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Australian Prudential Regulation Authority
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Regional Bank Submission
Revisions to the capital framework for Authorised Deposit-taking Institutions (June 2019)

The Regional Banks welcome the opportunity to comment on APRA's June 2019 proposed revisions to the capital framework. This submission is made on behalf of six banks: AMP Bank, Bendigo and Adelaide Bank, BOQ, ME, MyState and Suncorp Bank.

It is an objective of these Regional Banks to advocate policy changes that will assist in levelling the playing field in Australian retail banking. The capital framework, given the dual system for estimating risk weights, has been a key focus since the Murray Financial System Inquiry of 2014.

We applaud APRA for its effective implementation of the Murray Inquiry's proposed IRB risk weight floor of between 25-30%. In our view, APRA's effective implementation of that recommendation has materially assisted competition in the market.

Superior customer service of smaller banks and the higher levels of 'trust' in our brands should enable relatively strong growth into the future. But, to assure this, the playing field needs to be as level as appropriate.

D-SIBs in Australia have a significant competitive advantage arising from both reduced funding costs and reduced capital requirements. In our view the proposed prudential reforms are an opportunity to address the capital advantage, including a focus on both the facility level and the overall capital position of the bank.

The current proposals will continue to embed the capital advantage that D-SIB banks have in the lowest risk segments of the residential lending market, thereby forcing smaller, and less risk mature banks, into the riskier parts of the market. The impact of capital changes on particular customer segments such as first time home borrowers should be considered more fully.

The Regional Banks see this second capital framework consultation as a good opportunity to put forward constructive comments and recommendations to further improve the framework.

Key recommendations:

- Apply a minimum risk weight per facility on IRB banks on a per facility basis – ideally this minimum would be 25% (consistent with the Murray inquiry portfolio average). An alternative is to apply the 72.5% Basel floor to the minimum RW applicable to SA's, being 72.5% of 20%RW - 14.5% (see section 3 for further detail).

- Apply a credit conversion factor of 40% on residential mortgages, consistent with Basel III proposals. A CCF of 100% is unlikely to be supported by behavioural analysis and gives banks an incentive to change product terms that will discourage customers from paying ahead. Paying ahead provides a strong risk mitigant for system and in our view banks should encourage this. We appreciate that there should be recognition of the risk, and would be supportive of the Basel 40% level. If APRA continues with 100% in our view the significant variance from Basel's proposals requires further justification (see section 8 for further detail).

- LMI RW reduction should be maintained at current levels - the RW reduction applied for LMI covered loans has been significantly reduced. This impacts the higher LVR part of the market, and makes it more expensive for first time borrowers to enter the market. If APRA has changed their view on the value of LMI as a credit mitigant then this should be a more substantial discussion. The impact on D-SIBs is unclear, and we are unable to determine if D-SIBs are impacted in a similar way (further discussed in section 7).

- Reduce the overall differential between high and low LVR risk weights – there is a significant increase in the differential between RWs applied to low LVR and high LVR loans. This reduces the incentive to lend to first home buyers. We are supportive of encouraging moves to P&I, but LVR changes are going to further drive up costs for first time borrower. This also embeds the advantages of those borrowers with low LVR developed over time.

1. Context - State of Competition

The Regional Banks are concerned about the state of competition in retail banking and the subsequent impact on customers and consumers generally. Smaller Australian banks are competing against two groups that we believe have unfair advantages.

Firstly, there are the major banks with their large dominant position, supported by their D-SIB status, large distribution networks and lower risk weights.

The Productivity Commission has described the banking system as an established oligopoly, supported by regulatory settings and that smaller banks unable to provide a competitive constraint. (Productivity Commission review of competition in the Australian Financial System, released on 29 June 2018, p37).

It was recently reported that the low-interest rate environment is likely to impact more adversely on smaller banks[1].

Secondly, the non-ADI lending sector operates with fewer regulatory restrictions. For example, they are not subject to APRA's mortgage loan serviceability standard.

[1] APRA Chairman Wayne Byres recently said: "A very low interest rate environment will see margins squeezed, adding to the headwinds from slow lending growth. Profitability, and therefore capital generation, will come under more pressure. And given their different funding profiles, these trends may well impact smaller banks more forcefully than larger ones, reducing the ability of the former to apply competitive pressure to the latter. But to be clear, neither group will welcome further rate reductions." (Byres, 2019)

The Reserve Bank has found that in recent years, non-ADI lending has grown at approximately 15% - considerably faster than that of ADIs. This growth is partly attributed to the investment and interest-only loan restrictions on ADIs. (Reserve Bank's April 2019 Financial Stability Review, p57).

