CP13/24: Securitisation Bank Capital Analysis

Confirmatory analysis in relation to the PRA's formulaic p-factor proposal for the securitisation standardised approach (SEC-SA)

January 2025

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Objective of Study

Analytical objective

To conclude whether the PRA's formulaic SEC-SA p-factor proposal would appropriately mitigate:

i. the unintended consequences of the Basel 3.1 Output Floor for securitisation

ii. the excessive level of capital non-neutrality present in the SEC-SA

Key Findings

- Under the PRA's proposed formulaic approach, The P factor will lower for all asset classes examined, with the exception of residential mortgages (see slide 10):
    - For non-retail asset classes, p is generally close to the STS (***non-STS***) floor of 0.3 (***0.5***)
    - For retail asset classes as well as non-granular pools, p generally floats above the floor, and in the case of residential mortgages, hits the cap of 0.5 (***1***)
    - In the latter respect, proposals in the EU for a constant SEC-SA p-factor of 0.25 (***0.5***) and the ability of synthetic SRT deals to achieve STS status threaten the PRA's secondary objective of promoting the UK economy's competitiveness, especially in relation to risk transfer and capital release of c. £1,7 billion[1] of residential mortgage loans from UK bank balance sheets.

- For banks using the IRB approach, the PRA's proposal appears to mitigate, but not entirely neutralise the adverse impact of the Output Floor (see slides 7 and 9)
- Although the new formulaic approach reduces the equivalent SEC-SA RWs that IRB banks would have to calculate, the resulting SEC-IRBA RWs (floored at 72.5% of the SEC-SA RWs with the implementation of Basel 3.1 standards) are generally elevated above the RW floor.
- The consequence of which is that transactions will generally need to be structured with senior risk attaching at a higher point (i.e. a higher AP) than at present, as illustarted in this presentation.

[1] As of Q3 2024. Source: FCA Mortgage Lending Statistics.

Introduction to Case Studies

Assumptions:

- We examine the senior tranches of transactions detaching at 100% for all case studies
- p is considered at transaction close (t=0) only
- Attachment points (APs) under the current framework and K_{IRB} values come from real-world transactions by AFME's member banks.

Glossary:

Attachment Point (AP) - The point in the capital structure at which the risk attaches. For example, an AP of 8% indicates that the tranche has subordination or credit enhancement of 8% providing support to the tranche

Detachment Point (DP) - The point in the capital structure at which the risk detaches. When considered alongside the AP, this informs the thickness of the tranche. For example, an AP of 8% and a DP of 100% indicates that the tranche is 100%-8% = 92% thick

Investment Grade Corporate SEC-SA

IG Corp STS

Current		PRA Proposal		Adjusted AP w/ PRA Proposal	
AP	7.60%	AP	7.60%	Adjusted AP	5.74%
p	0.5	p	0.3	p	0.3
SEC-SA RW	10.10%	SEC-SA RW	10%	SEC-SA RW	10%
RW Unfloored	10.10%	RW Unfloored	2.80%	RW Unfloored	10%

IG Corp Non-STS

Current		PRA Proposal		Adjusted AP w/ PRA Proposal	
AP	12.20%	AP	12.20%	Adjusted AP	7.13%
p at t=0	1	p	0.56	p at t=0	0.56
SEC-SA RW	15%	SEC-SA RW	15%	SEC-SA RW	15%
RW Unfloored	14.63%	RW Unfloored	2.38%	RW Unfloored	15%

Case study: IG Corp SEC-SA

- The senior tranche of these transactions are typically structured to attach at a point close to the RW floor for STS (***non-STS***) of 10% (***15%***)
- As this table shows, an AP of 7.60% (***12.20%***) is close to the point where RWs become floored under the current framework, which imposes a flat p-factor of 0.5 (***1***)
- The PRA's formulaic proposal brings down p to 0.3 (***0.56***), which reduces the SEC-SA RWs
- In turn, the new APs at which the RWs become floored – the "Adjusted APs" – will be 5.74% (***7.13%***)

