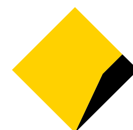
Basel III Pillar 3

Capital Adequacy and Risks Disclosures as at 30 June 2019



CommonwealthBank

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1 Introduction

The Commonwealth Bank of Australia (the Group) is an Authorised Deposit-taking Institution (ADI) regulated by the Australian Prudential Regulation Authority (APRA) under the authority of the Banking Act 1959.

This document is prepared in accordance with Board approved policy and APRA's prudential standard APS 330 "Public Disclosure". It presents information on the Group's capital adequacy and Risk Weighted Assets (RWA) calculations for credit risk including securitisation, market risk, Interest Rate Risk in the Banking Book (IRRBB) and operational risk.

This document also presents information on the Group's leverage and liquidity ratios and countercyclical capital buffer (CCyB) in accordance with prescribed methodology.

The Group is required to report its assessment of capital adequacy on a Level 2 basis. Level 2 is defined as the consolidated banking group excluding the insurance and funds management businesses and entities through which securitisation of Group assets is conducted.

The Group is predominantly accredited to use the Advanced Internal Ratings Based approach (AIRB) for credit risk and Advanced Measurement Approach (AMA) for operational risk. The Group is also required to assess its traded market risk and IRRBB requirement under Pillar 1 of the Basel capital framework.

The Group engaged the external auditor (PwC) to perform assurance procedures over the Pillar 3 report in accordance with the Australian Standard on Assurance Engagements ASAE 3000 "Assurance Engagements Other Than Audits or Reviews of Historical Financial Information" (ASAE 3000) and in accordance with the Assurance framework "Banking Regulatory Ratios" issued by the Institute of Chartered Accountants in England and Wales ("ICAEW") in March 2017. PwC have provided recommendations to enhance the internal controls related to the calculation of RWA and the Group has an action plan in place to implement these recommendations.

This Pillar 3 document is available on the Group's corporate website:

www.commbank.com.au/about-us/investors/regulatory-disclosure.

The Group in Review

Group Capital Ratios

As at 30 June 2019, the Group's Basel III Common Equity Tier 1 (CET1), Tier 1 and Total Capital ratios as measured on an APRA basis were 10.7%, 12.7% and 15.5% respectively. The Basel III CET1 ratio was 16.2% on an internationally comparable basis as at 30 June 2019.

Leverage Ratio

The Group's Leverage Ratio, which is defined as Tier 1 Capital as a percentage of total exposures, was 5.6% at 30 June 2019 on an APRA basis and 6.5% on an internationally comparable basis.

Liquidity Ratio

The Liquidity Coverage Ratio (LCR) requires Australian ADIs to hold sufficient liquid assets to meet 30 day net cash outflows projected under an APRA prescribed stress scenario. The Group maintained an average LCR of 132% in the June 2019 quarter.

Net Stable Funding Ratio

On 1 January 2018, APRA introduced a Net Stable Funding Ratio (NSFR) requirement designed to encourage stable funding of core assets. APRA prescribed factors are used to determine the stable funding requirement of assets and the stability of alternative sources of funding. The Group's NSFR was 112% at 30 June 2019.

Policy Framework

The Group regularly benchmarks and aligns its policy framework against existing prudential and regulatory standards. Potential developments in Australian and international standards, and global best practice are also considered.

The Group continues to monitor and take actions to enhance and strengthen its risk culture. This includes a risk appetite framework and a risk accountability (Three Lines of Accountability) model. The Group has a formal Risk Appetite Framework that creates clear obligations and transparency over risk management and strategy decisions. The Three Lines of Accountability model requires business management to operate responsibly by taking well understood and managed risks that are appropriately and adequately priced.

The application of the Framework has been reflected in the Group's overall asset quality and capital position. In particular, the Group remains in a small group of banking institutions with an AA-/Aa3 credit rating. To maintain this strength, the Group continues to invest in its risk systems and management processes.

The Group's capital forecasting process and capital plans are in place to ensure a sufficient capital buffer above minimum levels is maintained at all times. The Group manages its capital by regularly and simultaneously considering regulatory capital requirements, rating agency views on the capital required to maintain the Group's credit rating, the market response to capital levels, stress testing and the Group's bottom up view of economic capital. These views then cascade into considerations on what capital level is targeted.

The Group's management of its capital adequacy is supported by robust capital management processes applied in each Business Unit (BU). The results are integrated into the Group's risk-adjusted performance and pricing processes.

Summary Group Capital Adequacy Ratios (Level 2)	30 Jun 19 %	31 Dec 18 %	30 Jun 18 %
Common Equity Tier 1	**10. 7**	10. 8	10. 1
Tier 1	**12. 7**	12. 9	12. 3
Tier 2	**2. 8**	2. 9	2. 7
Total Capital (APRA)	**15. 5**	15. 8	15. 0
Common Equity Tier 1 (Internationally Comparable) [(1)]	**16. 2**	16. 5	15. 5

(1) Analysis aligns with the 13 July 2015 APRA study titled "International capital comparison study".

2 Regulatory Capital Framework Overview

The Group is required to report the calculation of RWA and assessment of capital adequacy on a Level 2 basis (see section 3, page 4 for further details). APRA has set minimum regulatory capital requirements for banks.

These requirements define what is acceptable as capital and provide for methods of measuring the risks incurred by banks so that the "need" for capital can be compared to the amount of capital "at hand".

The Basel Regulatory Capital Framework is based on "three pillars" as summarised below:

Basel Capital Framework		
Pillar 1 Minimum Capital Requirements	**Pillar 2** Supervisory Review Process	**Pillar 3** Market Discipline
Credit Risk Interest Rate Risk in the Banking Book (1) Operational Risk Market Risk	Firm-wide risk oversight Internal Capital Adequacy Assessment Process considers: additional risks; capital buffers and targets; and risk concentrations	Regular disclosure to the market covering both qualitative and quantitative aspects of capital adequacy and risk disclosures

(1) Applicable to Pillar 1 in Australia only (Pillar 2 elsewhere).

