bank using the data to compare not just their averages but the shape of their distribution of results
- Where the External Data comes from pooled data sources from multiple lenders and the data is not tagged by lender then sufficient statistics on the distribution of the data by lender type, location etc. should be provided to enable the bank to judge whether the data is comparable
- Sufficient information about any cleaning or data removal during the collection process needs to be provided to enable the bank to judge data quality and compatibility
- Sufficient information on data quality standards, validations and audits of source data needs to be supplied to enable the bank to judge data quality and compatibility

As a further source or example, the EBA's November 2014 Consultative Paper also set out some regulatory requirements for data pooling.⁴⁸

6.2. Segmentation

One important area where diverging practices exist, and have been overlooked thus far, is segmentation.

In the IRTF survey, participating banks reported on their practices on PD and LGD segmentation. Inconsistent regulatory guidelines were identified within a small group of respondents, with some banks indicating a requirement to align segmentation rules fully with internal rating definitions, while other banks reported that internal models were prohibited for the regulatory purpose for certain exposures. For LGD models, 66% of the surveyed banks reported splitting banks and financial institutions into different segments, with 34% treating these as one segment. For PD exposures, around 80% of banks reported having segments beyond the non-retail category using various criteria such as exposure size, business type and industry.

⁴⁸ EBA Consultative Paper 36 (November 12, 2014).

One of the main takeaways from the study was that diverging segmentation practices could lead to significant RWA variances. The IRTF-GCD Impact Study showed that merging two different pools (banks and non-bank financial institutions) into one can significantly alter the LGD value applied to the pool with the smaller number of defaults; the impact was 15% of LGD for non-bank financial institutions, and 2.8% for banks. For PD models, 76% of the surveyed banks reported further segmentation within the LDP exposure with varying segmentation criteria.

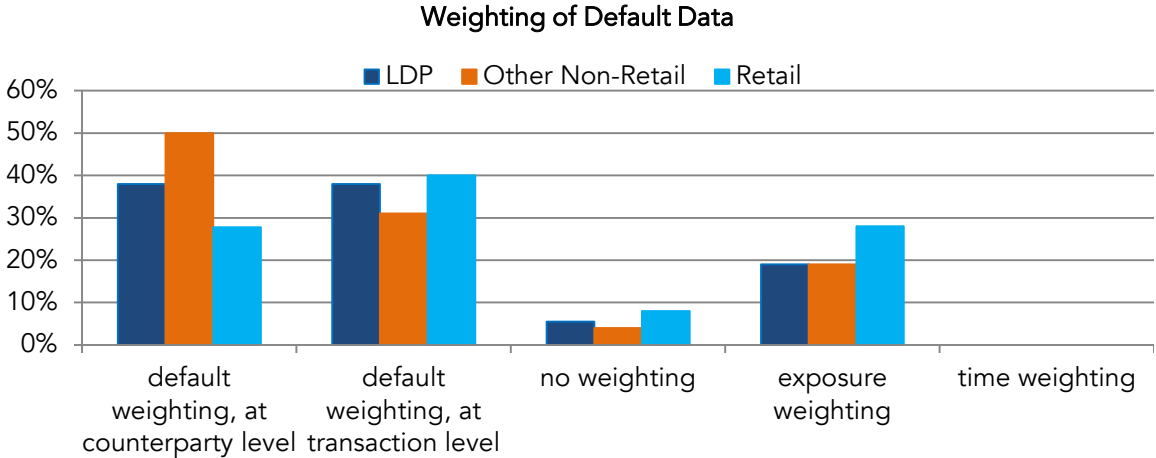
Therefore, the IRTF supports a more harmonized approach in segmentation in order to reduce RWA variance. The IRTF Report issued a recommendation for both PD and LGD which calls for segmentation⁴⁹: (i) to be aligned with internal risk management; (ii) to be statistically relevant, to the extent possible; and (iii) to cover homogenous segments or asset classes (eg. preventing exposures of too diverse size and nature from being mixed into a single category).

6.3. Modeling Techniques

6.3.1. Weighting of Default Data

According to the GCD Impact Analysis of the IRTF report, default weighting and exposure weighting of defaults have the largest impact on SME and banks & financial institution exposures. In absolute terms, LGD level could vary by 8% between the different weighting methods. Therefore, the IRTF believes that consistent practices in discounting could also help address the concerns raised by the Committee.

19% of banks indicated that they used exposure weighting for all assets. This may indicate a difference in regulatory interpretation as many banks reported that exposure weighting is not allowed under their national rules. The IRTF proposed to harmonize this area for RWA variance reduction, and recommended that the BCBS reconfirms that LGD estimates should in all cases be default weighted.⁵⁰

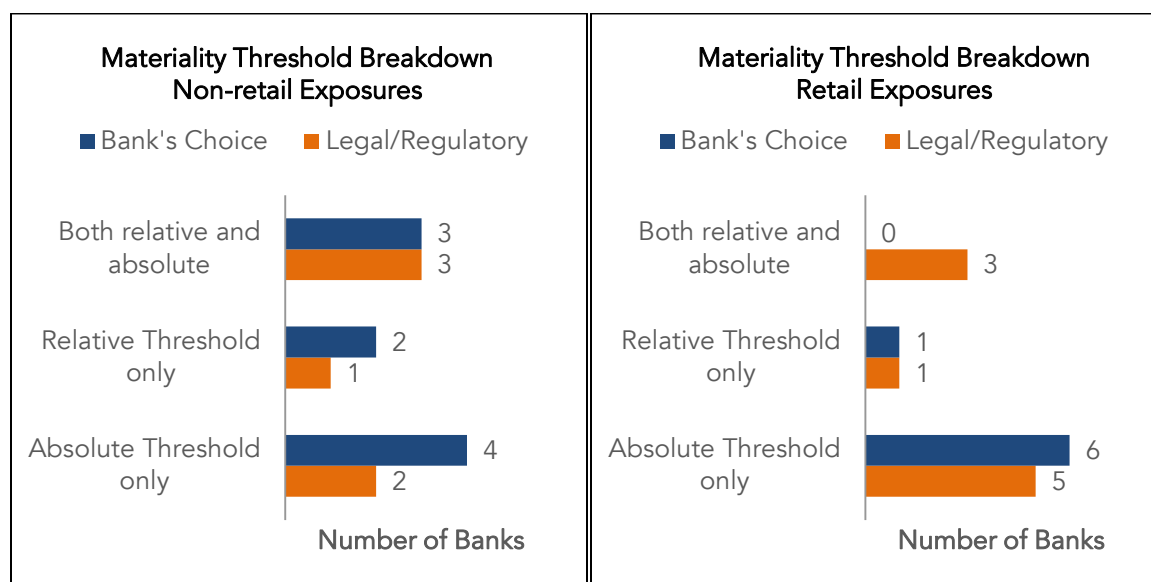


⁴⁹ IRTF Final Report, November 2014, LGD Proposal #1, PD Proposal #1

⁵⁰ IRTF Final Report, November 2014, LGD Proposal #5

6.3.2. Materiality Thresholds and Technical Defaults

The IRTF identified varying practices on materiality thresholds across surveyed banks. Around half of the banks indicated having materiality thresholds in place, 60% of these banks apply self-imposed thresholds, while 40% of them were subject to regulatory requirements. Among the banks that apply materiality thresholds, different practices exist. Banks are divided between the use of relative thresholds and absolute thresholds of different levels, as seen in the following:



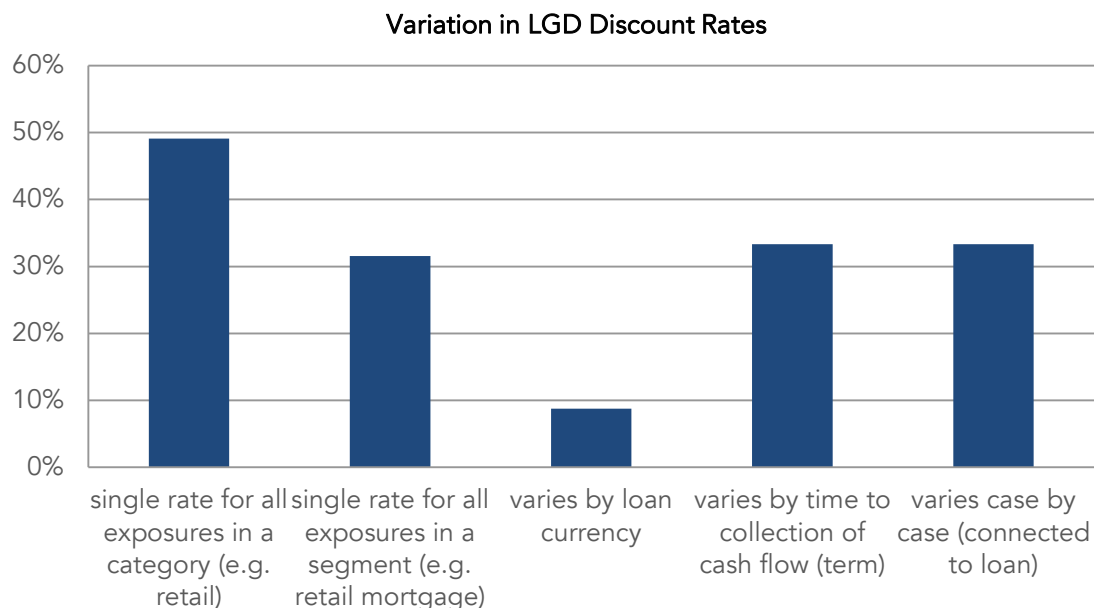
The EBA has also identified this issue as an important area for RWA variance reduction, and has put forward constructive harmonization proposals in the Definition of Default Consultation Paper released in September 2015 as well as the discussion paper on Future of the IRB approach in March 2015. The IRTF has been supportive of these proposals, and believes that consistent regulatory guidelines and implementation in this area will reduce RWA variance. To reiterate, the IRTF recommended that⁵¹: (i) harmonization of materiality threshold should take the form of maximum percentage; (ii) banks should apply a uniform definition of materiality threshold, and (iii) implementation should be gradual and have a long grandfathering period.

6.3.3. Discount Rate

The discount rate is perhaps one of the most important elements in historical observed LGD calculation as it is needed for discounting recovery cash flows. While 63% of the banks use fixed rates, 37% use variable rates. The IRTF found that the factors variable discount rates are based on vary greatly among banks as indicated below.

Additionally, the GCD Impact Analysis shows that the addition of interest margin to the variable rate causes an increase in LGD of around 7% for a 10% margin increase. An increase of fixed rates by the similar magnitude leads to an LGD increase of around 8% for a 10% discount rate increase.

⁵¹ IRTF Final Report, November 2014, DOD Proposal #6



The IRTF proposed for the industry and regulators firstly to agree on the definition of the discount rate (ie. what exactly is meant to reflect).⁵² Based on this decision, discount rates should be consistently developed and applied. In addition, discount rates should at all times be a true and sole reflection of the cost which is supposed to be captured, and given the material impact, the IRTF recommends long transition periods for adjustments.

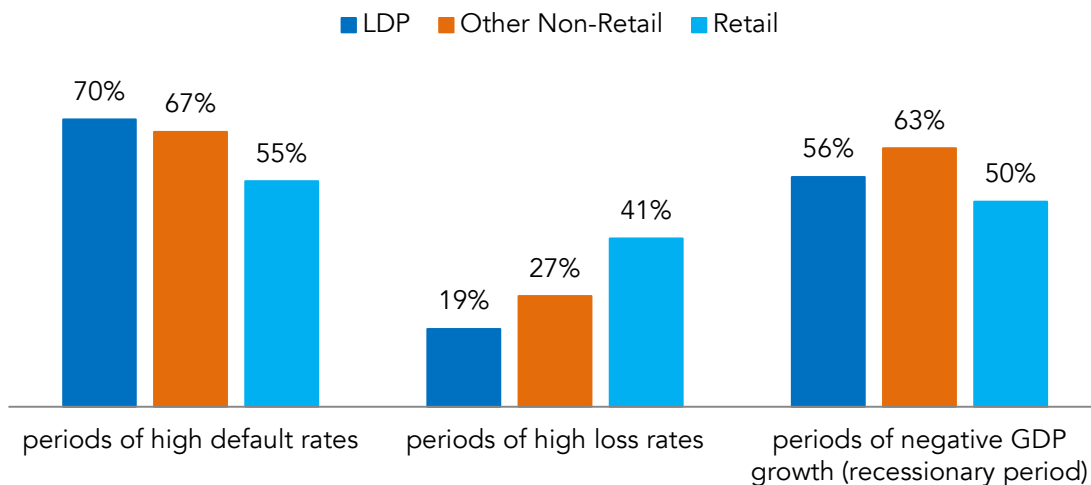
6.3.4. Downturn LGD

All banks in the IRTF survey have adjusted their models to take into account the downturn scenario one way or another (Par. 468). The challenge is the fact that banks only started recording downturn data since the early 2000s, and many not until after the 2002/03 tech stock downturn. Due to the short time periods available, and the scarcity of LGD data it should be expected for banks to have large variation in their downturn LGD calibrations.

Additionally, there is no clear guideline or consensus on the definition of "downturn". The figure below shows a range of practices identified in the IRTF report.

⁵² IRTF Final Report, November 2014, LGD Proposal #11

Banks Definitions of Periods of Downturn for LGD Calculations



In the GCD Impact Sensitivity Analysis, the average downturn LGD differed by up to 8% depending on the time window chosen. When applying different methods to take into account downturn, the LGD variance could go as high as 10%.

Herein, we reiterate that the IRTF supports the view that harmonized practices on downturn LGD would greatly improve comparability⁵³:

- As a first step, a clear definition should be provided on 'downturn'
- A second step, more guidance on what is meant by 'substantially higher' loss severity should be provided, and how this should be established for each portfolio.
- Thirdly, there should be more harmonized practices for cases where there has not been a recent recession.

⁵³ IRTF Final Report, November 2014, LGD Proposal #14

7. Externalities

As well as the potential adverse impacts within the banking system that can arise from a loss of risk-sensitivity, the proposals could have other impacts throughout the broader economy. In the long term, a material divergence between regulatory capital frameworks and underlying economic risks is bound to have serious adverse consequences. In the post-crisis period, when many economic sectors in both developed and emerging markets still highly rely on banks as the main source of funding, reducing the alignment of capital and risk could negatively and unnecessarily affect the availability and pricing of credit to the economy.

Emerging Markets

Furthermore, a greater reliance on the SA (and therefore in turn on external credit ratings) will impact well beyond the customers served in the home jurisdictions of IRB institutions. For example, in many Emerging Markets, where domestic capital markets are less developed and there is a high reliance on major foreign banks to finance the Corporate and SME sectors, the impacts on those foreign banks will be across their global portfolios. This impact will likely be at its greatest in Emerging Markets, where there are typically fewer rated corporate entities, meaning they are more susceptible to adverse risk weightings under the SA.

This could mean that the revised framework has a disproportionate impact on a number of important developing economies, as larger global banks could be less inclined to bank the corporate sector in those economies, and/or associated borrowing costs may inhibit business activity and customer support.

There remains a major funding gap in numerous developing economies, where direct foreign investment is not sufficient, and commercial bank lending is needed.

The adverse treatments proposed for the Specialized Lending asset classes will particularly impact on the ability of commercial banks to finance for key infrastructural developments and to support commodity trade flows.

Trade Finance

The use of risk-based pricing is particularly crucial to activities such as trade finance, which are typically low-risk with very short-dated tenors and (depending on the specific instrument type) strongly-rated counterparties and/or tangible collateral. Correctly reflecting the low risk on this asset class is not only desirable for the sake of accuracy in and of itself, but it also has an economic benefit in helping to direct credit towards an area of productive investment that is central to economic recovery in developed economies, and growth in emerging markets.

The negative impact on trade finance from the proposals in the consultative document, however, is estimated to be substantial. The International Chamber of Commerce (ICC) has conducted a high level analysis on an average trade finance portfolio broken down into bank and corporate exposures and estimated the RWA and capital movement from the current approach under IRB to the new standards proposed by the Committee.⁵⁴

⁵⁴ Please note that the ICC projections are based on a stylized hypothetical portfolio and impact will vary depending on jurisdiction and institution and the portfolio breakdown between classes of bank and corporate exposures.

For bank exposures, the RWA movement expected for the highest rated exposures could be as much as 230%, with those bucketed in the A+ to A- rating category experiencing a shift of 391%. However, for those rated at B+ and below, that movement will likely be as little as 2%, illustrating the distortions that are present from the lack of risk sensitivity applied by the new proposals.