Assumptions:

- K_{SA} = 4.80%
- N = 75
- LGD = 45% ('Other senior non-retail exposures')
- M_T = 5

Investment Grade Corporate SEC-IRBA

IG Corp STS

Current		PRA Proposal		Adjusted AP w/ PRA Proposal	
AP	5.00%	AP	5.00%	Adjusted AP	5.27%
SEC-IRBA p	0.3	SEC-IRBA p	0.3	SEC-IRBA p	0.3
SEC-IRBA RW	10%	SEC-IRBA RW	10%	SEC-IRBA RW	10%
SEC-SA RW	29.05%	SEC-SA RW	16.49%	SEC-SA RW	13.71%
SEC-IRBA RW w/ B3.1 output floor	21.06%	SEC-IRBA RW w/ B3.1 output floor	11.95%	SEC-IRBA RW with B3.1 output floor	10%
	+11.06% Output Floor Impact		+1.95% Output Floor Impact		

IG Corp Non-STS

Current		PRA Proposal		Adjusted AP w/ PRA Proposal	
AP	5.00%	AP	5.00%	Adjusted AP	6.26%
SEC-IRBA p	0.58	SEC-IRBA p	0.58	SEC-IRBA p	0.58
SEC-IRBA RW	15%	SEC-IRBA RW	15%	SEC-IRBA RW	15%
SEC-SA RW	60.58%	SEC-SA RW	32.59%	SEC-SA RW	20.60%
SEC-IRBA RW w/ B3.1 output floor	43.92%	SEC-IRBA RW w/ B3.1 output floor	23.63%	SEC-IRBA RW w/ B3.1 output floor	15%
	+28.92% Output Floor Impact		+8.63% Output Floor Impact		

The PRA has proposed to implement the output floor as follows:
To introduce a floor on risk-weighted assets (RWAs) that would require relevant firms with internal model (IM) permissions to calculate RWAs as the higher of: (i) the total RWAs calculated using all approaches that they have supervisory approval to use (including IM approaches); or (ii) 72.5% of RWAs calculated using only standardised approaches (SAs) (where the latter is called 'the output floor' or 'floored RWAs').

Case study: IG Corp SEC-IRBA

- Under the current framework, the implementation of the Basel 3.1 Output Floor would cause the RW for an STS (***non-STS***) transaction to rise from the floor to a level of 21.06% (***43.92%***)
- The PRA's proposal, through its effect on the SEC-SA p-factor, causes a lower rise in the RW to a level of 11.95% (***23.63%***)
- To mitigate the output floor impact, IRB banks will still need to attach at the higher AP of 5.27% (***6.26%***)

Assumptions:

- K_{IRB} = 3.30%
- N = 75
- LGD = 44.79% (Bank calculated)
- M_T = 5

Non-Retail SME SEC-SA

SME STS

Current		→ PRA Proposal		→ Adjusted AP w/ PRA Proposal	
AP	12.00%	AP	12.00%	Adjusted AP	8.90%
p	0.5	p	0.3	p	0.3
SEC-SA RW	10.46%	SEC-SA RW	10%	SEC-SA RW	10%
RW Unfloored	10.46%	RW Unfloored	2.26%	RW Unfloored	10%

SME Non-STS

Current		→ PRA Proposal		→ Adjusted AP w/ PRA Proposal	
AP	18.50%	AP	18.50%	Adjusted AP	10.73%
p	1	p	0.5	p	0.5
SEC-SA RW	18.66%	SEC-SA RW	15%	SEC-SA RW	15%
RW Unfloored	18.66%	RW Unfloored	1.67%	RW Unfloored	15%

Case study: Non-Retail SME SEC-SA

- With the PRA's proposal, p is reduced for STS (***non-STS***) to the floor of 0.3 (***0.5***)
- As a result, the APs at which the RWs become floored are 8.90% (***10.73%***)