2. Basel III & unquestionably strong benchmarks

The Regional Banks note the capital consultation is being undertaken without specification of the capital targets that will apply to Standardised banks.

When APRA announced its 'unquestionably' strong (UQS) capital benchmarks on 19 July 2017, it specified a capital target for IRB banks of "at least 10.5%" (APRA, 2017, p. 6), but did not specify a benchmark for Standardised banks due to the diversity of reported ratios.

Instead of a capital target, APRA wrote that it considered Standardised banks would have to raise capital levels by approximately +50 basis points, compared to +150 basis points for IRB banks.

The Regional Bank are unclear on how this will work in practice when combined with other changes. If a bank increases its CET1 capital by 50bps as at 1 January 2020 to meet UQS then is it reasonable to assume that no further CET1 is required at 1 January 2022, the implementation date of the Basel III proposals? By way of specific example, assume a bank's target CET1 ratio is now 8.5% and it lifts this to 9.0% from 1 January 2020. Upon implementation of the changes at 1 January 2022, we would expect the CET1 ratio to reduce as RWA increase. If the reduction is 50bps, then since the bank is already UQS, can the bank lower its CET1 target back to 8.5% in line with the movement in the actual ratio at that time - thus recognising that the capital injected to meet UQS was sufficient?

Alternatively, if the Basel III recalibration drops the bank's CET1 ratio by 60bps, to 8.4%, is the bank required to inject a further 10bps of CET1? Essentially the question centres on whether once a UQS position is reached now, can banks assume that the subsequent changes are of the nature of a recalibration only and will not require further capital.

The other unknown factor is the proposed Quantitative Impact Statement (QIS) and how those results will impact the calibration. Hence, it is a further moving part.

3. Consistency across the risk spectrum (LVR bands)

With APRA's June 2019 consultation paper recommending a new risk segmentation between OO, P&I loans and 'Other' loans, there will be increased competition within the residential mortgage lending market for originating low LVR, high quality mortgage loans. It is important going forward into this new environment that the risk weight methods used by IRB and Standardised banks do not excessively benefit large IRB banks in this area.

Larger banks have more diversified balance sheets and have greater capacity to take on riskier loans. It is sub-optimal from a policy perspective that the largest banks have a pricing advantage in the lowest risk category of mortgage lending.

Therefore, a key issue for Regional Banks is the RWA gap between Standardised and IRB in the low-risk (low LVR) end of the mortgage market. We are open to ideas on how to address the issue. One possible approach is to apply the proposed IRB risk weight floor of 72.5% on a per-exposure level in the mortgage book. This would mean the lowest IRB mortgage risk weight would be 14.5% (i.e. 20% X 72.5% = 14.5%).

Currently the lowest applicable risk weight for a Standardised bank is currently 35%. Under APRA's June 2019 proposals, the lowest risk weight available will be 20% for residential mortgage loans that are owner-occupied, P&I, and with a loan-to-value (LVR) below 50%.

Data from major bank Pillar 3 reports indicate that the average mortgage risk weight in the lowest PD band (0 < 0.1%) is approximately 5.25% - see third column in Table 1.

Table 1		
Risk weighted assets of largest 4 IRB banks – latest Pillar 3 data ($b)		
	All housing mortgage exposures	Lowest PD band (0 < 0.1%)
Housing exposure	$1,903	$517
Risk weighted assets	$482	$27
Average risk weight	25.36%	5.25%

Under the assumption the Standardised bank loans that qualify for a 20% risk weight would likely fall into the lowest PD band (0 < 0.1%) if originated by an IRB bank, then the difference in average risk weight in this low risk cohort is notionally 14.75 percentage points.

Using APRA's methodology, but adjusting the risk weights to reflect loans in the lowest LVR buckets (IRB 5%; Standardised 20%) the IRB pricing advantage for these loans is calculated at **13 basis points** – more than double that of the average estimate. This also assumes a Standardised CCF of 100%[2]. (See Scenario 3 of Table 3).

To assist competition, the Regional Banks recommend the proposed IRB floor of 72.5% is applied on a per-exposure basis. This would lift the minimum risk weight for IRB banks to 14.5% - still materially below the 20% minimum applicable to standardised banks, thus preserving a capital incentive to achieve IRB status.

