

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

20th June 2016

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

Dear Mt Cohen

Radley and Associates is pleased to provide our comments on the Basel Committee's Consultative Document on internal modeling for credit risk. Our firm focuses on risk quantification for commercial real estate (CRE) lending, mainly in the US and in the UK and our comments should be read with regard to all forms of CRE lending.

Summary

In suggesting significant restraints to lenders' internal risk modelling, the Basel directive risks stifling risk modelling improvements in the industry. Added to which, the proposed top-down approach for CRE lending is arguably erroneous and in large part the same approach that prevailed before the last crisis.

Prevention of banks from performing their function

Limiting bank lender's ability to improve lending risk measurement and management by effectively banning improvements in risk modelling methodology and technology works against the evolution of one of the banks' core competences; namely the measurement and pricing of risk. Preventing risk measurement improvements and developments in the industry forces all banks to adopt the same top-down risk management approach thereby inviting systemic risk. This systemic risk is compounded if the top-down approach proposed – namely slotting - is also flawed.

Slotting model suitability

Slotting models – on which these proposals may force bank lenders to rely – can be shown to be inappropriate for CRE lending as the following may illustrate:

- 1 Many of the slotting factors proposed by Basle and UK regulators (such as building quality, age and location) are already reflected in loan collateral property *valuation* and as such, do not reflect lending *risk*.
- 2 Slotting models are not suitable for assessing market risk - the major risk facing asset backed lending:

- a. They are not able to recognize markets that are over or undervalued
 - b. Nor do they reflect increased interest rate risk in low rate environments such as today's
- 3 Slotting is, at its best, a variant of the regression model approach suited to large volumes of homogenous loans mostly affected by credit risk. It is an inappropriate model philosophy for small volume, heterogeneous, collateral backed loans mostly affected by market risk.
- 4 Slotting models - in so far as they can be made to recognize economic and market factors at all - assume, at best, that the next property crisis will be similar to the last, though the evidence of the last four major crises in the UK (1935, 1974, 1990, 2008) shows that property market crises are different in important respects such as interest rate responses.
- 5 The regulatory capital regime based on slotting can be show to discourage low risk lending and encourage higher risk lending¹.
 - a. In particular, low LTV loans to regional, lower value, CRE in low volatility and high yield sectors such as industrial estates are penalized by a bias against 'secondary' property whilst large loans to the highly leveraged, volatile and arguably overvalued 'prime' London office sector is encouraged.
- 6 The standardized and slotting rate regulatory approach was the main approach in force during the lead up to the 2008 crisis – it is not clear why it should serve market stability better in the next one.

Basel capital equation problem

The Basel equation for AIRB lending capital is derived, as we understand it, from loss data for unsecured corporate lending – typically with low levels of PD and high levels of LGD. It is not suitable for CRE lending which is asset backed lending and typically exhibits *high* levels of PD and correspondingly *low* levels of LGD. As a result, the Basel capital equation results in a significantly lower regulatory capital requirement for a CRE loan than for corporate loan with the same EL².

Whilst appreciating that inappropriately low levels of AIRB capital should avoided in general, a better approach might be to change the Basel capital equation to suit asset backed lending rather than 'shoe-horning' this important asset class into an inappropriate capital model.

Cash-flow simulation models

Cash-flow simulation models (CFSMs) are better suited to modelling asset backed lending risk and have been shown to rank historic loan losses much better than regression or slotting models. The use of cash-flow simulation models for asset backed