Assumptions:

- K_{SA} = 6.80%
- N = 600
- LGD = 45% ('Other senior non-retail exposures')
- M_T = 4

Non-Retail SME SEC-IRBA

SME STS

Current		PRA Proposal		Adjusted AP w/ PRA Proposal	
AP	8.50%	AP	8.50%	Adjusted AP	8.24%
SEC-IRBA p	0.3	SEC-IRBA p	0.3	SEC-IRBA p	0.3
SEC-IRBA RW	10%	SEC-IRBA RW	10%	SEC-IRBA RW	10%
SEC-SA RW	28.17%	SEC-SA RW	12.11%	SEC-SA RW	13.72%
SEC-IRBA RW w/ B3.1 output floor	20.42%	SEC-IRBA RW w/ B3.1 output floor	10%	SEC-IRBA RW w/ B3.1 output floor	10%
	+10.42% Output Floor Impact		+0.00% Output Floor Impact		

SME Non-STS

Current		PRA Proposal		Adjusted AP w/ PRA Proposal	
AP	8.50%	AP	8.50%	Adjusted AP	9.60%
SEC-IRBA p	0.47	SEC-IRBA p	0.47	SEC-IRBA p	0.47
SEC-IRBA RW	15%	SEC-IRBA RW	15%	SEC-IRBA RW	15%
SEC-SA RW	72.35%	SEC-SA RW	28.17%	SEC-SA RW	20.63%
SEC-IRBA RW w/ B3.1 output floor	52.45%	SEC-IRBA RW w/ B3.1 output floor	20.42%	SEC-IRBA RW w/ B3.1 output floor	15%
	+37.45% Output Floor Impact		+5.42% Output Floor Impact		

Case study: Non-Retail SME SEC-IRBA

- Under the current framework, the implementation of the Basel 3.1 Output Floor would cause the RW for an STS (***non-STS***) transaction to rise from the floor to a level of 20.42% (***52.45%***)
- The PRA's proposal, through its effect on the SEC-SA p-factor, causes a lower rise in the RW to a level of 10% (***20.42%***)
- Thus, although the output floor impact is fully mitigated for STS transactions, for ***non-STS*** transactions, IRB banks will need to attach at the higher AP of ***9.60%*** in order to hit the RW floor

Assumptions:

- K_{IRB} = 5.30%
- N = 600
- LGD = 51.43% (Bank calculated)
- M_T = 4

Residential Mortgages SEC-SA

Resi Mortgages STS

Current		PRA Proposal		Adjusted AP	
AP	3.63%	AP	3.63%	Adjusted AP	3.63%
p	0.5	p	0.5	p	0.5
SEC-SA RW	10%	SEC-SA RW	10%	SEC-SA RW	10%
RW Unfloored	10%	RW Unfloored	10%	RW Unfloored	10%

Resi Mortgages Non-STS

Current		PRA Proposal		Adjusted AP	
AP	5.32%	AP	5.32%	Adjusted AP	5.32%
p	1	p	1	p	1
SEC-SA RW	15%	SEC-SA RW	15%	SEC-SA RW	15%
RW Unfloored	15%	RW Unfloored	15%	RW Unfloored	15%

Case study: Resi Mortgages SEC-SA

- Resi mortgages do not benefit from the PRA's formulaic approach, as p remains at the cap of 0.5 (**1**) for STS (***non-STS***), i.e. the same as under the current framework
- We note that in the EU, a flat p-factor of 0.25 (**0.5**) will be applied under the Boyer Amendment, and moreover, synthetic SRT transactions can currently achieve STS status, both of which put UK banks at a competitive disadvantage – especially in relation to the securitisation of resi mortgages

Assumptions:

- K_{SA} = 2.80%
- N = 1000
- LGD = 20% ('Regulatory residential real estate exposures with LTV at most 100%')
- M_T = 5