[2] If a CCF of 50% is used as per APRA's base case, then the estimate of pricing advantage to IRB is marginally lower at **12 basis points.**

4. Five basis point estimate

APRA's response to submissions document estimates[3] that the average pricing advantage for IRB banks is in the order of five basis points (APRA, 2019, p. 22). In our view, a five-basis point average pricing advantage is reasonable given that there is a justification for some gap to encourage banks to strive for IRB accreditation. One important qualification, however, is that the gap should be similar through the LVR bands, not just on average.

We note also that most Standardised banks cannot comprehensively assess differences between Standardised and IRB, therefore there is an asymmetry of information. We would encourage APRA to consider sharing QIS data in an aggregated form to increase transparency and enable robust analysis of the competitive impacts of these proposals.

Using APRA's methodology, but applying average risk weights for very low-risk mortgage loans, then the pricing advantage to IRB banks is roughly 13 basis points. While this appears a relatively moderate advantage, it translates into a per-loan return-on-equity (ROE) roughly twice that of a Standardised bank issuing the same loan (14.3% versus 30.5%).

If the assumption is adopted that IRB and Standardised banks face different average funding costs, then considerably larger pricing advantages accrue to IRB banks. For example, if it is assumed that Standardised banks pay 20 basis points higher debt costs, then the pricing advantage to IRB banks for low-risk loans is approximately 32 basis points.

Capital target assumption

A key factor is the assumption of the capital target. In the analysis, APRA assumes the IRB banks adopt a capital target of 9.5% compared to a Standardised target of 8.5%. This is based on a starting point of 8%, with a +150 basis points for IRB, and +50 for Standardised to reflect the UQS capital benchmark.

Regional Banks support the rationale behind these target assumptions, but we make the point that the estimated gap in average risk weights between IRB and Standardised Is sensitive to the assumption used and out of step with current market outcomes.

For example, the March quarter 2019 Quarterly ADI Performance Survey (QADIPS)[4] has the following ratios published:

- For the major four banks, the weighted average CET1 ratio is 10.7% (see TAB 4c).
- For the category of 'Other domestic banks', the average CET1 ratio is 10.9% (see TAB 5c)[5].

[3] On Friday 23 August 2019, APRA and the ABA held a workshop to explain the methodology and assumptions underpinning APRA's calculation. Overall, the Regional Banks endorse the APRA's methodology used to undertake the estimate. We have comments on some of the assumptions, as discussed below.
[4] See APRA website: https://www.apra.gov.au/publications/quarterly-authorised-deposit-taking-institution-statistics
[5] The statistics is for 34 banks, so it is a wider set of banks than those signatory to this submission.

If the pricing advantage analysis is undertaken with these current CET1 ratios, then the estimated gap is more than double APRA's base case estimate, 12 basis points. (See Scenario 5 of Table 3).

The Regional Banks agree that it is appropriate there are different capital targets between IRB and Standardised banks. The current ratios in the market today reflect management capital buffers as the final UQS targets are yet to be finalised and implemented.

The large IRB banks incur a +1% CET1 additional levy. This additional buffer is designed to offset the implied "too big to fail" support from the Australian government (taxpayers), and the implicit funding cost advantage that this also provides to the larger banks.

Credit conversion factor (CCF)

APRA's analysis assumes the IRB banks have credit conversion factor of 100% compared to the Standardised banks 50%. There is a methodological question as to whether the analysis should assume a higher CCF for Standardised banks given APRA is proposing to increase these factors for Standardised in the June 2019 proposals. Under APRA's current proposal, the applicable CCF for undrawn residential mortgage credit is 100%. This assumption is factored into two scenarios in Table 3.

Cost of debt

APRA has assumed in its analysis that the cost of debt for both Standardised and IRB banks is equivalent at 3.0%. This assumption is understandable as the purpose of the analysis is to isolate and highlight the pricing impact of different risk weighting methodologies.

However, it is worth noting that the major IRB banks have lower average debt funding costs, including both wholesale debt and deposits. Reserve Bank research concluded the value of the 'too big to fail' implicit guarantee on wholesale debt is around 20 basis points[6].

Related to the 20 basis point advantage, the Regional Banks would welcome discussion on potential suggestions to address this structural funding advantage – for example an increased covered bond issuance limit from 8% to > 12% for non D-SIBs.