Pillar 1 – Minimum Capital Requirements

Basel II

In December 2007, APRA granted advanced Basel II accreditation to the Group to calculate RWA and the assessment of capital adequacy in accordance with Pillar 1.

Adoption of advanced methodologies prescribed under Basel II was effective from 1 January 2008.

As a result of receiving advanced Basel II accreditation, the Group predominantly uses the Advanced Internal Ratings Based (AIRB) approach for credit risk and the AMA for operational risk in the calculation of RWA. Portfolios that attract the Standardised approach are discussed in section 8.3 "Portfolios Subject to Standardised and Supervisory Risk Weights" (page 32).

The Group incorporates measured IRRBB in its regulatory capital calculations with effect from 1 July 2008, as required by APRA for Australian ADIs (this is not a Pillar 1 requirement in other jurisdictions).

The Basel II enhancements announced in July 2009, relating to securitisation and market risk, were implemented on 1 January 2012. These enhancements are commonly referred to as Basel 2.5.

Basel III

APRA has implemented a set of capital, liquidity and funding reforms based on the Basel Committee on Banking Supervision (BCBS) "Basel III" framework. The objectives of the reforms are to increase the quality, consistency and transparency of capital, to enhance the risk coverage framework, and to reduce systemic and pro-cyclical risk.

The APRA prudential standards require a minimum CET1 ratio of 4.5% effective from 1 January 2013. An additional CET1 capital conservation buffer of 3.5%, inclusive of a Domestic Systemically Important Bank (DSIB) requirement of 1% and a countercyclical capital buffer (CCyB) of 0% (effective from 1 January 2016), brings the CET1 requirement to at least 8%.

In January 2019, APRA announced that the CCyB for Australian exposures will remain at 0%. The Group has limited exposures to those offshore jurisdictions in which a CCyB in excess of 0% has been imposed. Refer to section 13.4 for further details.

Pillar 2 – Supervisory Review Process

ICAAP

Under Pillar 2, APRA requires each bank to have in place and report confidentially its Internal Capital Adequacy Assessment Process (ICAAP). The Group updates its ICAAP annually. The ICAAP document provides details on:

- The Group's capital position and regulatory minima;
- A three year capital forecast;
- Stress testing and contingent capital planning;
- Key capital management policies; and
- Details on key processes and supporting frameworks.

Pillar 3 – Market Discipline

Disclosures

To enhance transparency in Australian financial markets, APRA established a set of requirements under APRA's ADI Prudential Standard (APS), specifically APS 330 "Public Disclosure" (APS 330) for the public disclosure of information on the risk management practices and capital adequacy of ADIs (pursuant to Pillar 3).

Pillar 3 qualitative and quantitative disclosures are made in detail in this document as part of the Group's 30 June 2019 financial year reporting. Detailed quantitative information is released at the Group's December half year with summarised quantitative information released for March and September quarters. These reports are published on the Group's corporate website, together with the Group's APS 330 public disclosure of capital instruments and remuneration.

www.commbank.com.au/about-us/investors/regulatory-disclosure

3 Scope of Application

This document has been prepared in accordance with Board approved policy and reporting requirements set out in APS 330.

APRA adopts a tiered approach to the measurement of an ADI's capital adequacy:

- **Level 1:** the Parent Bank (Commonwealth Bank of Australia) and offshore branches (the Bank) and APRA approved Extended Licensed Entities (ELE);
- **Level 2:** the Consolidated Banking Group excluding the insurance and funds management businesses and the entities through which securitisation of Group assets is conducted; and
- **Level 3:** the conglomerate group including the Group's insurance and funds management businesses (the Group).

The Group is required to report its assessment of capital adequacy on a Level 2 basis. The head of the Level 2 Group is the Parent Bank (Commonwealth Bank of Australia). Additional disclosure of capital ratios relating to material ADIs within the Group together with CBA's own Level 1 capital ratios are included under APS 330 Table 6g of this report (page 7).

ASB Bank Limited (ASB) operates under Advanced Basel III status and is subject to regulation by the Reserve Bank of New Zealand (RBNZ). The RBNZ applies a similar methodology to APRA in calculating regulatory capital requirements.

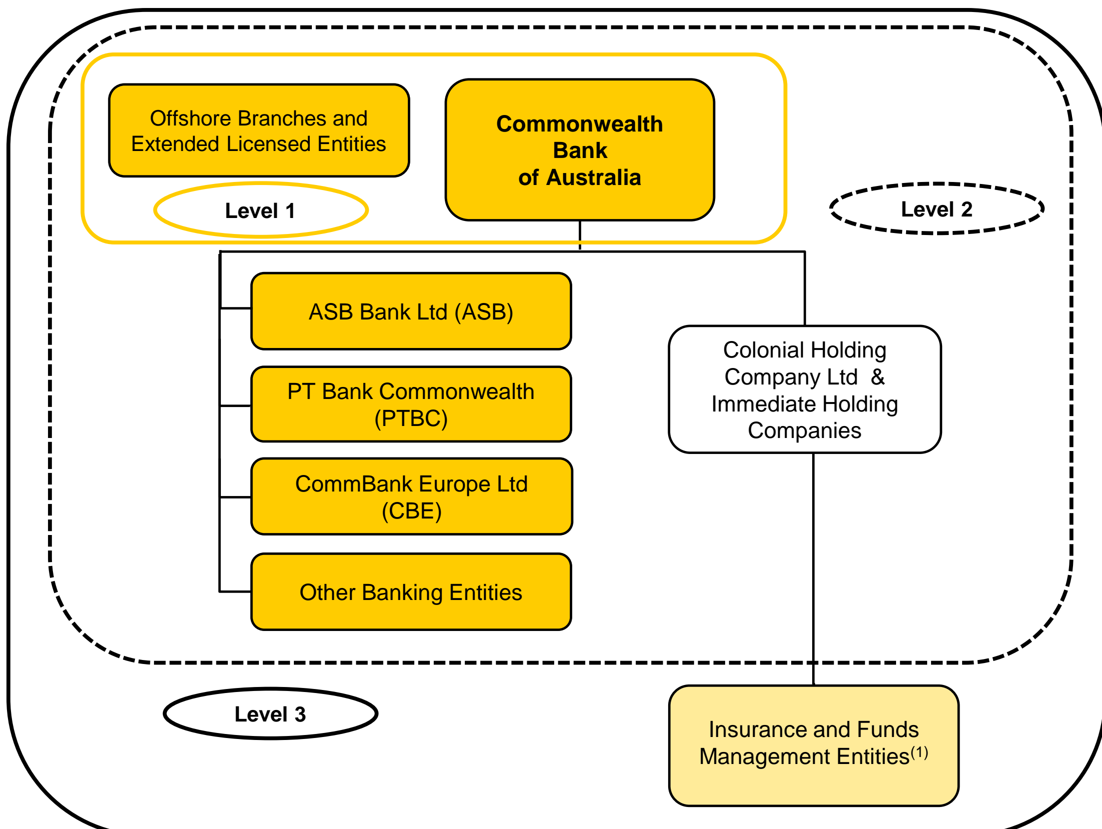
CommBank Europe Ltd (CBE) and PT Bank Commonwealth (PTBC) use Standardised Basel III methodology.