Consumer Autos SEC-SA

Autos STS

Current		→ PRA Proposal		→ Adjusted AP w/ PRA Proposal	
AP	11.00%	AP	11.00%	Adjusted AP	8.75%
p	0.5	p	0.39	p	0.39
SEC-SA RW	10%	SEC-SA RW	10%	SEC-SA RW	10%
RW Unfloored	7.96%	RW Unfloored	3.73%	RW Unfloored	10%

Autos Non-STS

Current		→ PRA Proposal		→ Adjusted AP w/ PRA Proposal	
AP	17.00%	AP	17.00%	Adjusted AP	12.86%
p	1	p	0.77	p	0.77
SEC-SA RW	15.00%	SEC-SA RW	15%	SEC-SA RW	15%
RW Unfloored	14.45%	RW Unfloored	6.44%	RW Unfloored	15%

Case study: Consumer Autos SEC-SA

- With the PRA's proposal, p is reduced for STS (***non-STS***) to 0.39 (***0.77***)
- As a result, the APs at which the RWs become floored are 8.75% (***12.86%***)

Assumptions:

- K_{SA} = 6.00%
- N = 1000
- LGD = 50% ('If largest exposure in pool is no more than 3% of total')
- M_T = 3.60

Leveraged Loans SEC-SA

Lev Loans Granular Non-STS

Current		PRA Proposal		Adjusted AP w/ PRA Proposal	
AP	23.72%	AP	23.72%	Adjusted AP	13.56%
p	1	p	0.51	p	0.51
SEC-SA RW	18.37%	SEC-SA RW	15.00%	SEC-SA RW	15%
RW Unfloored	18.37%	RW Unfloored	1.40%	RW Unfloored	15%

Lev Loans Non-Granular Non-STS

Current		PRA Proposal		Adjusted AP w/ PRA Proposal	
AP	23.72%	AP	23.72%	Adjusted AP	16.88%
p	1	p	0.66	p	0.66
SEC-SA RW	18.37%	SEC-SA RW	15.00%	SEC-SA RW	15%
RW Unfloored	18.37%	RW Unfloored	4.51%	RW Unfloored	15%

Case study: Lev Loans SEC-SA

- With the PRA's proposal, p is reduced for granular (***non-granular***) non-STS to 0.51 (***0.66***)
- As a result, the APs at which the RWs become floored are 13.56% (***16.88%***)

Assumptions:

- K_{SA} = 8.00%
- N = 60 (***20***)
- LGD = 45% ('Other senior non-retail exposures')
- M_T = 5

CRE Mortgages SEC-SA

CRE Mortgages Granular Non-STS

Current		PRA Proposal		Optimised AP w/ PRA Proposal	
AP	26.00%	AP	26.00%	Optimised AP	13.39%
p	1	p	0.5	p	0.5
SEC-SA RW	15%	SEC-SA RW	15%	SEC-SA RW	15%
RW Unfloored	14.24%	RW Unfloored	0.75%	RW Unfloored	15%

CRE Mortgages Non-Granular Non-STS

Current		PRA Proposal		Optimised AP w/ PRA Proposal	
AP	26.00%	AP	26.00%	Optimised AP	17.54%
p	1	p	0.69	p	0.69
SEC-SA RW	15%	SEC-SA RW	15%	SEC-SA RW	15%
RW Unfloored	14.24%	RW Unfloored	3.63%	RW Unfloored	15%

Case study: CRE Mortgages SEC-SA

- With the PRA's proposal, p is reduced for granular (***non-granular***) non-STS to 0.5 (***0.69***)
- As a result, the APs at which the RWs become floored are 13.39% (***17.54%***)

Assumptions:

- K_{SA} = 8.00%
- N = 50 (***10***)
- LGD = 30% ('Other exposures secured on immovable property with LTV at most 100%')
- M_T = 5

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