Exposure Type: Banks

All numbers are in USD '000

Rating scale	RWA based on current parameters	RWA based on proposed changes	Expected RWA movement (USD)	Expected RWA movement (%)	Capital based on current parameters	Capital based on proposed changes	Expected Capital movement (USD)	Expected Capital movement (%)
AAA to AA-	55	181	126	230%	4	14	10	230%
A+ to A-	19,378	95,159	75,781	391%	1,550	7,613	6,062	391%
BBB+ to BB-	12,155	20,621	8,466	70%	972	1,650	677	70%
B+ and below	210	214	4	2%	17	17	0	2%
Total	31,797	116,174	84,377		2,544	9,294	6,750	

For corporate exposures, when assumptions are taken based on the movement from IRB to the SA, FIRB or parameter floors, a similar picture emerges. For the highest rated corporate exposures above €50 billion in assets, a 562% RWA movement could be anticipated when shifting from the AIRB approach to the SA. For mid-sized corporates moving to FIRB with assumptions on input floors applied through an LGD at 45%, a PD at 5bps, a maturity floor at 1 year, and an EAD with credit conversion factors (CCF) of 20% and 50%, there is an expectation of 182% movement in additional RWA for corporates rated A+ to A-.

Lastly, for small-sized corporates remaining on the IRB with assumptions on input floors applied through a LGD at 45%, a PD at 5bps, a maturity floor at 1 year, and an EAD CCF floor at 50%, there is anticipated RWA movement in the range of 70% above current levels. With the exception of small exposures, the capital movement for corporates overall is also distorted against low risk counterparties in favor of those that are higher risk.

Exposure Type: Corporates

All numbers are in USD '000

Rating scale	Portfolio weight	RWA based on current parameters	RWA based on proposed changes	Expected RWA movement (USD)	Expected RWA movement (%)	Capital based on current parameters	Capital based on proposed changes	Expected Capital movement (USD)	Expected Capital movement (%)
assets > €50b	60%	381,704	537,313	155,609		30,536	42,985	12,449	
AAA to AA-		447	2,957	2,510	562%	36	237	201	562%
A+ to A-		14,856	74,104	59,248	399%	1,188	5,928	4,740	399%
BBB+ to BB-		312,198	414,095	101,897	33%	24,976	33,128	8,152	33%
B+ and below		54,203	46,157	8,046	15%	4,336	3,693	644	15%
assets ≤ €50b, turnover > €200m	30%	337,920	440,875	102,954		27,034	35,270	8,236	
AAA to AA-		-	-	-	-	-	-	-	-
A+ to A-		2,848	8,043	5,194	182%	228	643	416	182%
BBB+ to BB-		259,179	320,672	61,493	24%	20,734	25,654	4,919	24%
B+ and below		75,893	112,160	36,267	48%	6,071	8,973	2,901	48%
assets ≤ €50b, turnover < €200m	10%	114,093	155,137	41,044		9,127	12,411	3,284	
AAA to AA-		-	-	-	-	-	-	-	-
A+ to A-		1,431	2,440	1,008	70%	115	195	81	70%
BBB+ to BB-		87,237	106,733	19,496	22%	6,979	8,539	1,560	22%
B+ and below		25,424	45,964	20,540	81%	2,034	3,677	1,643	81%
Grand Total		833,717	1,133,325	299,607		66,697	90,666	23,969	

This impact on trade finance is an important example of how appropriate risk-sensitive capital requirements create incentives for the efficient management of finance in society, whereas simple capital approaches are sub-optimal for financing growth and for overall stability.

Throughout the design of other Basel standards (including the leverage ratio, the liquidity coverage ratio and the supervisory framework for measuring and controlling large exposures) trade finance received recognition as an important real-economy financing product and commensurate treatment was applied to avoid negative effects on the provision of that financing. The proposals in the consultative document as they stand now, however, have the potential to reverse many of these positive changes from a portfolio perspective and could result in reduced global trade flows at a time when they are essential to support economic growth.

Significant Capital Impact

It is understood that the GHOS and BCBS have committed to there being no significant increase in capital requirements, in addressing the final calibration of the proposed changes.

It is appreciated that there is considerable analysis to be undertaken, in particular with the current Ad-hoc QIS in progress. The IIF is engaging in a parallel exercise to understand and interpret these downstream impacts.

While it is too early to quantify such impacts, and the definition of “significant” is perhaps subjective, we feel it worth highlighting at this juncture that an impact on capital may be greater than the impact on RWA.

For instance, consider the case of a bank that currently has \$100m in core equity capital and \$1b RWA, assuming that it generates a 10% ROE and \$10m profit. The same bank might pay out 50% of its profit in dividends, retaining the other 50% to generate scheduled capital increases and buffers, or to fund expansion and strategic investments.

If total RWA was to increase by 15% as a result of these proposed changes (noting increased on market risk and operational risk already in the order of 50%, prior to this credit risk Consultative Document), this would require an extra \$15m in core equity capital in this example. Retaining earnings to meet this additional requirement would require wiping out all dividends for the next three years, and/or raising a substantial level of new capital just as ROEs are being diluted.

Consequently, an RWA increase of what might seem a manageable order of magnitude can actually translate to a far more dramatic impact in terms of capital and banks’ ability to attract and retain investors.

Banks may well respond to such impacts by instead shrinking their balance sheets, in particular away from those borrower segments that are ROE-decreeative: the high-grade segments where capital floors serve to over-state risk, such as trade finance and prime residential real estate.

We reiterate our understanding that such scenarios need to be further analyzed and considered after the QIS. But the potential ramifications of this Consultative Document should be viewed through that prism when the QIS results become available.

8. Other Downstream Regulatory Impacts

In addition to eroding risk-sensitivity and the possible wider macroeconomic externalities, we have also identified some specific areas where the changes in this Consultative Document may clash with other regulatory initiatives and aspirations.

Disclosure Complexity

Currently, Pillar 3 disclosures provide each banks' underlying risk-parameters (PD, LGD, CCF), and the distribution of portfolio across these, such that, by a simple comparison, an external party can understand the different risk-profiles. However, the proposed series of floors and the different treatments across IRB and the SA will distort such comparisons, and could actually make the risk profiles of banks less comparable.

The proposed changes will likely result in new cliff effects and changes to capital requirements that can't be explained through changes in risk profile, but rather through the mechanics of the framework. This may run counter to the BCBS's objective of improving comparability.

Stress Testing

Floors may serve to mask the true effect of a stress scenario. Where the binding constraint on a bank's capital requirement is a floor, a stress scenario may actually provide for a bank's capital requirement to be unchanged – ie. as long as the stressed risk-weight is below the floored risk-weight, no change is visible, even though a particular bank or portfolio could experience significant stress. This might lead to a misperception of the stress developments.

Care is needed in how floors are applied in the stress testing process. We would suggest that floors are best applied only at the final stress test step; otherwise, we note the risk of potential double-counting.

Integration with Accounting Standards

We note that the strengthened Expected Credit Loss (ECL) requirements under IFRS9 have served to promote greater use of internal model generated outputs for the purpose of accounting and provisions, in particular forward loss estimates. It is a concern that this Consultative Document seems to push capital calculations in the other direction.

This has the potential to introduce new complexities. Noting that banks will commonly use their existing IRB modeling capabilities as a base for addressing ECL requirements (but without the IRB-specific constraints such as floors), the proposed capital framework will essentially result in risk-insensitive capital requirements while loan loss provisioning will be dynamic – ie. where the modeled risk-weight is below the floored level (or an externally unrated counterparty is subject to the Standardized Approach), capital won't be sensitive to risk, but provisioning will.

This potentially creates a new gap between provisioning and risk-weighting, between expected and unexpected losses, over-turning the progress of a decade-long endeavor to bring the accounting and regulatory capital perspectives into alignment.

Conflicts with Securitization Initiatives

We note that where the Consultative Document proposes higher risk weights, these changes will have downstream impacts on to Securitization transactions also, potentially conflicting with other regulatory initiatives in this area. For instance, where this Consultative Document (and the recent Standardized Approach proposal) focuses directly on non-securitization exposures, the application of higher risk weights to the individual positions will impact the capital calculations for the underlying securitization pool within a structure.

The regulatory community (particularly in Europe) has been proactive in efforts to revive securitization markets, where such deals are appropriately structured and in support of macroeconomic growth, for instance in funding the SME sector. The BCBS's November 2015 Consultative Document on the *Capital treatment for "simple, transparent and comparable" securitizations* was a notable recent example of this.⁵⁵ We therefore see a risk that the requirements of this consultation could undermine efforts to rejuvenate the securitization funding channel.

Furthermore, the BCBS's *Revisions to the securitization framework* of December 2014 made a requirement for banks to be able to apply IRB treatment on more than 95% of the underlying exposures, if they are to use the Securitization Internal Ratings-Based Approach (SEC-IRBA).⁵⁶ If whole asset classes (financial institutions and large corporates) are to be moved to the Standardized Approach, this will greatly preclude the use of the SEC-IRBA approach, driving a greater reliance on the Securitization External Ratings-Based Approach (SEC-ERBA) in jurisdictions where available, or to the Securitization Standardized Approach (SEC-SA).

