

# Managing deficiencies in model capture : PRA's proposals to floor IRB UK mortgage risk weights

BSA response to PRA CP 14/20

30 January 2021

## Introduction and summary

The BSA is pleased to provide its comments, and broad support, on/for the PRA's proposals in CP 14/20 to floor UK mortgage IRB risk weights in around 12 months' time. In representing the interests of all our members, we note arguments both for and against aspects of these proposals - reflecting their differential impacts. The great majority of the BSA's 43 building society members use the standardised approach, and therefore indirectly benefit in competitive terms. (Standardised users object strongly to the present unlevel playing field, especially on residential mortgages – where the disparity in risk weights can be as much as a factor of seven.) But some of the largest societies, using internal models, could face disadvantage. And the context of parallel measures with cumulative effect is also important. Nevertheless we are prepared to support the CP 14/20 proposals (though - in the Annex below- we also critique the policy background and set out some issues of principle) and we suggest better ways to develop and refine the proposals. And given the diversity of views, to which the BSA response cannot do full justice, it is even more imperative in this instance for PRA to pay close attention to any individual responses from members that feel strongly about the proposals.

## Impact on BSA members

We outlined above the high level impact of CP 14/20 on our members – possible direct detriment to some IRB using societies, and indirect competitive benefit (by reducing extreme capital requirement disparities) to standardised using societies, and credit unions. We cannot attempt to quantify this indirect benefit, but the direct detriment under IRB has already been analysed across the field of societies, mortgage banks and (universal) clearing banks – based on publicly available Pillar 3 information. The findings explain why one or two of our IRB societies might feel disadvantaged by the proposals : the overall impact on the end point CET 1 ratio of the **banks** – of all types – is less than one percentage point, mostly far less ; whereas for the largest **building societies** (which fortunately already start with higher resilience, as all their CET 1 ratios are already above 30%) the impact on end point CET 1 ratio varies from around 1.5 % point to nearly 6 % points. These societies are easily well capitalised enough to just absorb the hit, but that does not of itself make it the right policy. Rather, an affected IRB

society might query why its focus on the lowest-risk mortgages, taken together with the statutorily-mandated concentration on residential mortgages in general, should result in that society being egregiously affected by CP 14/20? The proposed floors arguably disadvantage those lenders – principally building societies - that have responded to the incentives deliberately created by the IRB regime by focusing on fundamentally low risk assets (low LTV, conservatively underwritten secured residential lending). Whereas the issue that floors are surely intended to remedy is where more risky lending is given excessively low risk weights by dodgy modelling. More reason perhaps for a TRIM<sup>1</sup> (Targeted Review of Internal Models) instead ?

An affected lender's natural coping strategy could therefore be to modify the mix of on-balance sheet lending stock by increased securitisation of the lowest- risk mortgages – is this what is wanted, with some resulting inflexibility for borrowers?

We also note the timing of the CP proposals, in relation to Basel 4 implementation and its original timeline. The Basel 4 IRB floor<sup>2</sup>, while ultimately due to rise to 72.5% of the (Basel 4 revised) standardised equivalent, was due to start its glide path at 50% from 1 January 2022 – along with the revised standardised RWs. That means that (pre-postponement), the IRB floors would have started at 50% of the (Basel 4 revised) standardised RW of 20% - i.e. 10%. So the average floor proposal in CP 14/20 more or less equates (in timing) to ignoring the one year's COVID-driven postponement of Basel 4, at least in relation to the residential mortgage book and the output floors.

From the perspective of our **standardised approach members**, the current situation is nevertheless unsatisfactory, but would remain so to a large extent even after the CP 14/20 proposals. As some have pointed out, it is possible at present for the identical mortgage loan to carry RWs diverging by a **factor of seven** : an IRB RW for a low LTV vanilla mortgage could be as low as 5%, while the standardised RW is 35%. Even after implementation of the CP 14/20 proposals, the divergence can still be a **factor of five** at individual loan level : IRB RWs floored at 7%, standardised RW 35%. This prompts the question, is it just **the IRB RWs that are too low, or the standardised RW that is too high**, or a combination of the two ? In part we know the answer to this already : the standardised RWs are too high -as PRA admitted as much in its laudable and well-intentioned moves<sup>3</sup> to provide mitigation through Pillar 2A. But PRA came up against the problem that the current main Pillar 1 RW for residential mortgages is so loaded by excess conservatism that mitigation under Pillar 2A is very limited. And if Basel 4 is to be believed, the right RW for moderate LTV vanilla mortgages<sup>4</sup> should fall by nearly half from 35% to 20%. Our standardised members naturally wonder why that 20% RW is not front-run as well, from 1 January 2022 ?