¹ See Appendix note 1

² See Appendix Note 2

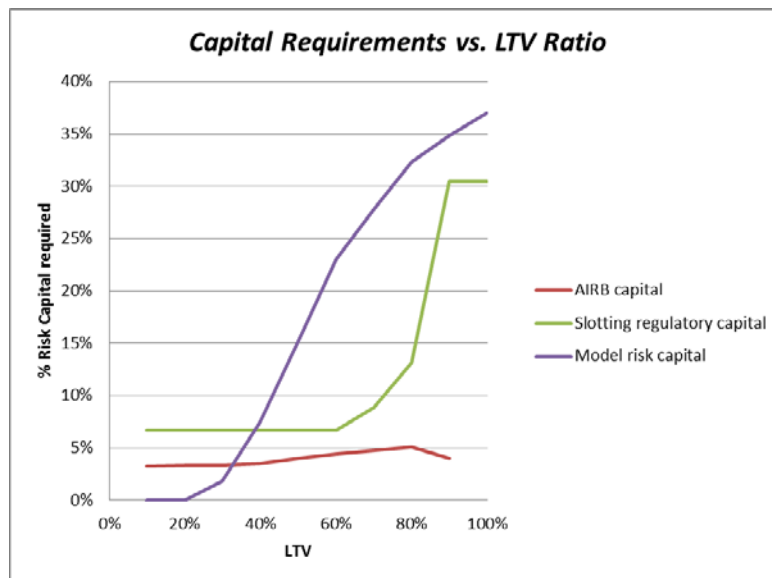
lending is widespread in Germany but less so in the UK where regulatory support has not been forthcoming. In the USA the approach is currently gaining ground.

- Cash-flow simulation models focus mainly on the performance of heterogeneous loan structures and collateral properties in uncertain macroeconomic conditions and property markets, calibrating market risk using historic market data.
- They recognize over-valued and undervalued property markets and interest rate conditions in ways that slotting models do not.
- CFSMs generate estimates of PD, LGD and EL; of refinance risk, interest rate risk and debt service risk as well as loss distributions, unexpected loss and economic capital providing a much richer source of risk analysis and insight than a 4 slot rating model.
- A CFSM built for Anglo Irish Bank in 2003 indicated that the bank required an order of magnitude *more* capital than was required by the Irish regulator. As a result, the model was not adopted by the management board.
- A CSFM analysis of the Britannia Building Society in 2006 showed the extent of likely CRE loan losses in advance of its purchase by the Co-op. The advice was ignored.

Appendix

Note 1: Slotting comparison

Comparison of regulatory capital requirement for a template IPRE loan at different levels of LTV under AIRB and slotting. Also comparison with the Economic capital requirement (for BBB rated bank) using a cash-flow simulation model.



Source Radley and Associates analysis

The PD, LGD and Maximum Probable Loss (MPL) of a 5-year template IPRE loan were calculated using a commercially available CSFM.

Owing to the bias of the Basel equation in favour of low LGD loans, the AIRB capital requirement is lower than the slotting capital requirement at all levels of LTV.

The practical effect of the slotting model is to require much the same level of capital up to 60% LTV even though it is intuitive that a 20% LTV loan is likely to be far less risky. We believe that slotting overestimates risk for loans up to about 40% LTV. However, the analysis also indicates that the slotting approach significantly underestimates risk at all levels of LTV above 40%.

Note 2: Basel capital calculation

Using the Basel capital equation (without turnover adjustment), AIRB risk capital before adjustments:

$$k = \text{LGD} \cdot \Phi\left(\frac{((1-R)^{-0.5} \cdot \text{GofPD} + ((R/(1-R))^{0.5} \cdot \text{GofConfidence}) - \text{LGD}) \cdot \text{PD}}{(\text{LGD} \cdot \text{NofInternal-advancedLGD} \cdot \text{PD})^{0.5} \cdot ((1-1.5 \cdot b)^{-1} \cdot (1+(M-2.5) \cdot b))^{0.5}}\right)$$

The effect of two loans, each with an annual equivalent EL of 0.4% but one is a low PD, high LGD corporate loan and the other a high PD, low LGD CRE loan is as follows:

	<i>Annual equivalent</i>				<i>Cum</i>	<i>Capital</i>
	<i>PD</i>	<i>LGD</i>	<i>EL</i>	<i>PD Rating</i>	<i>EL Rating</i>	<i>k</i>
Corporate	1%	40%	0.400%	BB+	BBB-	3.97%
CRE	10%	4%	0.400%	B	BBB-	0.92%

The CRE loan requires less than a quarter of the corporate loan with a similar EL.

An argument may be made that this reflects the nature of asset backed CRE lending as opposed to unsecured corporate lending.