



28 April 2022

Mr John Lonsdale
Deputy Chair
Australian Prudential Regulation Authority

By email: John.Lonsdale@apra.gov.au
CC: therese.mccarthyhockey@apra.gov.au

Dear Mr Lonsdale,

APS 117 Interest Rate Risk in the Banking Book: Policy Proposals

APRA's globally unique approach to the prudential regulation of interest rate risk in the banking book (**IRRBB**) has driven a much deeper understanding of the underlying dynamics of interest rate risk management within the major Australian banks.

The Australian Banking Association (**ABA**) wishes to engage the Australian Prudential Regulation Authority (**APRA**) on the industry's four main concerns regarding IRRBB volatility and two simple proposals which would address these concerns. I will reach out to Ms McCarthy Hockey in the coming days to organise a meeting with your capital teams to discuss this topic in more detail.

Our position

Events over the last two years have highlighted:

- (i) the significant volatility inherent within the IRRBB capital requirement; and
- (ii) a severe and growing risk to the stability of the Australian financial system under a future significant credit stress event.

Specifically, the credit spread shocks experienced in March 2020 (at the onset of the Coronavirus pandemic) and, more recently, the inflationary rate shocks experienced between October 2021 and March 2022, have highlighted the significant volatility of the IRRBB capital requirement. These events have also increased the industry's understanding of the performance of this framework under stress.

Assuming current levels of liquid assets and the 3 year investment term of equity hedges, IRRBB RWA across the four major banks is estimated to have increased more than \$80 billion in the 9 months to March 2022¹. Considering the further increase in swap rates during April 2022, the IRRBB RWA impact is now of equivalent size to APRA's July 2016 change to mortgage risk weights², which resulted in capital raisings across the industry and a repricing of variable rate home loans in Australia. The volatility in IRRBB capital requirement is driven by a risk measurement approach based on spot market prices, which can exacerbate and amplify a downturn in the business cycle³.

¹ ADIs' ALM and term liquids strategies will impact this estimate.

² APRA's July 2016 had a capital impact of ~\$13bn of capital across the four major banks (\$140bn RWA x 9.5% CET1). As 31 March 2022, rates volatility is estimated to result in an increase of ~\$10bn of capital, with further ~\$3bn capital increase expected during April 2022.

³ 'A system of risk-based capital requirements is likely to deliver large changes in minimum requirements over the business cycle, particularly if risk measurement is based on market prices. This has the potential to increase the financial amplification of business cycles' (Credit risk measurement and procyclicality, Philip Lowe, 2002).

Looking beyond the current volatility, we are concerned that the current IRRBB framework would limit our ability to support lending to the economy and government borrowing under a severe credit stress event. APRA has stated that “a more flexible capital framework is one that can respond appropriately to the prevailing environment. In a time of stress, for example, this means that the capital framework can act countercyclically and better support the ability of the financial system to absorb losses and continue lending to credit-worthy borrowers”⁴. On the contrary, the regulatory shock associated with higher IRRBB RWA is expected to exacerbate a severe stress event.

The ABA is seeking to share the industry’s four main concerns and suggest two simple proposals which would address these concerns.

The four main concerns with the existing IRRBB framework (detailed in Appendix 1) are:

1. **Pro-cyclicality:** during a stress event, ADIs may suffer losses from widening credit spreads on the Australian State and Federal Government bonds held in our liquid asset portfolios, as well as higher loan loss provisions and defaults. IRRBB capital requirements then exacerbate that shock by requiring ADIs to hold additional capital against these public bond holdings. Under a future GFC-type scenario, IRRBB RWA procyclicality would cause **~\$6 billion of capital impact**⁵ across the four major banks, assuming current levels of liquid assets and the industry-standard 3 year investment term of equity hedges. After the removal of the Committed Liquidity Facility and the expected reduction of system ESA balances, we expect the level of government bond holdings to increase across the industry, which would lead to that IRRBB procyclicality climbing to **~\$18 billion of capital impact**, which is above the increase in credit losses that the four major banks reported during the GFC⁶, and would occur much more quickly. Moreover, we estimate that the capital impact of IRRBB procyclicality would also be comparable to credit losses under APRA 2020 severe downside scenario⁷. Under any of these scenarios, a capital impact of that magnitude is clearly disproportionate, unintended and unintuitive.
2. **Perverse incentive to shorten investment term of equity:** following the recent inflationary rate shocks, ADIs are incentivised to reduce IRRBB capital by shortening the investment term of their equity hedges from the industry-standard of 3 years, to the 1 year investment term, which is considered “risk-free” under the IRRBB framework. However, a 1-year investment term would further exacerbate a GFC-type scenario due to the reduction in embedded gains from shorter tenor equity hedges, increasing IRRBB procyclicality to **\$16 billion of capital impact** (at current liquid asset levels) and **\$26 billion of capital impact** (at future expected liquid asset levels).

Capital impact (\$bn) ⁴	Procyclical IRRBB impact (<4 weeks)				Credit losses (3 years)
	1-year investment term		3-year investment term		
	Current HQLA	Future HQLA	Current HQLA	Future HQLA	
Australia GFC	\$16 bn	\$26 bn	\$6 bn	\$18 bn	\$10-15 bn

3. **Perverse incentive to sell government bonds:** given that higher IRRBB capital requirements under stress are largely a function of bond holdings within ADIs liquid asset portfolios, banks would have to choose between divesting public bonds (and thereby increasing Australian federal and state government borrowing costs), or reducing lending to the economy, or some combination of both, at the worst possible time for the country. After an Australia GFC scenario, the marginal IRRBB capital intensity for state government debt

⁴ APRA A more flexible and resilient capital framework for ADIs (December 2020).

⁵ RWA impact converted to capital assuming a CET1 ratio of 11.0%, consistent with APRA’s expectations under the new framework.

⁶ Estimated as the excess of LIE over the long-term average from FY07 to FY12.

⁷ Based on spreads observed in Italy and Spain during the GFC, which reported an HPI and unemployment impact less severe than APRA scenario.



would increase from ~35% to ~90%. This is higher than the average credit RWA intensity of Residential Mortgages, Commercial Real Estate or other non-retail lending.

4. **Inconsistency with APS 111:** a key driver of IRRBB capital volatility is the mark-to-market of the embedded gains and losses (“EGLs”) on an ADIs investment term of equity hedges. The purpose of recognising EGLs is to represent the economic value of the bank under resolution (i.e. on a “gone concern” basis). Under APS 111, Tier 1 capital is supposed to absorb losses on a ‘going concern’ basis, whereas Tier 2 capital is designed to absorb losses on a “gone-concern” basis. The current inclusion of IRRBB EGLs within the calculation of the CET1 capital ratio is contrary to APS 111.

Two simple proposals (detailed in Appendix 2) would address these issues with little to no implementation cost, while strengthening the stability of the Australian financial system:

- i. Mitigate concerns 1 & 3 by standardising the credit spread risk capital requirement on government bond liquid asset holdings. There are a number of ways this could be achieved, and a practical suggestion on a proposed modelling approach is set out in more detail in Appendix 2.
- ii. Mitigate concerns 2 & 4 by removing IRRBB EGLs from RWAs and including in Tier 2 Capital.

The four major banks firmly support these proposals, given the significance of the implications for Australian financial system stability. We also recommend APRA adopt these proposals as soon as practicable, by way of publication of amended FAQs. Given the risk that the IRRBB framework poses to capital stability in the current market environment, we do not consider it appropriate to include these measures as part of the scheduled revisions to APS 117, given those changes will take more than 2 years until implementation.

If you require further information or would like to discuss any of the content of this letter, please do not hesitate to contact me on 0411 281 562 or brendon.harper@ausbanking.com.au.