We also stress that if the underlying assets within a securitization pool (for instance, corporate exposures) are to be treated under several regulatory treatments (AIRB, FIRB, and the Standardized Approach), these underlying assets will follow different origination, pricing, monitoring procedures once their regulatory treatments start diverging. This will add further complexity and opacity for investors and rating agencies, seemingly contradicting the BCBS's objectives of simplicity & comparability, and increasing the cost of securitizations.

Accordingly, we urge the BCBS to bear these downstream impacts on securitization in mind when considering the final calibration of the specific items in this Consultative Document, and of the capital framework more generally.

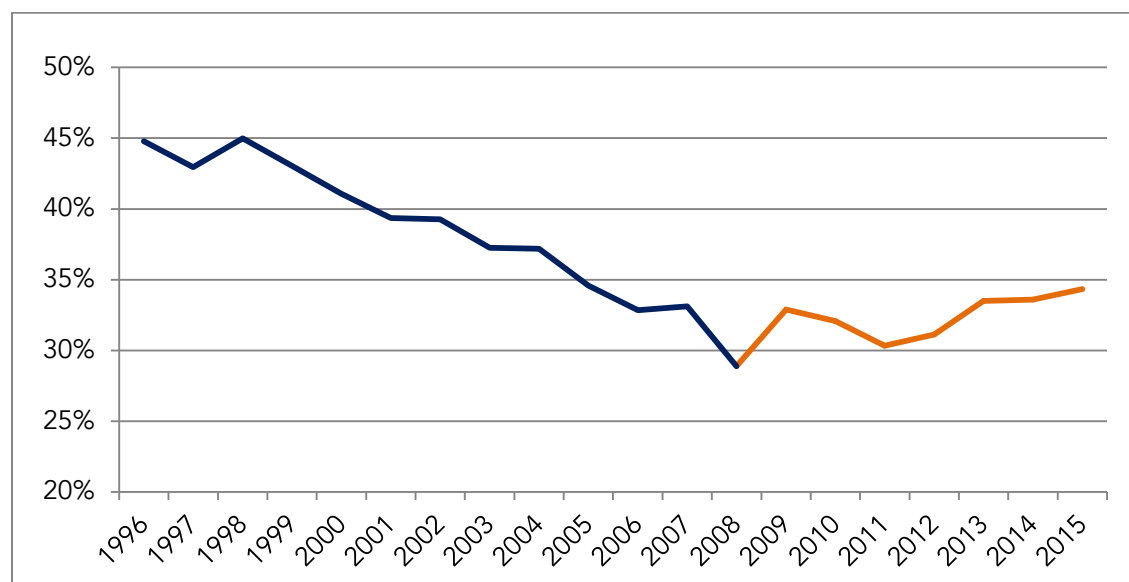
⁵⁵ Basel Committee on Banking Supervision, *Capital treatment for "simple, transparent and comparable" securitizations*, Consultative Document 343, November 2015.

⁵⁶ Basel Committee on Banking Supervision, *Revisions to the securitization framework*, Basel III Document 303, December 2014.

Appendix A: Trends in Risk-weights under Basel I and II/III

Focusing on Europe, being the region with the greatest depth of history through the Basel accords, the Average RWA fell consistently through the period when Basel I prevailed, dipping from 44.8% in 1996 and 45.0% in 1998, to 33.1% in 2007 and finally to 28.9% in 2008 as the first banks were approved to use their IRB models. It then fluctuated within the 30-34% range for the next six years, before reaching a new high of 34.3% in 2015, shown as follows:

Average RWA, European GSIBs, 1996-2015: Basel I in blue, Basel II in orange



Source: banks' Annual Reports and Pillar 3 disclosures, Bloomberg⁵⁷

Similar trends have been observed in other jurisdictions since IRB accreditation, as detailed in our April 2016 paper *Basel's Evolution: a retrospective*.⁵⁸

This more stable trend under IRB is a mix of contributing factors that since the height of the crisis have largely served to offset each other:

- (i) there have been several regulatory and methodology changes that have incrementally increased RWA, principally to improve risk coverage and address the lessons of the crisis; these include Basel 2.5, requirements for CVA and the Asset Value Correlation Multiplier for exposures to other financial institutions
- (ii) banks have actively sought to reduce risk on their balance sheets, both in responding to the crisis and in heeding the risk-based incentives of Basel II, as well as holding expanded portfolios of low-risk liquid assets such as sovereigns for reasons of the Basel III liquidity regulations

⁵⁷ Figures for all periods have been converted to Euro at each currency's prevailing rate as at December 31, 2015. Data sample includes all years for all current European GSIBs, except Group BCPE, which was excluded due to the complexity of its merger histories during the period.

⁵⁸ IIF, *Basel's Evolution: a retrospective*, April 2016.

Appendix B: The Importance of Risk-sensitivity

As described in our September 2015 paper *Risk and Capital: the Essential nexus*, capital measures are of critical importance not only at the 'top-of-house' for measuring the risk of insolvency, but for the series of 'downstream' uses within the organization, including:

- strategic planning
- pricing
- portfolio construction and management
- performance management and remuneration⁵⁹

Reflecting the shared objective of incentivizing the desired behaviors and promoting capital consciousness at grass-roots levels, the Basel Committee's Use Test requires banks to explicitly demonstrate that the "IRB components" of PD, EAD and LGD used in regulatory capital are also employed for internal purposes, notably (i) strategy and planning processes, (ii) credit exposure measurement and management (including pricing and remuneration), and (iii) reporting.⁶⁰

Where banks have great technical capacity to measure risk, it is fundamentally important that this be embedded and aligned with core metrics inherent in banks' decision-making.

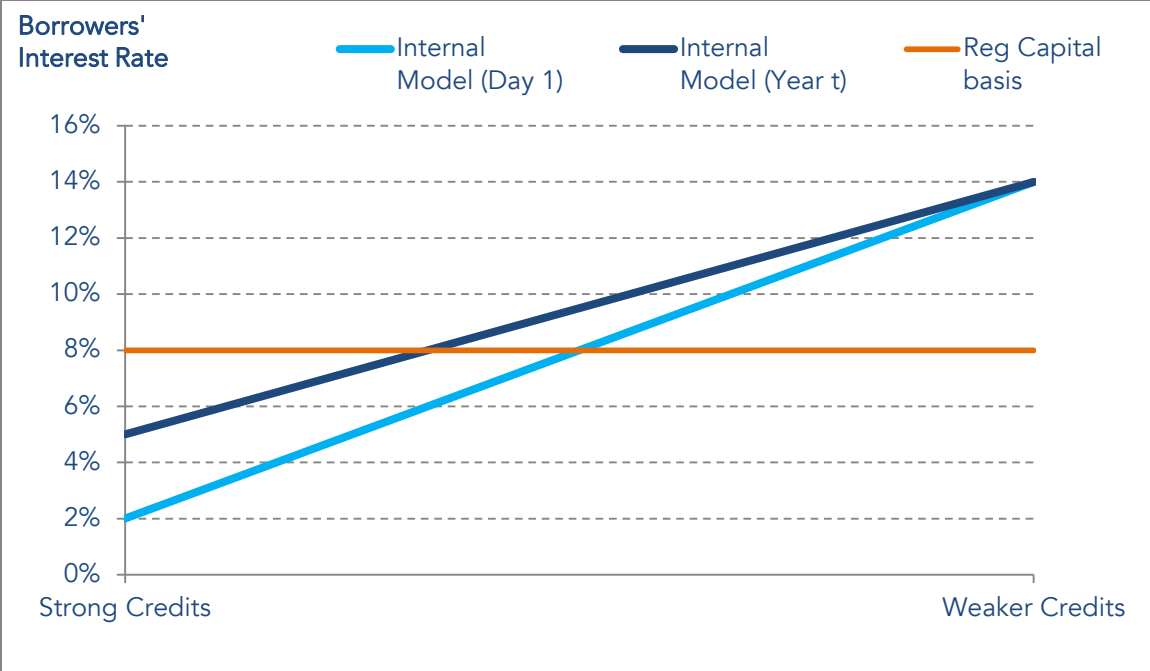
Regulatory Capital and Incentives

As described in Section 3, banks would retain technical capabilities for measuring risk even if constrained from using such in their regulatory capital treatment – the issue is in the practical application, with the likelihood that risk-based measures would be overwhelmed by the reality of a flatter capital measure as the binding constraint. Where some banks have tried to cross-subsidize capital measures on a risk-aligned basis, this has invariably proven unsustainable.