Restrictions on transfer of funds or regulatory capital within the Group

The transfer of regulatory capital and funding within the Group is subject to restrictions imposed by local regulatory requirements. In particular, APS 222 "Associations with Related Entities" establishes prudential limits on the level of exposure that the Bank may have to a related entity.

The Bank and all of the subsidiaries of the Group are adequately capitalised. There are no restrictions or other major impediments on the transfer of funds within the Group. There are no capital deficiencies in non-consolidated (regulatory) subsidiaries in the Group.

APS 330 reporting structure



(1) Insurance and funds management operating subsidiaries. A detailed list of non-consolidated entities is provided in Appendix 13.5.

4 Capital

Capital Adequacy

The Group actively manages its capital to balance the perspectives of various stakeholders (regulators, rating agencies and shareholders). This is achieved by optimising the mix of capital, while maintaining adequate capital ratios throughout the financial year. The Group's capital is managed within a formal framework, its ICAAP, which is an integration of risk, financial and capital management processes.

APRA advises the Group of its Prudential Capital Ratio (PCR), which represents the regulatory minimum CET1, Tier 1 and Total Capital ratios that the Group is required to maintain at all times. In order to ensure there is no breach of these minimum levels, APRA expects the Group to maintain a prudent buffer over these prescribed minimum levels. The PCR is subject to an ongoing review by APRA and is formally reassessed on an annual basis. The Group is required to inform APRA immediately of any breach or potential breach of its PCR, including details of remedial action taken or planned to be taken.

The Group has a range of instruments and methodologies available to effectively manage capital. These include share issues and buybacks, dividend and Dividend Reinvestment Plan (DRP) policies, hybrid capital raising and dated and undated subordinated debt issues. All major capital related initiatives require approval by the Board.

The Group's capital position is monitored on a continuous basis and reported monthly to the Executive Leadership Team of the Group and at regular intervals throughout the year to the Board Risk Committee. Three year capital forecasts are conducted on a quarterly basis and a detailed capital and strategic plan is presented to the Board annually.

Capital Management

The Group's CET1 ratio (APRA) was 10.7% as at 30 June 2019, a decrease of 10 basis points from 31 December 2018 and an increase of 60 basis points from 30 June 2018. During the half year ended 30 June 2019, capital generated from earnings was offset by the 2019 interim dividend and an overall net increase in Risk Weighted Assets (RWA). The CET1 ratio was consistently well in excess of regulatory minimum capital adequacy requirements at all times thoroughout the full year ended 30 June 2019.

Capital Initiatives

The following significant capital initiatives were undertaken during the year:

Common Equity Tier 1 Capital

- The DRP in respect of the 2018 final dividend, was satisfied by the allocation of $749 million of ordinary shares, representing a participation rate of 18.4%;
- The DRP in respect of the 2019 interim dividend was satisfied in full by the on-market purchase of shares. The participation rate for the interim DRP was 16.7%;

Additional Tier 1 Capital

- In December 2018, the Bank issued $1.59 billion of CommBank PERLS XI Capital Notes (PERLS XI) and concurrently redeemed $2 billion Perpetual Exchangeable Resaleable Listed Securities (PERLS VI); and
- In May 2019, the Group redeemed Basel III non-compliant Perpetual Preference Shares issued by its New Zealand subsidiaries, ASB Capital Limited and ASB Capital No.2 Limited, (ASB PPS1 and ASV PPS 2) at their par value of NZD550 million.

Other Regulatory Changes

Unquestionably Strong Capital Ratios

In July 2017 APRA released an information paper establishing the quantum of additional capital required for the Australian banking sector to have capital ratios that are unquestionably strong.

APRA's expectation is that the Australian major banks will operate with a CET1 ratio of 10.5% or more by 1 January 2020. As at 30 June 2019, the Group CET1 ratio was above this benchmark at 10.7%.

In calendar years 2018 and 2019, APRA issued a number of consultation documents to propose revisions to the overall design of the capital framework. Further detail on the proposed APRA reforms is provided on page 6. APRA has advised that the proposed changes to the capital framework have been accommodated within the 10.5% CET1 target set by APRA in July 2017.

Other Regulatory Changes (continued)

APRA

In February 2018 APRA released "Discussion paper – Revisions to the capital framework for authorised deposit-taking institutions" in response to the Basel Committee on Banking Supervision's (BCBS) release of the "Basel III: Finalising post-crisis reforms" in December 2017.