Regards,

Brendon Harper
Policy Director
Australian Banking Association

Appendix 1: Four Main Concerns

1. Pro-cyclicality

The volatility of IRRBB stems from two components of the framework, calibrated based on spot market rates:

- Embedded Gains and Losses (“EGL”): calculated as the market value of the equity hedge against a hedge invested over a 1 year term.
- Yield Curve and Repricing (“YCR”): calibrated based on the worst shocks observed over the last 6 years, so after a severe shock, capital requirements increase.

A simplified desktop analysis of the volatility of these components has been performed assuming that the four major banks held a \$180bn equity hedge over a 3 year investment term and \$240bn of term liquids over a 10 year investment term, based on 2021 external disclosure.

Under these assumptions, the four majors’ IRRBB RWA would have increased ~\$30bn in the six months to December 2021, and \$80-90bn in the nine months to March 2022 (see Appendix 3, Exhibit 1). ~75% of the increase has been caused by EGL deterioration and ~25% from YCR calibration.

IRRBB volatility has been further tested under the market conditions experienced in Australia from January 2008 to January 2010, applying a -0.1% floor to swap rates (Exhibit 2).

Exhibit 4 shows the results of this scenario analysis under different balance-sheet settings, including an investment term of 1 year for the equity hedge and \$400 billion of term liquids (assuming that system ESA balances reduce to less than half of the 2021 levels). In this scenario, volatility of credit spreads has a large impact in the YCR calibration, above the offset provided by the equity hedge or the actual capital impact in reserves.

2. Perverse incentive to shorten investment term of equity

ADIs could choose to shorten the duration of their equity hedge to avoid the capital volatility inherent to APRA’s capital requirements during a rising rates environment. However, a shorter duration of the equity hedge would further expose Australian ADIs to ‘wrong-way-risk’: loan losses crises are typically preceded by cash rates cuts, as a result, longer durations provide an additional revenue stream to absorb losses and to continue to support the financial system (Exhibit 3).

Exhibit 4 shows that an equity hedge invested over a 3 year term would provide a \$70-75bn RWA offset to IRRBB procyclicality through an improvement in EGL.

3. Perverse incentive to sell government bonds

The volatility of the IRRBB RWA methodology results in sudden changes of the capital intensity of balance sheet positions. For instance, the marginal capital required for government and semi-government bonds significantly increased after the March 2020 shock, reduced after October 2021 and increase again after January 2022.

Most ADIs allocate their capital based on APRA’s regulatory capital. However, APRA’s IRRBB methodology assumes that the worst shocks observed in the last 6 years are the most likely to occur again. Positioning ADIs’ balance-sheet in line with APRA’s methodology, could result in the wrong capital incentive increasing ADIs’ capital losses.

Moreover, the IRRBB methodology poses a risk to Australian financial system stability. Following an event that significantly widens credit spreads of Australian public debt, ADIs would have to absorb a shock of billions of dollars of capital at the early stages of a future economic crises.

After an Australia GFC scenario, the marginal IRRBB capital intensity for government debt would increase from ~35% to ~90%. This is higher than the average credit RWA intensity of Residential Mortgages, Commercial Real Estate or other non-retail lending.

4. Inconsistency with the capital framework

The IRRBB framework, in particular with regards to YCR and EGL, has been designed for a liquidation scenario⁸. For instance, we understand that EGL are included in the IRRBB framework to ensure that the loss in economic value of an ADIs' equity in a liquidation scenario, is absorbed by capital instruments rather than by deposits or other securities.

This results in two main inconsistencies with the capital framework as updated in 2013:

- As introduced by APRA in 2013, under APS 111, Tier 1 capital is supposed to absorb losses under a 'going-concern' basis, while Tier 2 capital absorbs losses on a 'gone-concern' basis (see APS 111 par 9). The inclusion of EGLs in RWAs means that contrary to APS 111, Tier 1 capital is allocated to potential losses in a 'gone-concern' basis.
- The conversion of EGL into the RWA denominator amplifies the impact to capital by 1.4x (i.e. multiplied by 12.5 and an 11% CET1 ratio).