Cross-subsidization as a concept is generally discouraged (by banks, economists and regulators alike), and would not be necessary under a risk-sensitive capital framework. Where banks have used it with some initial success, there is positive short-term growth in the lower risk portfolio, but over the medium-term, a mismatch emerges as there ceases to be sufficient high-yield assets to subsidize the low-risk ones. This erodes the capacity of the high-risk portfolio to support other transactions, reduces the bank's ROE, depicted as follows:

⁵⁹ Institute of International Finance, *Risk and Capital: the essential nexus*, September 2015, www.iif.com/publication/regulatory-report/risk-and-capital-essential-nexus.

⁶⁰ Basel Committee Newsletter No. 9, *The IRB Use Test: Background and Implementation*, September 2006.



In other cases, some banks have sought to approximate a risk-based internal capital allocation method by firstly taking their total (bank-wide) amount of regulatory capital, and then using their internally modeled economic capital as the basis for allocating that regulatory capital out to their business units.

In practice, this means a scaling factor is required (ie. to 'scale up' the economic capital for each deal and each business unit by a factor of the bank-wide relativity of regulatory capital to economic capital), and that required scaling adjustment is inherently unstable, being subject to constant revision to keep the two measures in alignment. This instability erodes credibility at the business unit level, and suppresses the intended signals. A business unit which manages its business to reduce its consumption of capital may find that decisions by other business units drive an increase in the scaling factor, thereby negating their own actions.

Strategic Planning

Most major banks are diversified across multiple business lines and customer segments, such that each bank itself represents a collection of business units that each compete for capital and investment, akin to an 'internal capital market'. This is fundamental to where capital is invested within a bank – in decisions about potential acquisitions or divestments, in the development of new business lines and new products, in risk mitigation, and in allocating capacity in which segments to lend to.

In this environment, in order for risk-consciousness to be truly reflected in strategic planning, and to influence the decisions on which business units and segments to invest in, risk cannot be left in a vacuum. This links with the need for all banks to have a sustainable business model – that they can not only withstand a crisis and remain solvent, but also be viable beyond such a shock or crisis.

If fully embedded within the business drivers, capital can be a powerful tool for the promotion of a risk conscious culture as part of the budgetary process.

Pricing

In pricing transactions, banks aim to adequately compensate for risk and generate a return on the shareholder's capital. The desirable pricing structure is one where the prevailing measure of capital accurately reflects the transaction's risk, so that the return generated is commensurate with risk that is being taken. If the level of required capital assigned to an asset is not risk-based, then this concept is eroded, and some significant distortions and false misincentives are instead created.

In the following illustrative scenario for a 5-year \$10 million Corporate Loan, the IRB approach to capital will encourage banks to lend to stronger-rated clients, as the ROE will reflect a risk-based denominator (capital) as well as risk-based spread income. Conversely, flat or less-sensitive approaches will instead incentivize lending to high-yield borrowers, where banks can generate higher earnings whilst holding the same capital as if they lent to the safer counterparties, as shown in the following:⁶¹

Corporate borrower – rating or equivalent		A+	BBB+	BB-
Risk Variables	EAD	\$10,000,000	\$10,000,000	\$10,000,000
	PD	0.05%	0.16%	2.5%
	LGD	50%	50%	50%
Market Spreads		100bp	175bp	450bp
Standardized Approach, in jurisdictions that disallow external ratings	Risk-weight	75.0%	75.0%	100.0%
	RWA	\$7,500,000	\$7,500,000	\$10,000,000
	Return on Capital	4.6%	7.8%	11.4%
Standardized Approach, if rated	Risk-weight	50.0%	100.0%	100.0%
	RWA	\$5,000,000	\$10,000,000	\$10,000,000
	Return on Capital	6.8%	5.8%	11.4%
Advanced IRB Approach	Risk-weight at commencement	40.4%	70.8%	184.3%
	RWA at commencement	\$4,044,890	\$7,083,333	\$18,425,281
	Ave. risk-weight over loan life	24.5%	45.8%	148.6%
	Ave. RWA (loan life)	\$2,448,100	\$4,583,333	\$14,859,541
	Return on Capital	13.9%	12.7%	7.7%

Portfolio Implications

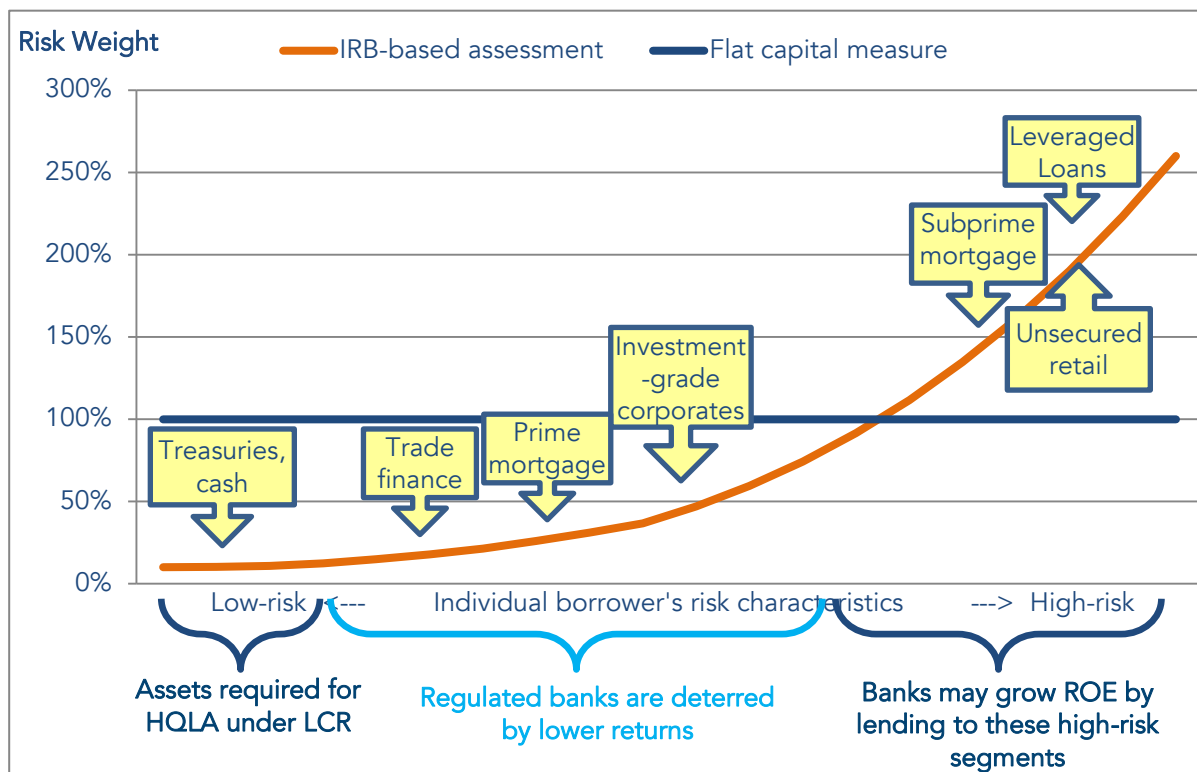
The potential distortions can also affect the shape of banks' portfolios, creating the risk of adverse selection. A blunt measure of capital across the credit spectrum encourages banks to progressively shift their portfolios towards the higher-risk, high-yield segments. There emerges the risk that the regulated sector over-prices credit for well-rated counterparties and under-prices it for the more marginal counterparties – driving the stronger borrowers to seek their funding elsewhere, and weakening the overall average credit quality of the regulated system.

⁶¹ Within the Return on Equity calculations, the following assumptions have been made:

- Target core equity capital ratio equivalent to 10% of RWA
- Cost: Income Ratio (or 'Efficiency Ratio') of 50%
- Tax rate of 30%
- A weighted-averaging approach to the RWA calculation over the full tenor of the loan facility.
- Yield assumptions are based on selected bond yields and index data for bonds and CDS published by FT.com, Reuters and Bloomberg

This is compounded by the Basel III liquidity requirements mandating that banks must hold portfolios of High Quality Liquid Assets (HQLA) sufficient to withstand their potential cash outflows in a shock scenario. This directly requires banks to hold a material portfolio of low-yielding assets, a source of drag on ROE. Optimizing ROE and profitability under a flat or simple capital measure then requires pursuing high-yield assets to counter-balance this.

Banks' portfolios become somewhat 'barbelled' in this scenario, concentrated at either end of the credit spectrum, and reducing the valuable diversity in banks' portfolios.