APRA's proposals include:

- Increased capital requirements for investment and interest only home loan exposures, and amendment to the correlation factor to dampen procyclicality of risk weights;
- Higher correlation factors to apply in the Other Retail asset class (including credit cards);
- Large corporates and financial institutions will be subject to the Foundation Internal Ratings based approach;
- Mandated Loss Given Default (LGD) and Exposure At Default (EAD) estimates for certain non-retail portfolios;
- Replacing the Operational risk Advanced Measurement Approach with a single risk sensitive standardised approach for all banks; and
- Implementation of a 72.5% output floor (without transitional phasing).

In August 2018, APRA released "Discussion paper – improving transparency, comparability and flexibility of the ADI capital framework". The focus of the proposal is presentation of capital ratios to increase international comparability, transparency and flexibility of the capital framework without altering the quantum and risk sensitivity of capital ratios.

In June 2019, APRA released draft prudential standards on the standardised approach to measuring credit risk and operational RWA. In addition, APRA is proposing a simpler method for calculating capital requirements for residential mortgages measured under the Internal Ratings Based (IRB) approach.

APRA intends to implement the operational risk reforms from 1 January 2021 and all other capital framework reforms from 1 January 2022.

In July 2019, APRA released its response to the submissions for the November 2018 "Discussion Paper – Increasing the loss-absorbing capacity of ADIs to support orderly resolution". APRA confirmed that the Australian loss-absorbing capacity (LAC) regime will be established under the existing capital framework. For domestically systemically important banks (D-SIBs), such as CBA, APRA will require an additional Total Capital requirement of 3% of RWA, effective from 1 January 2024. APRA further noted that its long term target of 4% to 5% of LAC remains unchanged and will consider feasible alternative methods for raising the additional 1% to 2% over the next four years, in consultation with industry and other stakeholders.

Basel Committee on Banking Supervision (BCBS)

In January 2019, the BCBS released "Minimum capital requirements for market risk" which finalised changes to the identification and measurement of market risk under both the standardised approach and the internal model approach. APRA has not indicated the timeframe for the Australian implementation of changes to market risk standards.

Reserve Bank of New Zealand (RBNZ)

The RBNZ is undertaking a comprehensive review of the capital adequacy framework applying to registered banks incorporated in New Zealand. In December 2018, it released a consultation paper proposing an increase to the Tier 1 capital ratio requirement for D-SIBs to 16% and increase the IRB RWA calculation to approximately 90% of the RWA calculated under the standardised approach. The RBNZ is expected to finalise its position towards the end of 2019, with implementation to commence from April 2020. A transitional period of a number of years is proposed before banks are required to fully comply with the requirements.

Other reforms

From 1 July 2019, the Group will implement AASB 16 'Leases' (AASB 16) and the revised standardised approach to Counterparty Credit Risk (SA-CCR).

Implementation of AASB 16 Leases will result in a decrease of the Bank's pro-forma CET1 ratio (APRA) of 11 basis points and the implementation of SA-CCR will result in a further 7 basis point decrease.

Group Regulatory Capital Position

Summary Group Capital Adequacy Ratios (Level 2)	30 Jun 19 %	31 Dec 18 %	30 Jun 18 %
Common Equity Tier 1	10. 7	10. 8	10. 1
Tier 1	12. 7	12. 9	12. 3
Tier 2	2. 8	2. 9	2. 7
Total Capital (APRA)	15. 5	15. 8	15. 0
Common Equity Tier 1 (Internationally Comparable) [1]	16. 2	16. 5	15. 5

(1) Analysis aligns with the 13 July 2015 APRA study titled "International capital comparison study".

	APRA 30 Jun 19 $M	APRA 31 Dec 18 $M	APRA 30 Jun 18 $M
Ordinary Share Capital and Treasury Shares [1]	38,214	38,283	37,535
Reserves	3,144	2,124	1,596
Retained earnings	28,045	27,525	28,018
Non-controlling interests	-	-	-
Common Equity Tier 1 Capital before regulatory adjustments	69,403	67,932	67,149
Common Equity Tier 1 regulatory adjustments	(21,036)	(19,906)	(20,679)
Common Equity Tier 1 Capital	48,367	48,026	46,470
Additional Tier 1 Capital	8,988	9,492	9,895
Tier 1 Capital	57,355	57,518	56,365
Tier 2 Capital	12,750	12,932	12,579
Total Capital	70,105	70,450	68,944

(1) Inclusive of Treasury shares held by the Group's life insurance operations and eligible employee share scheme trusts ($194 million).

Further details on the composition of the Group's capital are detailed in Appendix 13.

APS 330 Table 6g – Capital Ratios – Level 1 and Major Subsidiaries

Significant Group ADIs	30 Jun 19 %	31 Dec 18 %	30 Jun 18 %
CBA Level 1 CET1 Capital ratio	11. 2	11. 3	10. 8
CBA Level 1 Tier 1 Capital ratio	13. 1	13. 3	12. 8
CBA Level 1 Total Capital ratio	16. 1	16. 3	15. 5
ASB CET1 Capital ratio	11. 4	11. 5	10. 6
ASB Tier 1 Capital ratio	13. 2	13. 3	12. 4
ASB Total Capital ratio	14. 0	14. 8	13. 9

Regulatory Capital Frameworks Comparison

The APRA Basel III capital requirements are more conservative than those of the BCBS, leading to lower reported capital ratios.

In July 2015, APRA published a study on the calculation of internationally comparable capital by Australian banks entitled “International capital comparison study” (APRA study). As at 30 June 2019, the Group’s internationally comparable CET1, Tier 1 and Total Capital ratios were 16.2%, 18.7% and 22.1% respectively. The basis of this analysis aligns with the APRA study.

The following table provides details on the differences, as at 30 June 2019, between the APRA Basel III capital requirements and the internationally comparable capital ratios.