⁸ See APG 117 (e.g. '*In a liquidation scenario, this offset might disappear to the extent that the capital instrument absorbs the losses*')

Appendix 2 – Policy Proposals

As outlined in the executive summary, we believe that two simple proposals would remove the volatility of the IRRBB framework, while maintaining the sensitiveness of capital requirements to interest rate risk. These proposals deliver significant benefits with no material cost.

i. Standardisation of Yield Curve and Repricing calibration

Rationale for change

Remove the procyclicality of the YCR calibration, and ensure that the capital intensity of the equity hedge and term liquids, remains constant through the cycle, removing the incentive to sell government debt after a credit spreads shock.

Basel Committee approach

The Basel Committee on Banking Supervision (“BCBS”) recommends the use of standardised interest rate shocks, reviewed with a certain frequency to reflect local conditions in a timely manner: “*the Committee will review the calibration of the interest rate shock sizes (eg every five years)*” (BCBS, SRP31 Interest Rate Risk in the Banking Book, December 2019).

Policy Proposal

APRA to communicate ADIs the desired window to be consistently used for the calibration of YCR (specific window determination to be agreed post industry consultation), to be reviewed by APRA with a certain frequency (e.g. annually).

Implications

- Stability of CET1 ratio through-the-cycle; and
- Stability of the contribution from the equity hedge and term liquids, removing the incentive to sell government bonds after a credit spreads shock.

ii. Remove EGL from IRRBB RWA and add it back to Tier 2 capital

Rationale for change

Improve consistency between APS 111 and APS 117 and stability of the CET1 ratio, while reducing the incentive to take a ‘wrong-way risk’ by shortening the duration of the equity hedge.

Basel Committee approach

BCBS clarifies that “*earnings-based measure is better suited to measuring the short- and medium-term vulnerabilities of the bank to IRRBB, assuming that it is able to continue in business (a going-concern viewpoint)*”, while “*Economic Value measures usually just focus on changes to cash flows of instruments already on the balance sheet*”.

Policy Proposal

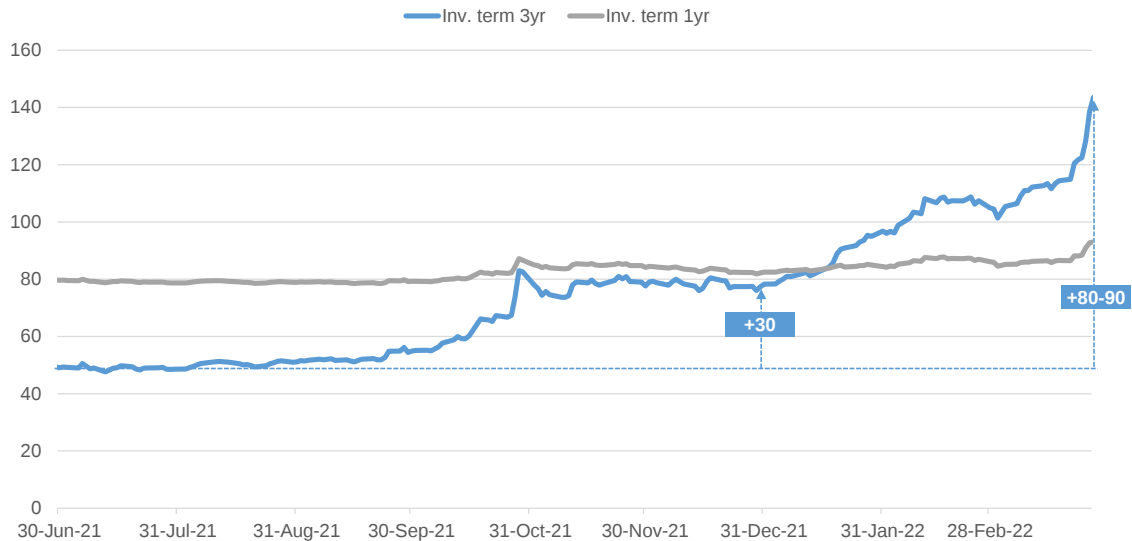
APRA to clarify that EGL should be removed from IRRBB RWA and added to Tier 2.