Given the debt assumption is equivalent for both IRB and Standardised, the levy for 'too big to fail' should not factor into the capital target assumption. If it does, then the cost of debt assumption should correspondingly change.

Assuming the Standardised banks face higher average debt costs in the order of 20 basis points, then the pricing impact is estimated to be at least 24 basis points (See Table 3, Scenarios 2 and 4). Using a 20 basis point difference is conservative[7].

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[6] *(Reserve Bank of Australia, May 2015)*

[7] While the QADIPS data suggest average funding costs are higher than 20 basis points, a lower figure was also chosen to ensure the it is true for a wider range of banks.

As can be seen from Table 2, using data from the QADIPS, the implied average funding cost difference is 15 basis points for deposits, 241 basis points for wholesale debt, with an aggregated difference of 57 basis points.

Table 2			
Estimates of Average Debt Funding Costs			
12 Months to March quarter 2019 ($m)			
	All ADIs (excl majors)	Major banks	Difference (bps)
Interest paid			
Deposits	11,919	39,305	
Borrowing	8,527	22,823	
Total	20,447	62,128	
Liabilities (Qtr average)			
Deposits	615,461	2,201,200	
Short-term debt	66,835	240,030	
Long-term debt	97,571	582,316	
Total	779,867	3,023,546	
Average funding costs			
Deposits	1.94%	1.79%	- 15
Long & short-term debt	5.19%	2.78%	- 241
Total	2.62%	2.05%	- 57
Source: Underlying data taken from June 2019 QADIPS			

Other costs

Similarly, the assumption that 'other costs' are equivalent between IRB and Standardised banks at 1% is unrealistic, albeit understandable given the analytical purpose.

The major IRB banks have considerable scale benefits that enable them to spread fixed costs over a larger customer base. QADIPS data suggests the cost-to-income ratios are:

- 47.8% for major banks; and
- 63.1% for all other ADIs (excluding major banks).

This data implies a material difference, although they are aggregate numbers and not specific to the mortgage portfolio.

Interest rate risk in the banking book (IRRBB)

The Regional Banks accept that including a non-zero IRRBB component in the calculation is legitimate and we trust the 0.75% RWA add on is representative of the average across major IRB banks.

For IRRBB, normally the largest driver is the difference in the maturity profile assumed for equity. This assumption is not directly related to the mortgage book and is at the discretion of the bank. As such, incorporating IRRBB costs into the analysis does not reflect the risk-related costs associated with mortgage portfolio. We note some recent disclosures:

- In a recent half year result, one major bank's IRRBB charge dropped by 43% due to 'structural reduction in the invested term of capital.' Although the reason for this structural change is not included in the disclosure, this kind of reduction may reflect the bank's view on interest rate movement/s.

- In a recent third quarter Pillar 3 release, a different major bank revealed a $4.3 billion reduction in its IRRBB risk weighted assets over the quarter to 30 June 2019. According to the bank the *"$4.3 billion fall in interest rate risk in the banking book RWA as a result of lower interest rates".*

  Indeed, the IRRBB RWA for this bank declined from $13.06 billion at 30 June 2018 to $2.7 billion as of 30 June 2019 – a reduction of approximately 80%.

In our view, this shows that the level of IRRBB Risk Capital can be adjusted by IRB banks, and is reflective of the risk appetite of the bank as much as any underlying risk associated with the loan portfolio.

Stability over time

On the assumption that the five-basis point average pricing advantage is broadly accurate, there is a concern that this differential may widen over time. For example, the proposed reduction in the IRB minimum LGD parameter from 20% to 10% may impact in the years ahead, although we recognise that LGD assumptions are unlikely to be materially adjusted in the short-term. As noted above, APRA is also recommending higher CCF factors for Standardised banks

The Regional Banks acknowledged APRA has written that the current RWA gap is unlikely to change as a result of the capital revisions. Notwithstanding, the Regional Banks would like APRA to introduce a transparent mechanism that would ensure the current pricing benefit of IRB does not grow over time.

Configuring an IRB risk weight floor (potentially greater than 72.5%) may be an effective way of doing this.

5. Gap between IRB and Standardised with some alternate assumptions

Based on the discussion above, this section estimates pricing differences between Standardised and IRB using APRA's methodology but with some alternative assumption scenarios. See Table 3.