Item	APRA Study Reference	Description of adjustment	CET1 %	Tier 1 %	Total Capital %
Basel III (APRA)			**10. 7**	**12. 7**	**15. 5**
Equity investments	Appendix 1 Items 1, 2, 4	Balances below prescribed threshold are risk weighted, compared to a 100% CET1 deduction under APRA’s requirements.	1. 0	0. 9	0. 8
Capitalised expenses	Appendix 1 Item 5	Balances are risk weighted, compared to a 100% CET1 deduction under APRA's requirements.	0. 1	0. 1	0. 1
Deferred tax assets	Appendix 1 Item 3	Balances below prescribed threshold are risk weighted, compared to a 100% CET1 deduction under APRA’s requirements.	0. 4	0. 4	0. 4
IRRBB RWA	3.3.2	APRA requires capital to be held for IRRBB. The BCBS does not have any capital requirement.	0. 3	0. 3	0. 4
Residential mortgages	3.3.1	LGD of 15%, compared to the 20% LGD floor under APRA’s requirements and adjustments for higher correlation factor applied by APRA for Australian residential mortgages.	2. 1	2. 5	3. 0
Other retail standardised exposures	3.3.6	Risk weighting of 75%, rather than 100% under APRA’s requirements.	0. 1	0. 1	0. 1
Unsecured non-retail exposures	3.3.3	LGD of 45%, compared to the 60% or higher LGD under APRA’s requirements.	0. 4	0. 4	0. 5
Non-retail undrawn commitments	3.3.4	Credit conversion factor of 75%, compared to 100% under APRA’s requirements.	0. 3	0. 3	0. 4
Specialised lending	3.3.5	Use of AIRB PDs and LGDs for income producing real estate and project finance exposures, reduced by application of a scaling factor of 1.06. APRA applies higher risk weights under a supervisory slotting approach, but does not require the application of the scaling factor.	0. 7	0. 9	1. 0
Currency conversion	3.3.7	Increase in the A$ equivalent concessional threshold level for small business retail and small/medium enterprise corporate exposures.	0. 1	0. 1	0. 1
Subtotal (1)			16. 2	18. 7	22. 3
Basel III non-compliant instruments		Removal of Basel III non-compliant Tier 1 and Tier 2 instruments that are currently subject to transitional rules.	-	-	(0. 2)
Basel III (Internationally Comparable - aligns with APRA study)			**16. 2**	**18. 7**	**22. 1**

(1) Represents ratios prior to adjustments made for non-compliant Basel III Tier 1 and Tier 2 Capital Instruments. This value is used in determining Leverage Ratio (Internationally comparable) as determined on page 9.

The above calculations do not include the impact of a Basel I capital floor, which was introduced as a transitional measure as part of the implementation of Basel II. The Australian banks have now fully implemented the existing Basel III requirements and, therefore, it is difficult to calculate the impact of such a floor. APRA concluded in the APRA study that it is difficult to make adjustments for the floor in internationally comparable calculations at this time but the inclusion of a floor could reduce internationally comparable ratios by a material amount.

5 Leverage Ratio

The Group's leverage ratio, was 5.6% at 30 June 2019 on an APRA basis and 6.5% on an internationally comparable basis. In November 2018, APRA released draft prudential and reporting standards, including changes to the definition of exposures related to derivatives and off balance sheet items and advocating a minimum leverage ratio requirement of 3.5% for IRB banks, applicable from 1 January 2022.

Summary Group Leverage Ratio [1]	30 Jun 19	31 Mar 19	31 Dec 18	30 Sep 18	30 Jun 18
Tier 1 Capital ($M)	57,355	55,381	57,518	56,055	56,365
Total Exposures ($M) [2]	1,023,181	1,023,593	1,026,240	1,024,774	1,018,555
Leverage Ratio (APRA) (%)	5. 6	5. 4	5. 6	5. 5	5. 5
Leverage Ratio (Internationally Comparable) (%) [3]	6. 5	6. 2	6. 4	6. 2	6. 3

(1) Refer to Appendix 13.2 for further details on the composition of the leverage ratio.

(2) Total Exposures is the sum of on Balance Sheet exposures, derivatives, Securities Financing Transactions (SFTs), and off balance sheet exposures, net of any Tier 1 regulatory deductions, as outlined in APS 110 "Capital Adequacy" (APS 110). Refer to Appendix 13.2 for the calculation of the 30 June 2019 exposures.

(3) The Tier 1 Capital included in the calculation of the internationally comparable leverage ratio aligns with the 13 July 2015 APRA study titled "International capital comparison study", and includes Basel III non-compliant Tier 1 instruments that are currently subject to transitional rules.

6 Risk Weighted Assets

Risk weighted assets are calculated using the AIRB approach for the majority of the Group's credit risk exposures.

Internal assessment and supervisory formula approaches are used where relevant for non-rated securitisation exposures and for rated exposures where APS 120 "Securitisation" (APS 120) prohibits the Group using the ratings-based approach. The ratings-based approach is used for securitisation exposures rated by External Credit Assessment Institutions (ECAI) where APS 120 allows or requires.

APS 330 Table 6b to 6f – Basel III Capital Requirements (RWA)