The BSA, while prepared to support the flooring of IRB RWs as such, remains to be convinced that the CP 14/20 proposals are the optimum combination of measures to sort the problems of RWs for mortgages under both IRB and standardised approaches – taking into account other parallel initiatives. In essence, **the CP 14/20 proposals are a selective and modified front-running of the Basel 4 changes** in relation to IRB. **Why, then, is PRA not also allowing early adoption of the 20% standardised risk weight?** Or, if the problem is localised at a few rogue banks gaming the system, would not a better route have been a PRA TRIM programme ( *Targeted* – the clue being in the name) ?

Finally, if the leverage ratio is to be introduced, why are any of these output measures needed at all alongside the LR sledgehammer ? **Conversely, is it not preferable to ditch that problematic sledgehammer, and apply smarter more targeted measures** - such as these floors, which we are ready to support? Ditching the LR at least for non-Basel banks would at a

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<sup>1</sup> [TRIM as conducted by the ECB / SSM](#)

<sup>2</sup> Basel 4 brief summary : [https://www.bis.org/bcbs/publ/d424\\_inbrief.pdf](https://www.bis.org/bcbs/publ/d424_inbrief.pdf)

<sup>3</sup> [CP 3/17 on Pillar 2A capital framework](#)

<sup>4</sup> [https://www.bis.org/bcbs/publ/d424\\_hlsummary.pdf](https://www.bis.org/bcbs/publ/d424_hlsummary.pdf)

stroke solve the further complications around MREL calibration for certain larger but sub-systemic building societies. We would welcome further engagement with PRA on these ideas, and will return to the topic in the context of responding to the Bank's DP on MREL

## Alternative approaches / measures

We suggest a number of different ways in which PRA could develop or refine the CP 14/20 proposals, **including by making a simultaneous early move on excessively high standardised risk weights.**

When PRA addressed the latter problem<sup>5</sup> it was constrained by the text of CRR / CRD. Now, after the end of the Brexit transitional period, in regulatory terms the UK, and PRA, have a free hand. **So there is no obstacle to early adoption of the lower Basel 4 RWs alongside selective front running of IRB floors as envisaged by CP 14/20.** This would at a stroke reduce the maximum RW divergence with IRB for low risk mortgages to a factor of two, from seven (now) and five (under CP 14/20 alone). Indeed, for the long term, **PRA already endorses this factor** (see paragraph 2.18 of the CP) – so why wait? Idiosyncratic risks could still be fine tuned under Pillar 2.

Moving to IRB measures, if the main problem is a few outliers with unduly lenient models or alleged gaming, the most economically efficient counter-measure might not be indiscriminate flooring but a **TRIM**: a targeted review of internal models where (but only where) there is cause for concern.

If the IRB problem is more systemic, then something like CP 14/20 (as a staging post towards the Basel 4 floors) can of course be justified, but we still need to be **satisfied that the envisaged combination of measures remains correctly calibrated in aggregate.** The CP 14/20 proposals have, at least, the strong benefit of being risk-based – **in contrast to the leverage-ratio, which is deliberately risk-indifferent,** and has already had to be modified by the exclusion of central bank deposits to avoid perverse results. **Now the PRA is able to do so, it should ditch the leverage ratio at least for all non-Basel banks (for whom it is not designed anyway) and rely on flooring and other more focused measures to handle model risk. This would have many additional benefits, including solving some of the MREL calibration problems.**

Finally, if the CP 14/20 proposals are to proceed, PRA needs to clarify how the increased risk capture under Pillar 1 can be taken into account by partial Pillar 2A offset (otherwise there is clear double counting) and/or review / reduction of Pillar 2B buffers.