Incentives and Remuneration

Assessments of performance, both at a business unit level and at the level of the individual banker, will consider a series of dimensions, such as revenue or profit, market share and growth, customer satisfaction, minimization of costs and losses, alignment with group-level strategic objectives and corporate values – plus capital and ROE.

It is tremendously powerful to have bankers accountable and responsive to earning a return relative to the amount of the firm's capital that they are putting at risk. The Basel Committee's Compensation Principles put it succinctly that:

*"Two employees who generate the same short-run profit but take different amounts of risk on behalf of their firm should not be treated the same by the compensation system;" and "Compensation outcomes must be symmetric with risk outcomes."*⁶²

Where risk-based capital has aided this process in recent years, care is warranted to avoid any unwinding of this progress.

⁶² Basel Committee on Banking Supervision, *Compensation Principles and Standards Methodology*, January 2010.

Appendix C: GCD Analysis on Banks Exposures

In support of the IIF's Alternate Proposal for Banks and Insurers (as described in Section 5.1.1), Global Credit Data (GCD) performed some analysis of the status quo risk-weights generated from banks' AIRB models, contrasting these against the values applied under the Standardized Approach.

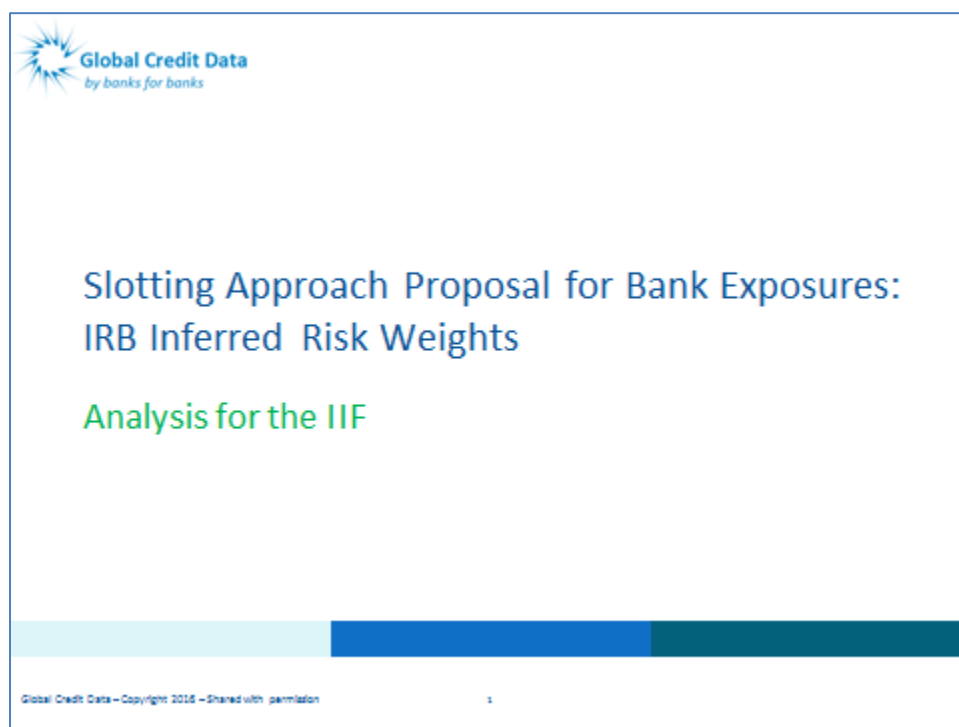
Key points to emerge in this analysis include:

- banks' modeled PD estimates have exceeded the Observed Default Frequency in 10 out of 11 years, with respective long run averages of 0.83% and 0.31%; banks' current modeled PD estimates are at approximately the 2008 observed level
- the values in the proposed Standardized Approach are blunt and exhibit a central tendency, over-stating strong credit and under-stating weaker ones
- the SA's over-statement of risk on strong credits is especially pronounced on short-dated facilities

It should be noted that the majority of bank exposures are with counterparties that are rated in the AA or A ranges, where the SA's over-statement is most pronounced. Furthermore, this analysis utilizes a 45% LGD assumption, so is not reflective of secured derivatives or trade finance transactions, for instance.

In line with the insights of GCD's analysis, the IIF's Alternate Proposal provides the necessary granularity to reflect risk profiles, and a 10% risk weight for the first 'slot' or 'bucket' is still conservative for those short-dated and/or secured transactions.

GCD has kindly agreed for their summary of this analysis to be shared in this document, as follows:



Abbreviations

Abbreviations	Meanings
BCBS	Basel Committee on Banking Supervision
EDF	Expected Default Frequency (same as predicted Probability of Default 'PD')
GCD	Global Credit Data
IIF	Institute of International Finance
IRB	Internal Ratings Based
LGD	Loss Given Default
LRA	Long Run Average
ODF	Observed Default Frequency (same as realised Probability of Default)
PD	Probability of Default
PRSA	(BCBS) Proposed Revised Standardised Approach
RW	Risk Weight

Content

- Methodology
- Reminder of BCBS objective
- EDF vs ODF for the Bank asset class
- Medium and long-term exposures' RWs
 - Exposures externally rated
 - Exposures not externally rated
- Short-term exposures' RWs
 - Exposures externally rated
 - Exposures not externally rated
- Annexes

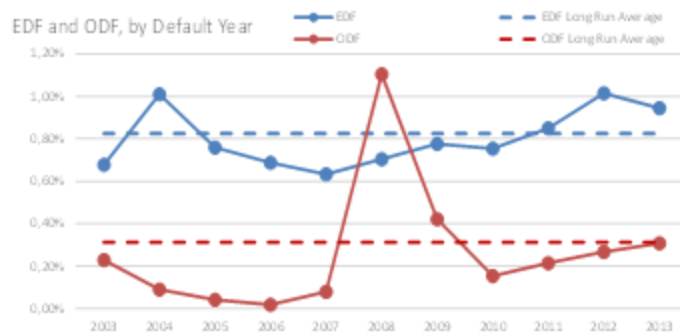
Methodology

- We used Global Credit Data (GCD) EDF/ODF (Expected and Observed Default Frequencies) Database latest release.
- 14 large and internationally active banks contribute to the Bank asset class, over 11 years (2003 – 2013).
- Internal Ratings Based (IRB) Risk Weights (RWs) are computed using the Basel IRB RW formula, with:
 - Mean Bank IRB Probabilities of Default (PDs),
 - Loss Given Default (LGD) = 45%,
 - Revenue = 50 Million (Euro),
 - Maturity = 2.5 years,
 - Scaling Factor = 1.06, and
 - With and without the asset value correlation multiplier (1.25) for large financial institutions.

Reminder of BCBS Objective

“The final design and calibration of the proposals will be informed by a comprehensive quantitative impact study and by the Committee’s aim to not significantly increase overall capital requirements.”

EDF vs ODF for the Bank asset class



- Long run average (LRA) EDF = 0,83%, and LRA ODF = 0,31%
- Through The Cycle EDF is significantly conservative (c. +160% relative margin)
 - Reminder: Basel IRB RW formula stresses the 2008 EDF (0.7%) to a 12% PD (without the asset correlation multiplier) and a 15% PD (with the asset correlation multiplier), which is respectively c. 11x and 14x the 2008 ODF (1.1%)

Global Credit Data – Copyright 2016 – Shared with permission

6



Medium and Long-Term Exposures

Global Credit Data – Copyright 2016 – Shared with permission

7

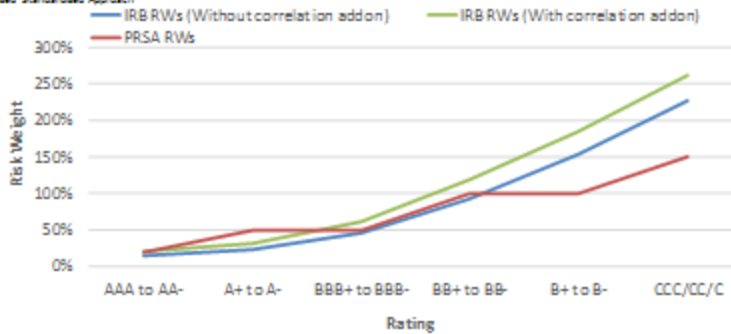


Exposures Externally Rated

Medium and long-term exposures

Credit Assessment	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to BB-	B+ to B-	CCC/CC/C
a) IRB Risk Weights						
I. Without correlation add-on	15%	23%	46%	93%	154%	227%
II. With correlation add-on	21%	31%	62%	119%	185%	262%
b) PRSA Risk Weights						
	20%	50%	50%	100%	100%	150%