	Risk Weighted Assets			Change in RWA for June 2019 half	
	30 Jun 19	31 Dec 18	30 Jun 18		
Asset Category	$M	$M	$M	$M	%
Credit Risk					
Subject to AIRB approach [1]					
Corporate	**64,683**	68,915	68,479	(4,232)	(6. 1)
SME corporate	**30,478**	30,121	32,772	357	1. 2
SME retail	**6,896**	5,400	4,709	1,496	27. 7
SME retail secured by residential mortgage	**3,335**	3,415	2,458	(80)	(2. 3)
Sovereign	**2,456**	2,330	2,509	126	5. 4
Bank	**9,451**	9,741	11,097	(290)	(3. 0)
Residential mortgage	**147,956**	143,017	139,203	4,939	3. 5
Qualifying revolving retail	**8,486**	8,942	9,592	(456)	(5. 1)
Other retail	**13,990**	15,729	15,750	(1,739)	(11. 1)
Total RWA subject to AIRB approach	**287,731**	287,610	286,569	121	0. 0
Specialised lending	**53,796**	53,453	55,893	343	0. 6
Subject to standardised approach					
Corporate	**1,590**	1,406	1,246	184	13. 1
SME corporate	**822**	1,034	412	(212)	(20. 5)
SME retail	**4,628**	5,010	5,856	(382)	(7. 6)
Sovereign	**233**	222	222	11	5. 0
Bank	**66**	53	79	13	24. 5
Residential mortgage	**6,732**	6,632	5,627	100	1. 5
Other retail	**1,256**	1,493	1,593	(237)	(15. 9)
Other assets	**8,854**	5,674	5,241	3,180	56. 0
Total RWA subject to standardised approach	**24,181**	21,524	20,276	2,657	12. 3
Securitisation	**2,905**	3,049	2,890	(144)	(4. 7)
Credit valuation adjustment	**2,932**	2,729	2,882	203	7. 4
Central counterparties	**1,029**	991	1,018	38	3. 8
Total RWA for credit risk exposures	**372,574**	369,356	369,528	3,218	0. 9
Traded market risk	**10,485**	5,263	8,255	5,222	99. 2
Interest rate risk in the banking book	**9,898**	13,872	24,381	(3,974)	(28. 6)
Operational risk	**59,805**	56,653	56,448	3,152	5. 6
Total risk weighted assets	**452,762**	445,144	458,612	7,618	1. 7

(1) Pursuant to APRA requirements, RWA amounts derived from AIRB risk weight functions have been multiplied by a scaling factor of 1.06.

Risk Weighted Assets

Total RWA increased by $7.6 billion or 1.7% on the prior half to $452.8 billion driven by increases in traded market risk, credit risk and operational risk RWA; partly offset by IRRBB RWA.

Credit Risk RWA

Credit risk RWA increased by $3.2 billion or 0.9% on the prior half, mainly driven by:

- Volume growth across residential mortgages and standardised other assets ($6.0 billion);
- Reduction in credit quality across most portfolios including residential mortgage risk weights which have increased during the half, partly due to new home loan models. The models incorporate long-term customer arrears behaviour and the recent stabilisation of home lending arrears has not yet been reflected in credit RWA ($2.2 billion);
- Data and methodology changes ($1.2 billion); and
- Foreign currency movements ($0.4 billion); partly offset by
- Volume reductions across non-retail portfolios, consumer credit cards and personal loans ($6.5 billion); and
- Changes to credit risk estimates and regulatory treatments around both SME retail and other retail portfolios subject to AIRB approach ($0.1 billion).

Traded Market Risk RWA

Traded market risk RWA increased by $5.2 billion or 99.2% on the prior half to $10.5 billion. The Stressed Value-at-Risk (SVaR) component under the internal model approach was the main driver of the increase, and this resulted from both risk positioning and the conservative modelling treatment of some interest rate products.

Interest Rate Risk in the Banking Book (IRRBB) RWA

IRRBB RWA decreased by $4.0 billion or 28.6% on the prior half. This was due to interest rate risk management activities and higher embedded gains due to lower domestic and offshore interest rates.

Operational Risk RWA

Operational risk RWA increased by $3.2 billion or 5.6% on the prior half to $59.8 billion. This reflects changes in the Group's operational risk profile relating to the changing regulatory environment and modelling variations including changes in portfolio diversification.

The operational risk RWA includes the $12.5 billion add-on required by APRA following the Prudential Inquiry findings dated 30 April 2018.