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<sup>5</sup> CP 3/17 and PS 22/17

# Conclusion

The BSA supports the CP 14/20 proposals but calls for optimum further refinement and development, combining them (i) with allowing early adoption of lower standardised RWs broadly in line with Basel 4, and (ii) not implementing the leverage ratio as a Pillar 1 requirement at least for non-Basel banks (i.e. those that are not large or internationally active, such as building societies).

## ANNEX

### Policy Background

The use of internal models both to rate the credit risk of important exposure classes such as mortgage loans, and to derive the applicable risk weights, goes back to the development of the old 1988 Basel Capital Accord during the period 1999 to 2004 that culminated in the framework<sup>6</sup> now known as Basel 2. At the time, prudential regulators including UK's then new FSA were strongly in favour of the principle of modelling, and Basel 2 was structured to give substantial incentives to the adoption of IRB, as it was believed to improve risk management as well as make the capital regime more risk sensitive. Regulators were to keep control both by initial gatekeeping (individual approval of the individual IRB bank's models) and by periodic review and supervision.

The capital incentives for IRB landed at an inopportune time – from 2006 onwards, shortly before the last financial crisis - consequently it came as no surprise that IRB models did not escape blame as one of its causes. This was covered in, for instance, the FSA's Turner review<sup>7</sup> (2009) on the grounds of procyclicality. IRB models were caught in the backlash against “sophisticated maths” and poorly-understood “black boxes”. Soon the alleged faults of IRB modelling were added to the list of matters requiring “regulatory repair” under Basel 3 and 4.

The Basel Committee addressed this as follows<sup>8</sup> in 2017 :

*A key objective of the revisions incorporated into the framework is to reduce excessive variability of risk-weighted assets (RWA). At the peak of the global financial crisis, a wide range of stakeholders lost faith in banks' reported risk-weighted capital ratios. The Committee's own empirical analyses also highlighted a worrying degree of variability in banks' calculation of RWA. The revisions to the regulatory framework will help restore credibility in the calculation of RWA by: [ inter alia ] .....constraining the use of internally modelled approaches.....*

<sup>6</sup> Basel II: International Convergence of Capital Measurement and Capital Standards: a Revised Framework <https://www.bis.org/publ/bcbs107.htm>

<sup>7</sup> [The Turner Review : A regulatory response to the global banking crisis](#) (March 2009)

<sup>8</sup> <https://www.bis.org/bcbs/publ/d424.htm>

However, recently an authoritative voice has been raised against the casual demonisation of IRB “variability”. In September the EBA published an important staff research paper<sup>9</sup> **Time to go beyond RWA variability for IRB banks : an empirical analysis** which concluded :

*Our impression is that it is too simplistic and unrealistic to imagine a situation where all banks produce the same risk measures or where all differences in the estimates are easily explained. Indeed, in recent years we have learned that behind the variability of these measures there are complex phenomena, such as the levels of risk aversion of banks and differing supervisory approaches. Therefore, we may reach a point where we have to accept that it is not possible to go below a certain level of variability. So what should this point be? Should we worry instead about something else and learn to better exploit available information? The conclusions of our paper – based on a sample of European banks observed over a period of 6 years – offer, in our view, some convincing answers to the above questions.*

- *A comparison with the variability of a number of other banking characteristics (e.g. profitability and its components, business model, financing policies) provides no convincing evidence that RWA variability is special in any sense.*

- *A significant portion of RWA variability can be explained by structural factors, i.e. the undesired portion of variability is rather low.*

- *A better understanding of the risk measures produced by banks is needed. RWA provide only a partial representation of these measures: reliance on a more intuitive metric, such as the TL ratio, might help in better interpreting the underlying economic meaning of these measures.*

- *Finally, even though a proper back-testing exercise cannot be easily performed with publicly available data, there is room to exploit available data to assess whether the parameters estimated by banks are adequate or not, without relying on comparisons with other institutions.*

*Our conclusions are relevant from a policy perspective. Interpreting RWA variability in the correct way and focusing on a comprehensive metric for banks’ risk levels might help supervisors to better use the outcomes of their RWA analyses to inform their actions and enable market analysts to focus on what really matters.*

## Issues of principle

Correction of previous policy errors, or their unintended consequences or perverse outcomes, is of course necessary. But both IRB-using firms, and to a lesser extent firms using the standardised approach, have faced difficulties from two separate but unhelpful regulatory behaviours.