* PRSA - SCIS Proposed Revised Standardised Approach



- PRSA is significantly conservative on bucket « A+ to A- » (c. +90% relative increase compared to IRB)
- IRB is more conservative on the last two buckets
- IRB exhibit a higher risk discrimination

Global Credit Data - Copyright 2016 - Shared with permission

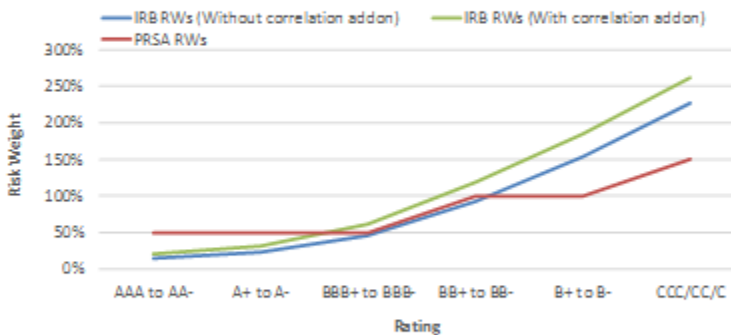
4



Exposures Not Externally Rated

Medium and long-term exposures

Credit Assessment	"GRADE A"			"GRADE B"		"GRADE C"
	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to BB-	B+ to B-	CCC/CC/C
a) IRB Risk Weights						
I. Without correlation add-on	15%	23%	46%	93%	154%	227%
II. With correlation add-on	21%	31%	62%	119%	185%	262%
b) PRSA Risk Weights						
	50%	50%	50%	100%	100%	150%



- The mapping of grades (A, B and C) is based on PRSA RWs (see annex 1)
- The only difference with the previous slide: PRSA is significantly conservative on the bucket « AAA to AA- » (c. +180% relative increase compared to IRB)
- IRB exhibit a higher risk discrimination

Global Credit Data - Copyright 2016 - Shared with permission

5

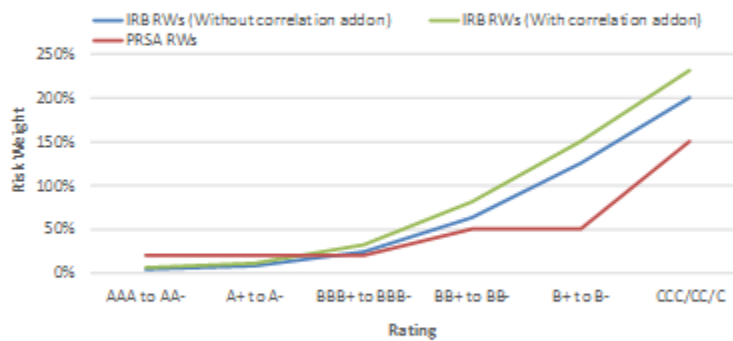


Short-Term Exposures

Exposures Externally Rated

Short-term exposures

Credit Assessment	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to BB-	B+ to B-	CCC/CC/C
a) IRB Risk Weights						
I. Without correlation add-on	4%	9%	24%	64%	125%	200%
II. With correlation add-on	6%	12%	33%	81%	150%	231%
b) PRSA Risk Weights						
	20%	20%	20%	50%	50%	150%

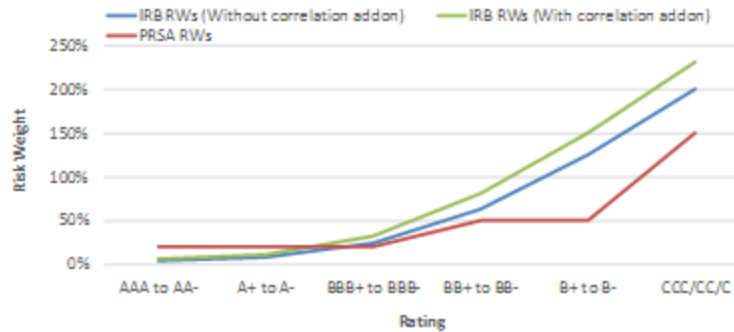


- Used maturity = 3 months. 1 year maturity table is available as an annex
- PRSA is significantly conservative on buckets « AAA to AA- » and « A+ to A- » (resp. c. +300% and c. +100% relative increases compared to IRB)
- IRB is more conservative on the last two buckets. IRB exhibit an higher risk discrimination

Exposures Not Externally Rated

Short-term exposures

Credit Assessment	"GRADE A"			"GRADE B"		"GRADE C"
	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to BB-	B+ to B-	CCC/CC/C
a) IRB Risk Weights						
I. Without correlation add-on	4%	9%	24%	64%	125%	200%
II. With correlation add-on	6%	12%	33%	81%	150%	231%
b) PRSA Risk Weights	20%	20%	20%	50%	50%	150%



- No difference with previous slide, as here, contrary to Medium and Long-Term Exposures, the bucket "AAA to AA-" receives the same 20% for externally and not-externally rated exposures

Annex 1: PRSA RWs

Risk weight table for bank exposures

External Credit Risk Assessment Approach

Table 6

External rating of counterparty	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to B-	Below B-
"Base" risk weight	20%	50%	50%	100%	150%
Risk weight for short-term exposures	20%	20%	20%	50%	150%

Risk weight table for bank exposures

Standardised Credit Risk Assessment Approach

Table 7

Credit risk assessment of counterparty	Grade A	Grade B	Grade C
"Base" risk weight	50%	100%	150%
Risk weight for short-term exposures	20%	50%	150%

Note: to map grades (A, B, C) to ratings (AAA, AA+..) we used their respective PRSA RWs

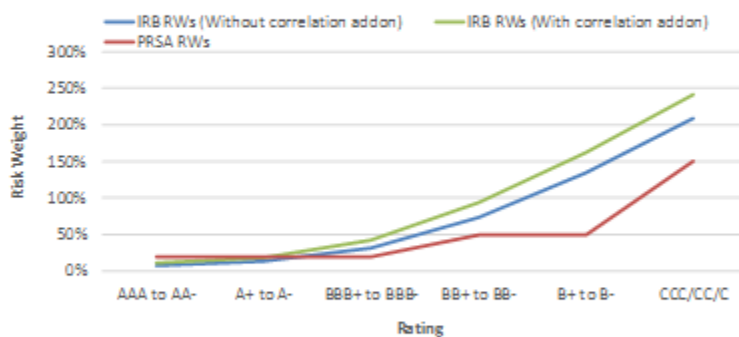
Example: we mapped « Grade B » to Ratings "BB+ to B-" as they share the same « Base » Risk Weight of 100%

Annex 2: Short-Term IRB RWs with Maturity Floored at 1 Year

Exposures Not Externally Rated

Short-term exposures

Credit Assessment	"GRADE A"			"GRADE B"		"GRADE C"
	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to BB-	B+ to B-	CCC/CC/C
a) IRB Risk Weights						
I. Without correlation add-on	8%	13%	32%	74%	135%	209%
II. With correlation add-on	11%	18%	42%	94%	162%	241%
b) PRSA Risk Weights	20%	20%	20%	50%	50%	150%



Appendix D: IRTF Analysis: EAD/CCF and Timing of Commitments

The IIF RWA Task Force (IRTF) established that there is a variety of practices regarding on the timing of commitments – ie. on the timing that the offer is made, when it is accepted by a customer, when conditions precedent are satisfied by the customer, or at a subsequent stage such as execution of documentation, activation or drawdown.

