Summary of the Updated "Capital Floors, the Revised SA and the Cost of Loans in Switzerland"

Simone Bernardi, University of Zurich
William Perraudin[1], Risk Control
Peng Yang, Risk Control

The Basel Committee intends to alter the calculation of risk weights under the credit risk Standardised Approach (SA). It also plans to introduce floors for risk weights under the Internal Ratings Based Approach (IRBA) employed by sophisticated banks based on a yet-to-be-specified percentage of the revised credit risk SA risk weights.

Such changes are likely to have a substantial impact on the level and distribution of bank capital across different asset classes. The impact, dependent on the calibration of rules and characteristics of bank portfolios, is opaque to all except a few specialists and even they are likely to understand the implications for their institutions alone. It is important, therefore, to study the impact of rule changes on bank capital and the wider economy.

This study examines the effects of the Basel Committee's proposals on lending by banks in a particular country, namely Switzerland. We use detailed information on the Swiss loan market and Pillar III data for the 37 banks that are most active in supplying loans in Switzerland. In our results, we differentiate between the impacts on (i) Cantonal banks, (ii) other SA banks and (iii) sophisticated banks that use the Internal Ratings Based Approach (IRBA). We also distinguish between the effects for credit exposures to (a) banks, (b) corporates, (c) residential mortgages, (d) commercial mortgages and (e) categories of specialised lending.

Our analysis covers both the Basel Committee's initial proposal for revised credit risk SA rules published in BCBS 307 in December 2014 and its more recent consultation published in BCBS 347 in December 2015. A key part of the package of measures, the proposal for IRBA risk weight floors based on revised SA risk weights, has not evolved in the sense that the authorities have not provided any further thoughts since the December 2014 publication, BCBS 306.

Our analysis consists of two steps. First, we calculate the impact on the capital that banks will have to hold against loans in different categories. Second, we estimate the effect on the spreads that banks would charge for making loans in these categories. This latter step involves estimating banks' cost of funding given their regulatory capital requirements.

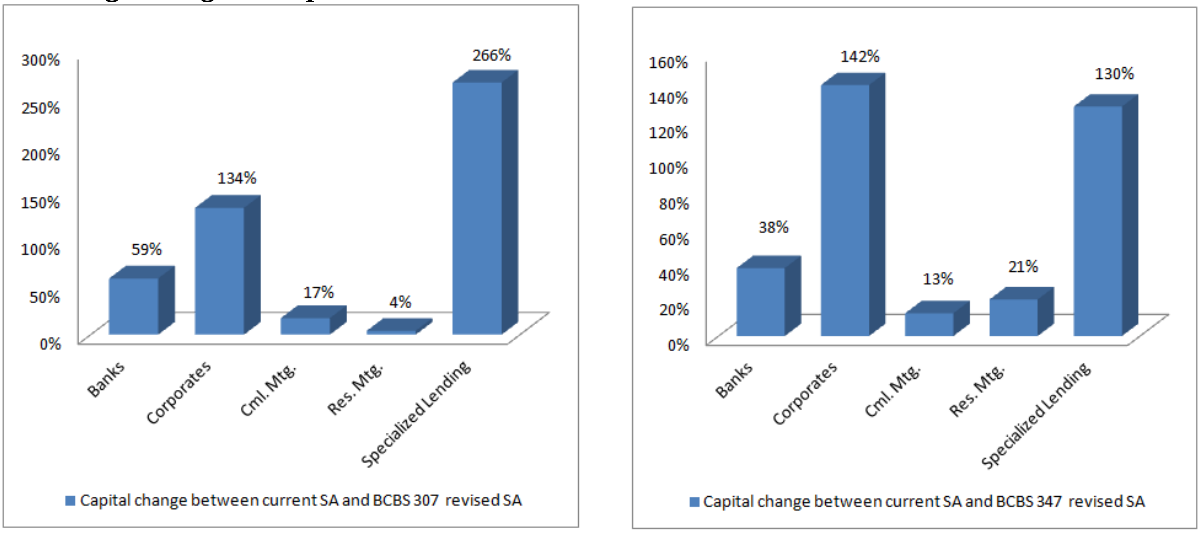
Our results suggest that proposed regulations will have a major impact. The BCBS 307 proposals surprisingly implied a significant rise in SA risk weights for corporate exposures and for specialised lending and a slight reduction in SA risk weights for residential mortgages. On top of this, the introduction of SA floors to IRBA risk weights implied substantial increases in total bank risk weights and capital, with capital for corporate and specialised lending exposures rising by 105% and 263%, respectively.