A key assumption is that of debt funding costs. APRA's base case is for equivalent debt funding costs of 3%. However, if it is assumed Standardised banks have a debt cost 20 basis points higher, 3.2%,

then the estimated gap between IRB and Standardised increases from 5 basis points to 24 basis points (See Scenario 2).

Another feature of the scenarios is the difference in gap between the 'average' portfolio and that of low risk loans. Assuming a minimum risk weight of 20%[8] for Standardised, and 5%[9] for IRB, the estimated gap is 13 basis points (Scenario 3), more than twice that of the average (See Scenario 3).

Scenario 4 combines both Scenarios two and three. In this scenario, Standardised banks face 20 basis points higher debt costs, a CCF of 100%, and a minimum RWA of 20% compared to 5% for IRB. The resulting gap is 32 basis points. We note that this scenario highlights the funding cost differences. The difference in funding costs is a structural feature of the system, not market driven.

Table 3
Scenario estimates of Average Mortgage Risk Weights
APRA methodology with assumption changes

Scenarios	STD	IRB	Gap (Bps)
1. Base scenario from APRA	4.40%	4.35%	-5
2. Base scenario, with 20 basis point higher debt cost for Standardised	4.59%	4.35%	-24
3. Base scenario, with RWA Standardised of 20%; RWA IRB 5%; & CCF of 100% for both	4.21%	4.09%	-13
4. Scenario 3, but with a Standardised debt cost assumption 20 basis point higher	4.41%	4.09%	-32
5. APRA's base case but using current average CET1 ratios in market today	4.51%	4.39%	-12

The competitive impact of scenario 3 can be seen in Table 4. It shows the relative impact on profitability and return on equity (ROE). Due to the lower risk weight impacting on the amount of CET1 required, the ROE for the IRB banks is roughly twice that of Standardised banks.

[8] The minimum available under APRA's proposed Standardised schedule as of June 2019. However, the current minimum risk weight for residential mortgage loans for Standardised banks is 35%
[9] See Table 1,

Table 4			
Impact on ROE at low risk mortgage loans ($100 loan facility)			
Scenario 3: Impacts on ROE (Assuming loans priced at Standardised costs)			
	STD	IRB	Difference (Percentage points)
Revenue	$3.79	$3.79	
Debt costs	$2.65	$2.68	
Other costs	$0.90	$0.90	
Profit	$0.24	$0.21	
CET1 required	$1.70	$0.70	
ROE (CET1)	14.30%	30.53%	16.2

In the analysis, the assumption is that both Standardised and IRB banks generate equivalent revenue per loan, with the consumer price of the loan based on the Standardised bank's production costs. See Appendix 2 for more details.

6. Difference in risk weights between investment and owner occupied

The Regional Banks support APRA's proposed segmentation of residential mortgages into two categories — lower risk owner-occupied principal-and-interest loans, and higher risk mortgages, including investor loans, interest-only loans and loans to SMEs secured by residential property.

Our main concern is with two risk cohorts where the risk weight differential is larger than can be justified on an empirical basis, particularly between OO and Investment loans.

- Within the LVR band of greater than 60 and less than or equal to 80, the applicable risk weight differential is 35 vs 45. The gap represents a higher risk rating of 29%.

- Within the LVR band of greater than 80 and less than or equal to 90, the applicable risk weight differential is 45 vs 60. The gap represents a higher risk rating of 33%.

Empirically we note that while investment loans have increased in the proportion of total housing lending, this change has not been associated with higher average residential mortgage impairment. The Regional Banks are unaware of any publicly available data that shows materially higher impairment rates for investment loans versus owner-occupier.

7. Lenders mortgage insurance[10]

Under APRA's proposals, there is no allowable risk weight reduction for lenders mortgage insurance (LMI) on loans with an LVR below 80%. The response to submissions document does not outline a rationale for the 80% cut-off.