In the IRTF's surveys, banks provided answers to three specific scenarios regarding the issue of the timing of when a commitment is raised (and therefore RWA recognized and capital held):

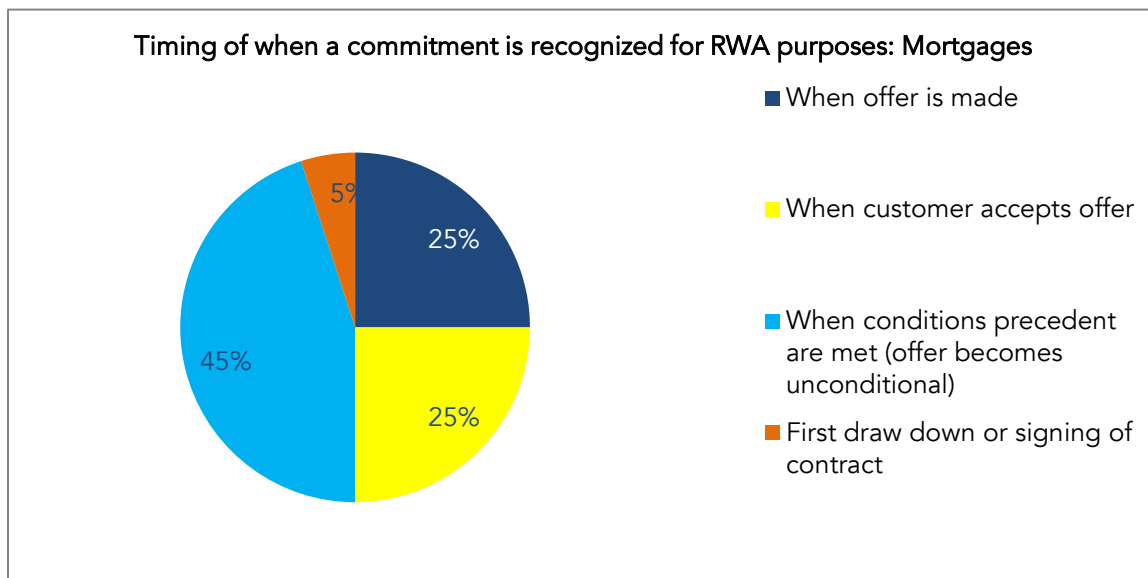
- A. Mortgage offers
- B. Credit card marketing campaigns
- C. Non-retail customers

Mortgage offers

Banks were asked on the timing of when they recognize a mortgage commitment. It was noted that in many jurisdictions, it is common for a borrower to seek an approval from multiple lenders, when they will ultimately only proceed with one or none.

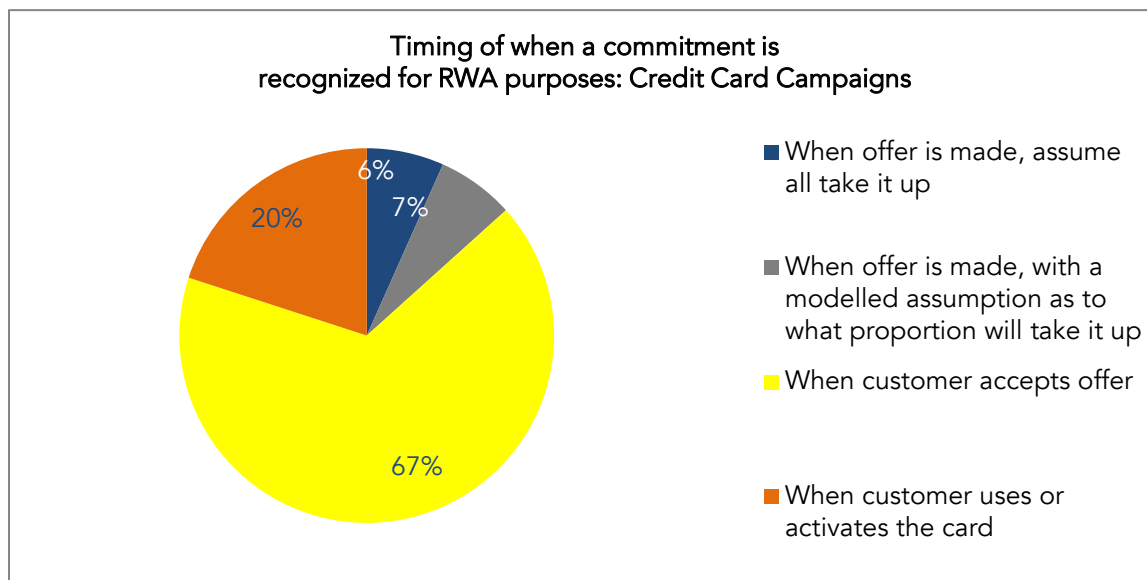
25% immediately raise a commitment (and commence holding capital), notwithstanding that the borrower may be seeking other approvals (and the scenario may exist that multiple banks are therefore holding capital for a single loan).

A further 25% wait until a customer accepts their offer; 45% wait until the borrower has satisfied their conditions such that the approval becomes unconditional, and the remaining 5% wait until the contract is finally signed or the first draw down occurs.



Credit card marketing campaigns

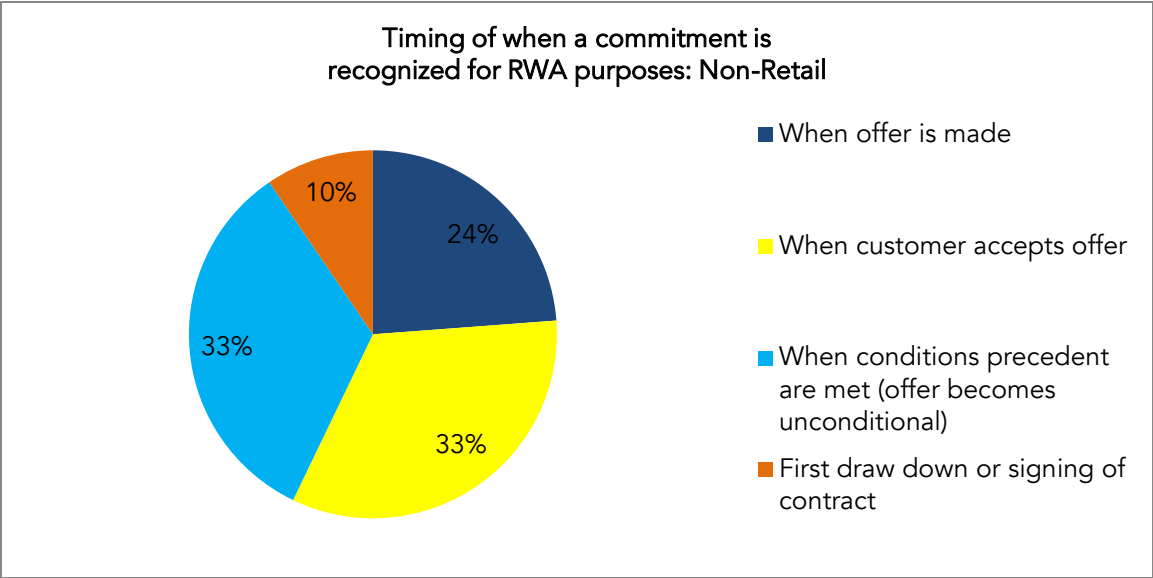
Where a bank might market pre-approved credit cards to customers, it is expected that some (but not all) of those targeted will take up the offer. There was a more common practice evidenced here, with 67% waiting until the customer accepts the offer, with a further 20% waiting until the customer actually uses or activates the card. Only 13% commenced the commitment at the time of offer, 6% of these being for the full amount of all customer offers, and 7% for a modelled estimate as to what proportion of customers might take it up.



Non-retail customers

This scenario may be associated with an acquisition or construction/expansion initiative, in which there may be some condition or dependency before finance would be extended.

57% raised a commitment at a reasonably early stage, prior to the resolution of any conditions precedent, with 24% at the time of the offer being made to the customer, and 33% at the time of the customer's acceptance of the offer. A further 33% recognized a commitment once the conditions had been satisfied and the loan become unconditional, while 10% waiting until the final deal was signed of the first draw down was made.



Although these are factors outside banks’ models, they do impact the overall RWA metrics that analysts are using when comparing banks. A bank that raises a commitment earlier will have higher RWA for a period in which it is not earning an income from that asset (ie. depleting its Return on Capital), and it may also skew the bank’s average risk-weight statistics, depending on the asset-type and the volumes. These responses also suggest that banks are more conservative (ie. raise a commitment sooner) for Non-Retail transactions, than for Retail loans.

Appendix E: Glossary

AIRB	Advanced Internal Ratings Based
CCF	Credit Conversion Factor
CCR	Counterparty Credit Risk
CVA	Credit Valuation Adjustment
EAD	Exposure at Default
ECL	Expected Credit Loss
FIRB	Foundation Internal Ratings Based
IFRS	International Financial Reporting Standards
IMA	Internal Models Approach (for CVA)
IMM	Internal Model Method (for Counterparty Credit Risk)
IPRE	Income Producing Real Estate
IRB	Internal Ratings Based
IRTF	IIF RWA Task Force
LDP	Low Default Portfolio (note the distinction with Low Data Portfolio)
LGD	Loss Given Default
LTV	Loan To Value (ratio)
ODF	Observed Default Frequency
PD	Probability of Default
QIS	Quantitative Impact Study
QRRE	Qualifying Revolving Retail Exposure
RCAP	Regulatory Consistency Assessment Programme
ROE	Return on Equity
RWA	Risk Weighted Assets
SA	Standardized Approach
SCRA	Standardized Credit Risk Assessment Approach
SL	Specialized Lending
UCC	Unconditionally Cancellable Commitment