The BCBS 347 proposals represent a retreat from some of the more radical aspects of BCBS 307 (which included, for example, basing risk weights for Bank and Corporate exposures on obligor financial ratios). The revised credit risk SA risk weights in BCBS 347 are quite close to Basel II levels. However, BCBS 347 proposes a quite conservative treatment of Credit Conversion Factors (CCFs). This will have the effect of boosting the exposure amounts for undrawn loan facilities that banks must assign under the SA. Even with risk weights close to Basel II levels, the consequence will be distinctly higher capital for corporate and bank exposures. Thus, while the source of increased capital for Corporate exposures is different under BCBS 307 and BCBS 347, the effects are somewhat similar.

[1] Simone Bernardi is a doctoral student in the University of Zurich. William Perraudin is Director of Risk Control. Peng Yang is a Senior Quantitative Analyst in Risk Control. The authors' email addresses are simone.bernardi@uzh.ch, william.perraudin@riskcontrollimited.com and peng.yang@riskcontrollimited.com.

The figure below shows the percentage changes in capital that Swiss banks will have to hold under the BCBS 307 and BCBS 347 proposals. Capital for Bank, Corporate and Specialised increase substantially in both cases. Capital for residential mortgages hardly change under BCBS 307 (although this reflects offsetting rises and falls in increases in IRBA and SA bank capital for residential mortgages) but rise somewhat under BCBS 347.

Percentage changes in capital for all Swiss banks



Note: The figure shows the percentage change in the total capital of Swiss banks, broken down by asset class, when the current rules are replaced with the revised credit risk SA (left panel BCBS 307 version, right panel BCBS 347 version) and 80% asset-class level floors.

Changes to capital levels matter for the rest of the economy to the extent that they affect the lending rates that banks charge. To reveal the implications for lending rates, we study how bank loan spreads (over and above Treasury yields) would be affected.

Spreads reflect bank funding costs. Banks finance a given loan using a combination of deposit and equity funding. The latter is considerably more expensive to a bank, dollar for dollar. The volume amount of equity funding that a bank requires for a loan is determined by the regulatory capital a bank must hold. Changes in regulatory capital requirements, hence, alter bank funding costs and feed through into the interest rates banks demand from borrowers.

Increases in spreads (in basis points) resulting from changes in capital rules

	BCBS 307 revised SA						BCBS 347 revised SA					
	Banks	Corp.	CML. Mtg.	Res. Mtg.	S.L.	Wtd. Avg.	Banks	Corp.	CML. Mtg.	Res. Mtg.	S.L.	Wtd. Avg.
	CET1 capital target											
Wtd. Avg. of IRB Banks	8	81	56	9	71	33	57	107	55	16	41	36
Wtd. Avg. of IRB and SA Banks	8	58	14	2	71	13	7	63	11	7	41	15
	Total capital target											
Wtd. Avg. of IRB Banks	14	139	89	15	122	55	98	184	88	25	71	60
Wtd. Avg. of IRB and SA Banks	12	93	23	3	122	21	12	103	18	11	71	24

The table shows weighted average estimates of the *changes* in bank lending spreads that would result from the adoption of the new bank capital rules. Estimates are presented for two cases: assuming banks raise additional equity equal to the change in Risk Weighted Assets times (i) their Common Equity Tier 1 (CET1) ratio or (ii) their Total Capital ratio.

Spreads for corporates increase between 45 and 73 basis points under the BCBS 307 proposals and by between 63 and 103 basis points under the BCBS 347 proposals. The costs of borrowing costs from IRB banks will be disproportionally affected.