Implications

- Consistency between APS 111 and APS 117;
- Stability of CET1 ratio through-the-cycle; and
- Lower incentive to shorten the duration of the equity hedge to mitigate capital volatility.

Appendix 3 – Supporting Exhibits

Exhibit 1: IRRBB YCR and EGL for the four major banks (RWA, \$bn)



Note: Assumes an equity hedge of \$180bn and term investments of \$240bn invested over a 10-year term

Exhibit 2: Australia GFC scenario

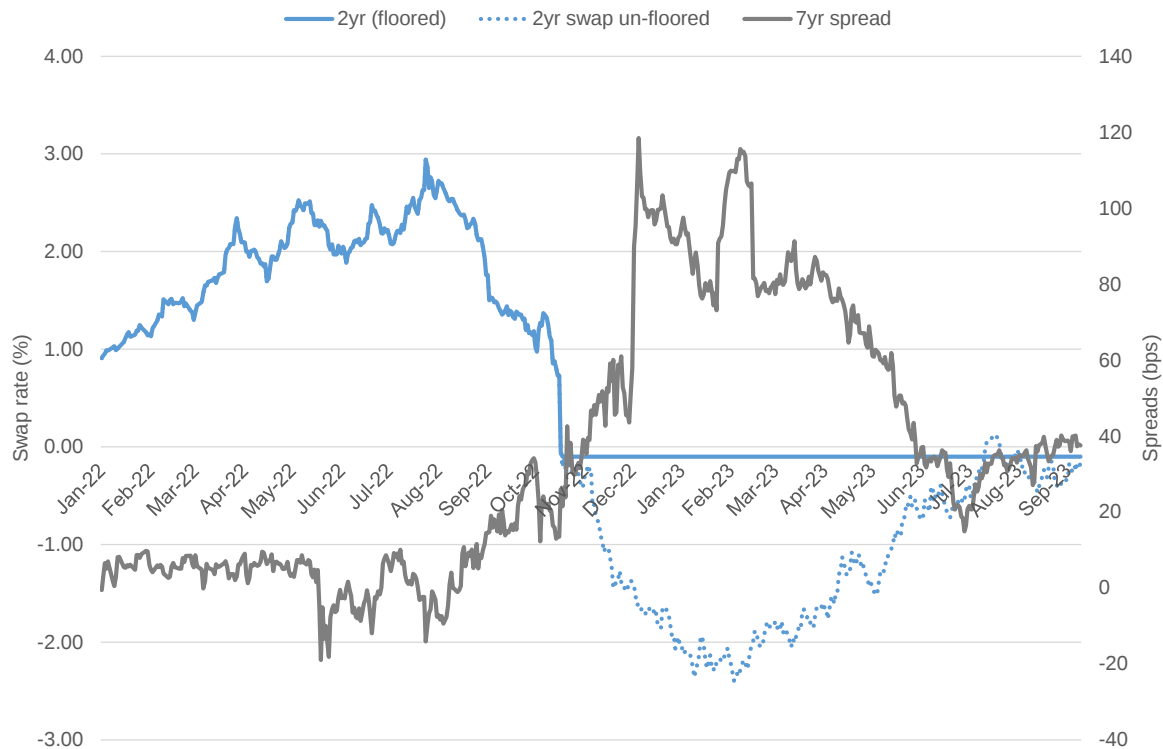


Exhibit 3: Tractor rate performance based on US bond yields

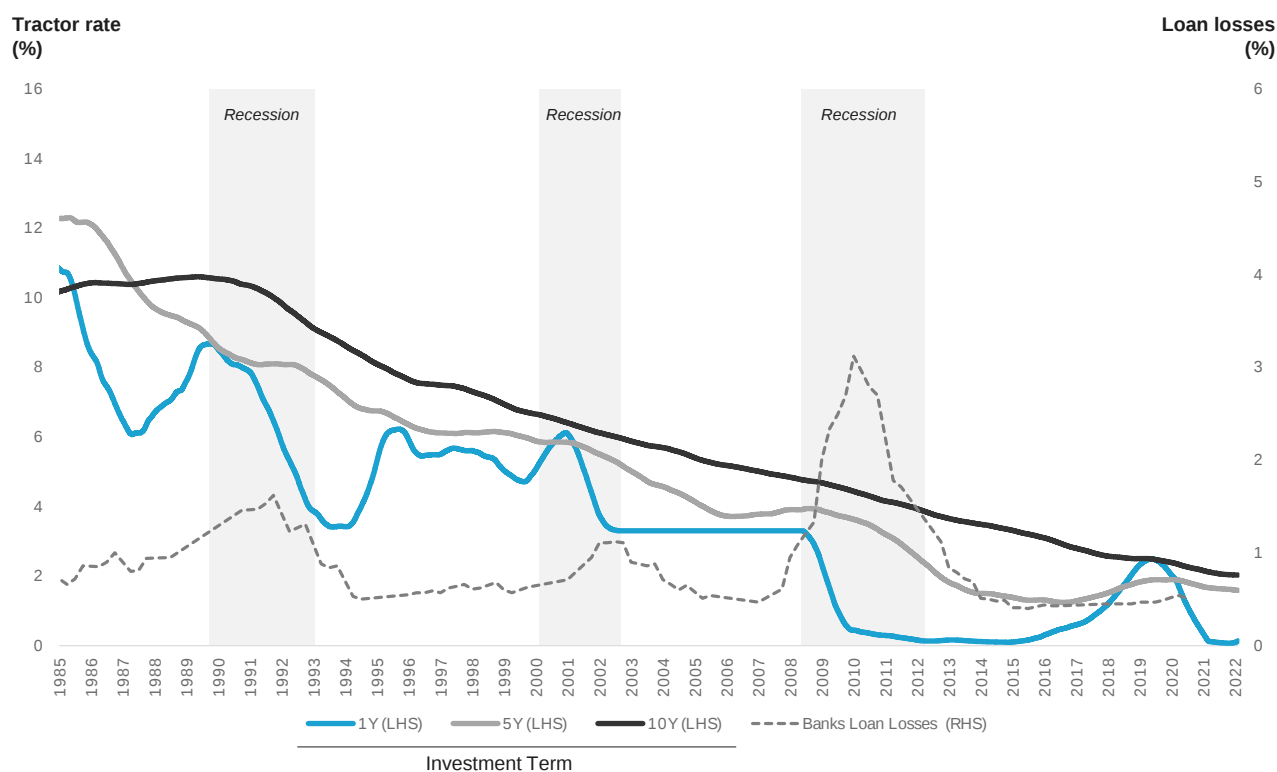


Exhibit 4: Scenario analysis results

Scenario	BS settings		IRRBB peak	EGL RWA impact (\$bn)	20-days 16th worst shock (%)		YCR RWA impact (\$bn)					Procyclical IRRBB impact (\$bn)		Capital impact (\$bn)	
	DOE	HQLA			Rates	Spreads	Rates	Spreads	New YCR	Old YCR	Impact	RWA	Capital ¹	Reserves	Total
Australia GFC	1-year	\$240bn	Sep-23	-	0.00%	0.42%	\$0	\$220	\$220	\$77	\$143	\$143	\$16	\$3	\$19
	3-year	\$240bn	Dec-22	-\$73	0.00%	0.42%	-\$1	\$220	\$219	\$92	\$127	\$54	\$6	\$11	\$17
	1-year	\$400bn	Sep-23	-	0.00%	0.42%	\$0	\$367	\$367	\$129	\$238	\$238	\$26	\$6	\$32
	3-year	\$400bn	Dec-22	-\$73	0.00%	0.42%	-\$1	\$367	\$366	\$130	\$236	\$163	\$18	\$19	\$37

¹ Assumes an 11% target CET1, as per APRA's expectations under the new framework