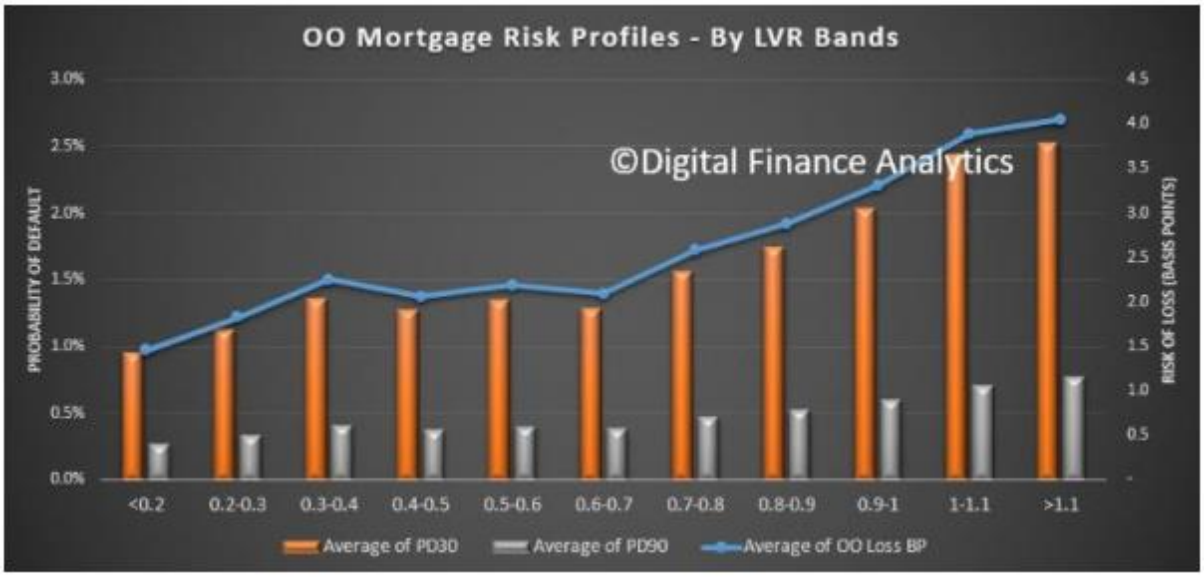
A mortgage with an LVR below 80% poses a low risk of loss given the security coverage. However, the risk is not zero. For instance, many loans written at beginning of the recent property downturn would have close to zero equity.

The Regional Banks recommend that some risk weight reduction is available for LMI in the LVR range of 50 to 80%. Below 50% it is reasonable to assume the loss given default is close to zero.

At a minimum, LMI capital relief should be available for residential mortgage loans with LVRs above 70%, not 80% as proposed. As can be seen in Figure 1 below[11], the risk of loss (blue line) declines until the LVR falls below the 60-70% band.

Figure 1

Risk of Loss by LVR band



We also note that the RW reduction applied for loans with LMI has materially reduced. In the current standard the RW reduction is 15-25bps, and in the new standard this is reduced to 5-10bps.

In the 80-90% bucket the RW has moved from 35% to 45% for low risk loans, and from 35% to 60% for higher risk loans. The impact of this change on the overall RW is material.

[10] Please note I have requested information from Genworth to

[11] See blog post on the DFA website: https://digitalfinanceanalytics.com/blog/getting-deep-and-dirty-on-mortgage-risk/

8. Credit conversion factors (CCFs)

APRA has proposed a treatment of CCFs that is higher than the Basel III standard. The main issue is the CCF applying to the undrawn amounts of residential mortgage loans.

This will have a material impact on the RWA assets of Standardised banks in general.

Assuming a mortgage loan limit of $400k, $300k is drawn, $100k is undrawn. The applicable risk weight is 35%. If the CCF on the undrawn amount is zero, then the average risk weight across the facility is 23%. If the CCF is increased to 100%, then the average risk weight will rise to 35%, an increase of 33%. If the Basel Committee's proposed CCF of 40% is used, then the increase in the average risk weight would be 13%.

APRA's proposed CCF of 100 per cent implies a strong incentive for borrowers to increase debt levels when facing adverse financial circumstances, when the logic suggests that borrowers who have their job or income at greater risk will seek to deleverage their financial position by cutting back on consumptions and repaying debt, not applying for more debt. The household savings rate in Australia increased markedly during the GFC.

Clearly there are circumstances where there is an incentive for a borrower to secure additional credit, but this incentive is certainly not universal. As such, a portfolio view should influence the calibration. The Basel committee CCF of 40% is likely to be more risk reflective.

A CCF of 100% gives banks an incentive to change product terms that will discourage customers from paying ahead. Paying ahead provides a strong risk mitigant for system and in our view banks should encourage this. We appreciate that there should be recognition of the risk, and would be supportive of the Basel 40% level. If APRA continues with 100% in our view the significant variance from Basel's proposals requires further justification.

Definition of commitment

APRA is proposing to adopt the Basel III definition of commitment and exercise national discretion to exempt certain arrangements from this definition, subject to some adjustments to the Basel III conditions to ensure that the criteria are more objectively measurable. To be eligible for exemption from the definition of commitment, an arrangement needs to satisfy four principles[12].