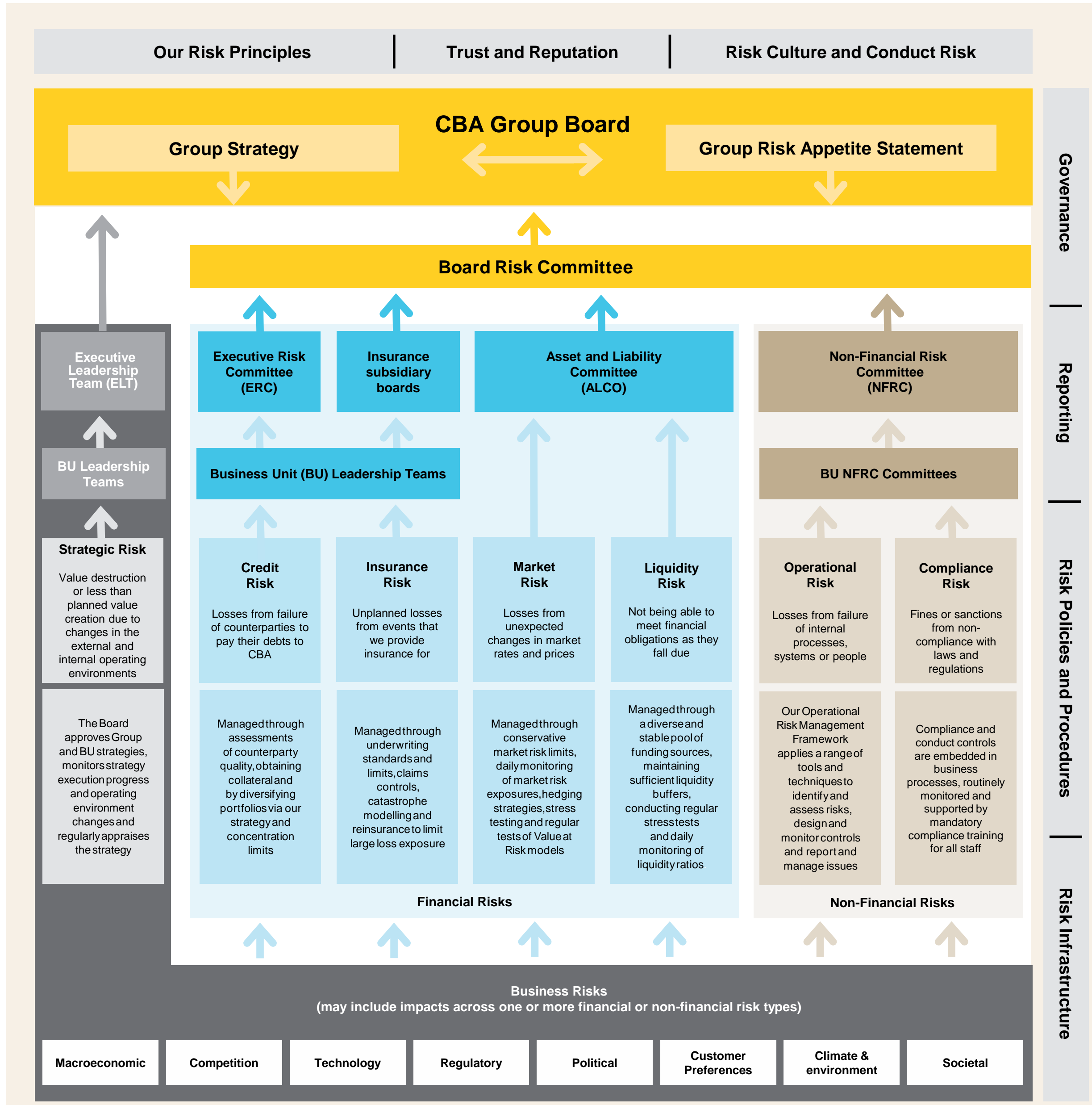
Explanation of change in Credit RWA

The composition of the movement in Credit RWA over the prior half is shown below.

		Credit RWA movement drivers				
	Change in RWA for June 19 half	Volume changes	FX changes	Credit risk estimates changes and regulatory treatments	Data and methodology changes	Change in credit quality
Asset Category	$M	$M	$M	$M	$M	$M
AIRB corporate including SME and specialised lending	**(2,116)**	(4,551)	308	1,500	87	540
AIRB bank	**(290)**	(686)	15	-	88	293
AIRB sovereign	**126**	(9)	29	-	2	104
AIRB consumer retail	**2,744**	2,786	99	(1,641)	132	1,368
Standardised (including other assets, CCP and CVA)	**2,898**	2,049	(29)	-	936	(58)
Securitisation exposures	**(144)**	(107)	1	-	-	(38)
Total credit RWA movement	**3,218**	**(518)**	**423**	**(141)**	**1,245**	**2,209**

7 Risk Management

The Group is exposed to business, financial and non-financial risks arising from its operations. The Group manages these risks through its Risk Management Framework (Framework) that evolves with emerging risks arising from the changing business environment, better practice approaches, and regulatory and community expectations. The components of the Framework are illustrated below, including the governance that enables executive and Board oversight of these risks.



Further details on each of the material risks, and how the Group manages them, are outlined in this section.

Risk Management Framework

The Group's embedded Framework enables the appropriate development and implementation of strategies, policies and procedures to manage its risks. The Framework incorporates the requirements of APRA's prudential standard for risk management CPS 220 "Risk Management" (CPS 220) supported by the three key documentary components:

The Group Risk Appetite Statement (RAS) articulates the type and degree of risk the Board is prepared to accept and the maximum level of risk that the institution must operate within.

The Group Risk Management Approach (RMA) describes how the Group ensures the comprehensive management of risks across the Group in support of achieving its strategic goals.

The Group Business Plan (Plan) summarises the Group's approach to the implementation of its strategic objectives. The Plan has a rolling three year duration and reflects material risks arising from its implementation.

The Framework is underpinned by key foundational components, in particular:

Risk Culture and Conduct Risk

Risk Culture is the beliefs, values and practices within the organisation that determine how risks are identified, measured, governed, and acted upon. A strong risk culture guides our actions in a resilient and flexible way when we need to react and make sound judgements in new and unfamiliar circumstances. The organisation's culture influences employee behaviours and has the potential to lead to poor conduct. The Board's RAS in relation to conduct requires business practices that are fair to our customers, protects the fair and efficient operation of the market and engender confidence in our products and services. The Group's risk culture emphasises doing what is right, accountability, service, excellence and getting things done the right way. Annually the CBA Board forms a view regarding the effectiveness of the Group's risk culture in keeping risk taking within appetite. Action plans are initiated and monitored to drive positive risk culture changes in areas of need.

Trust and Reputation

The reputation of the Group and trust of stakeholders are significant assets. Damage to the Group's reputation arises from negative perception on the part of customers, counterparties, shareholders, investors, debt holders, market analysts, regulators and other relevant stakeholders of the Group. The Group's purpose and values combined with the organisational culture and our conduct as an organisation and as individuals form the framework which protects this asset. Potential adverse reputational impacts are mitigated by managing our material risks well, living by our Code of Conduct and actively focusing on transparency in business decisions and engagement with our customers. In addition the Group has a corporate responsibility plan focused on driving positive change through education, innovation and good business practice.

The four key elements that operationalise the Framework are:

Risk Governance

The Group is committed to ensuring that its risk management practices reflect a high standard of governance. This enables Management to undertake, in an effective manner, prudent risk-taking activities. The Board operates as the highest level of the Group's risk governance as specified in its Charter. The Risk Committee oversees the Framework and helps formulate the Group's risk appetite for consideration by the Board. In particular it:

- Monitors the Group's risk profile (including identification of emerging risks);
- Reviews regular reports from Management on the measurement of risk and the adequacy and effectiveness of the Group's risk management and internal controls systems;
- Forms a view on the independence of the risk function by meeting with the Group Chief Risk Officer (CRO) at the will of the Committee or the CRO.

The Group operates a Three Lines of Accountability (3LoA) model which places accountability for risk ownership with Line 1 Business Units (BUs) while focussing the mandate of Line 2 Risk Teams on appetite and framework, oversight, assurance, approval or acceptance of risk and advice. Line 3 Audit provides independent assurance to the Board, regulators and other stakeholders of the effectiveness of risk management, internal controls and governance. This model recognises that the business is best positioned to make optimal long-term risk-reward decisions that consider the full end-to-end value chain.