First, PRA –and its predecessor FSA –seem, over time, to have been ambiguous about the desirability of IRB modelling, blowing alternately hot and cold, and actions and rhetoric often did not match. It is only a few years since the PRA<sup>1011</sup> was encouraging medium sized banks and building societies – who were otherwise fairly content with the standardised approach – to aspire to IRB in order to achieve the same lower risk weights to which PRA now objects.

<sup>9</sup> [Time to go beyond RWA variability for IRB banks : an empirical analysis](#) (EBA September 2020 )

<sup>10</sup> See discussion in [PRA Competition Report 2016](#) et seqq

<sup>11</sup> [Note following IRB seminar for small and mid tier banks and building societies](#) ( February 2017 )

Second, regulators including FSA / PRA, come up with too many independent and uncoordinated fixes designed for (and justified by reference to) the same alleged problem – and not necessarily the optimal combination. This makes both the individual and cumulative impacts hard to gauge – so there is a risk both of cumulative overshoot, and undesirable side effects. As perceived from the firm side, this can feel overall like “confusion marketing”. The following summary illustrates this point.

We can identify the following measures, taken or in train in the UK or the EU, that aim to address (inter alia) the excessive variability, deficiencies, or alleged gaming of / by IRB models whose individual use (lest we forget) has been approved by supervisors after detailed review :

**Input constraints** : PD and LGD floors : *“Basel 4’s revised IRB framework also introduces minimum “floor” values for bank-estimated IRB parameters that are used as inputs to the calculation of RWA. These include PD floors for both the F-IRB and A-IRB approaches, and LGD and EAD floors for the A-IRB approach. In some cases, these floors consist of recalibrated values of the existing Basel II floors. In other cases, the floors represent new constraints for banks’ IRB models.”* See references below.

[https://www.bis.org/bcbs/publ/d424\\_hlsummary.pdf](https://www.bis.org/bcbs/publ/d424_hlsummary.pdf)

<https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/policy-statement/2020/ps1120>

**Output constraints** : Basel 4 overall output floors at a final level, after glide path, of 72.5% of standardised -as discussed above : [https://www.bis.org/bcbs/publ/d424\\_hlsummary.pdf](https://www.bis.org/bcbs/publ/d424_hlsummary.pdf)

**Leverage ratio** : under Basel 3 and CRR 2 - *“The leverage ratio complements the risk-weighted capital requirements by providing a safeguard against unsustainable levels of leverage and by mitigating gaming and model risk across both internal models and standardised risk measurement approaches”* BCBS, emphasis added.

**TRIM** : [Targeted Review of Internal Models](#) ( by ECB / SSM ) *“The targeted review of internal models (TRIM) is a large-scale project conducted by the ECB in close cooperation with the NCAs over 2016-2020. Its aim is to reduce inconsistencies and unwarranted variability when banks use internal models to calculate their risk-weighted assets.”*

Finally, for completeness, note the restrictions in Basel 4 for use of IRB to only a few limited asset classes : *“The revised IRB framework removes the use of the A-IRB approach – which allows banks to estimate the PD, LGD, exposure at default (EAD) and maturity of an exposure – for asset classes that cannot be modelled in a robust and prudent manner. These include exposures to large and mid-sized corporates, and exposures to banks and other financial institutions. As a result, banks with supervisory approval will use the foundation IRB (F-IRB) approach, which removes the two important sources of RWA variability as it applies fixed values to the LGD and EAD parameters. In addition, all IRB approaches are being removed for exposures to equities, which are typically a small component of the credit risk of banks.”*

[https://www.bis.org/bcbs/publ/d424\\_hlsummary.pdf](https://www.bis.org/bcbs/publ/d424_hlsummary.pdf)

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