In view of Regional Banks, embedding these principles into operating procedures will be costly and burdensome for customers. For example, if a borrower has overpaid their loan for a few years, then wants to draw down on some of that credit, the customer will in effect need to make a new loan application and have serviceability reassessed.

The requirement that no fee or commission can be received for undrawn credit is complex. There are real costs associated with managing loan accounts and this includes the management of the undrawn component of the loan limit. These costs will be covered by loan account management fees and/or recovered through the interest rate on the loan.

[12] (APRA, 2019, pp. 27-28)

9. Conclusion

The Regional Banks appreciate the opportunity to have input into this consultation. We hope you find valuable our submission and would welcome any opportunity for further engagement.

Our main concern with the proposals is the pricing advantage IRB banks will have in the low-LVR end of the mortgage market. To address this, we suggest a risk weight floor is applied at the per-exposure level, but we are open to other ideas.

10. Further information

Appendix 1[13]:

Appendix – table of calculations

	Inputs	Standardised	IRB
(A)	Asset	100	100
(B)	*of which, drawn*	90	90
(C)	*of which, undrawn*	10	10
(D)	CCF	50%	100%
(E)	Cost of equity (post-tax)	14.3%	14.3%
(F)	Cost of debt	3%	3%
(G)	Tax rate	30%	30%
(H)	Other costs	1%	1%
(I)	Capital target	8.5%	9.5%
(J)	IRRBB add on	nil	3%
(K)	Risk weight	39%	25%
(L)	IRB scaling factor	nil	1.06

		Standardised	IRB	Calculation
(M)	EAD	95	100	B + (C x D)
(N)	RWA	37.05	25.00	K x M
(O)	Scaling factor	nil	1.50	(L x N) - N
(P)	IRRBB adjustment	nil	0.75	J x N
(Q)	'all-in' RWA	37.05	27.25	N + O + P
(R)	CET1	3.15	2.59	Q x I
(S)	EL adjustment	nil	0.18	see below
(T)	CET1 required	3.15	2.77	R + S
(U)	Debt required	86.85	87.23	B – T
(V)	Price	3.40%	3.35%	per slide 4
(W)	Price + other costs	4.40%	4.35%	H + V

Estimated pricing differential due to the capital framework for IRB vs standardised: ~5 basis points

Expected loss (EL) is calculated as the probability of default (PD) x loss given default (LGD).

The EL adjustment, applicable only to IRB ADIs, is calculated as exposure at default times the excess of expected loss over eligible provisions. Here provisions is assumed to be 0.02%, PD: 1%, LGD: 20%.

[13] (APRA, 2019)

Appendix 2

Appendix 2									
Return on Equity Analysis using Scenario 3									
	Inputs	Standardised	IRB				Standardised	IRB	Calculation
(A)	Asset	100	100		(M)	EAD	100	100	B + (C x D)
(B)	of which, drawn	90	90		(N)	RWA	20	5	K x M
(C)	of which, undrawn	10	10		(O)	Scaling factor	0	0.3	(L x N) - N
(D)	CCF	100%	100%		(P)	IRRBB adjustment	0	0.15	J x N
(E)	Cost of equity (post-tax)	14.30%	14.30%		(Q)	'all-in' RWA	20	5.45	N + O + P
(F)	Cost of debt	3%	3%		(R)	CET1	1.70	0.52	Q x I
(G)	Tax rate	30%	30%		(S)	EL adjustment	0	0.18	see below
(H)	Other costs	1%	1%		(T)	CET1 required	1.70	0.70	R + S
(I)	Capital target	8.50%	9.50%		(U)	Debt required	88.30	89.30	B – T
(J)	IRRBB add on	nil	3%		(V)	Price	3.21%	3.09%	per slide 4
(K)	Risk weight	20%	5%		(W)	Price + other costs	4.21%	4.09%	H + V
(L)	IRB scaling factor	nil	1.06						
	ROE Analysis								
	Consumer interest rate	4.21%	4.21%						
	Revenue	$3.79	$3.79						
	Debt cost	$2.65	$2.68						
	Other costs	$0.90	$0.90						
	Profit	$0.24	$0.21						
	CET 1	$1.70	$0.70						
	ROE (Profit / CET 1)	**14.3%**	**30.5%**						

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