Risk Policies & Procedures

Risk Policies and Procedures provide guidance to the business on the management of each material risk. They support the Framework by:

- Summarising the principles and practices to be used by the Group in identifying and assessing its material risks;
- Quantifying the financial operating tolerances for material risks; and
- Clearly stating the types of risk outcomes to which the Group is intolerant.

Risk Reporting

Regular management information is produced which allows financial and non-financial risk positions to be monitored against approved Risk Appetite and policy limits. At Board level, the majority of risk reporting is provided to the Board Risk Committee but regulatory relationships, strategic risk and reputational matters, capital and liquidity risk are reported directly. Controls reporting is provided to the Audit Committee. The Chairs of the Board Risk and Audit Committees report to the Board post Committee meetings.

Risk Management Infrastructure

The Framework is supported by key infrastructure systems and processes for the management of the Group's material risk types. The key risk management systems and processes in place include:

- Established risk identification and assessment processes;
- Risk controls and mitigation plans;
- A Management Information System to measure and aggregate risks across the Group;
- Risk models and tools;
- A Risk-Adjusted-Performance Measurement (RAPM) process that is a means of assessing the performance of a business after adjustment for its capital consumption and is used as a basis for executive incentives; and
- An Internal Capital Adequacy Assessment Process (ICAAP) used in combination with other risk management practices (including stress testing), to understand, manage and quantify the Group's risks; the outcomes of which are used to inform risk decisions, set capital buffers and assist strategic planning.

Material Risk Types

Risk Type	Description	Governing Policies and Key Management Committees	Key Limits, Standards and Measurement Approaches
Credit Risk (see section 8)	Credit risk is the potential for loss arising from the failure of a counterparty to meet their contractual obligations to the Group. At a portfolio level, credit risk includes concentration risk arising from interdependencies between customers, and concentrations of exposures to geographical regions and industry sectors.	**Governing Policies:** ▪ Group Credit Risk Principles, Framework and Governance ▪ Group and Business Unit Credit Risk Policies **Key Management Committee**: ▪ Executive Risk Committee ▪ Loan Loss Provisioing Committee	The following credit concentration frameworks set credit portfolio concentration limits: ▪ Large Credit Exposure Policy; ▪ Country Risk Exposure Policy; and ▪ Industry Sector Concentration Policy. Credit risk indicators with associated intervention levels are set in the Group RAS for corporate and retail exposures and cascaded to BUs. Group and BU Credit Risk Policies cover the credit risk exposure cycle. The measurement of credit risk is primarily based on the APRA accredited Advanced Internal Ratings Based (AIRB) approach.
Market Risk (including Equity Risk) (see section 9 and section 10)	Market risk is the risk that market rates and prices will change and that this may have an adverse effect on the profitability and/or net worth of the Group. This includes changes in interest rates, foreign exchange rates, equity and commodity prices, credit spreads, and the resale value of operating leased assets at maturity (lease residual value risk).	**Governing Policies:** ▪ The Group Market Risk Policy **Key Management Committee**: Asset and Liability Committee	The Group Market Risk Policy sets limits and standards with respect to the following: ▪ Traded Market Risk; ▪ Interest Rate Risk in the Banking Book (IRRBB); ▪ Residual Value Risk; ▪ Non-traded Equity Risk; and ▪ Market Risk in Insurance Businesses. The respective measurement approaches for these risks include: ▪ Value at Risk, Stress Testing; ▪ Market Value Sensitivity, Net Interest Earnings at Risk; ▪ Aggregate Residual Value Risk Margin; ▪ Aggregate Portfolio Limit; and ▪ Value at Risk.
Liquidity and Funding Risk (see section 12)	Liquidity risk is the combined risks of not being able to meet financial obligations as they fall due (funding liquidity risk), and that liquidity in financial markets, such as the market for debt securities, may reduce significantly (market liquidity risk).	**Governing Policies:** Group Liquidity Risk Management Policy **Key Management Committee:** Asset and Liability Committee	The Group Liquidity Policy sets limits and standards with respect to the following: ▪ The Liquidity Coverage Ratio, which sets minimum levels for liquid assets; ▪ The Net Stable Funding Ratio, which encourages stable funding of core assets; ▪ Market and idiosyncratic stress test scenarios; and ▪ Limits that set tolerances for the sources and tenor of funding. The measurement of liquidity risk uses scenario analysis, covering both adverse and ordinary operating circumstances.
Operational Risk (see section 11)	Operational risk is the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events.	**Governing Policies:** ▪ Operational Risk Management Framework (ORMF) ▪ Operational Risk Policies and Standards **Key Management Committee:** Executive Leadership Team Non-Financial Risk Committee	A range of Operational Risk indicators are included in the Group Risk Appetite Statement (RAS). The measurement of operational risk capital is based on an APRA accredited Advanced Measurement Approach. The approach combines internal and external loss experience and business judgements captured through Scenario Analysis.

Material Risk Types (continued)

Risk Type	Description	Governing Policies and Key Management Committees	Key Limits, Standards and Measurement Approaches
Compliance Risk (see section 11)	Compliance risk is the risk of sanctions, financial loss, or reputational damage we may suffer as a result of the Group's failure to comply with laws, regulations, rules, statements of regulatory policy, and codes of conduct applicable to its business activities (not including operational risk failures) and includes societal expectations. Financial crime represents a sub-component of Compliance Risk and covers risks including Anti Money Laundering, Counter Terrorism Financing, Anti-Bribery and Corruption, and Sanctions.	**Governing Policies:** ▪ Group Compliance Management Framework (CMF) ▪ Group and Business Unit Compliance Policies **Key Management Committee:** Executive Leadership Team Non-Financial Risk Committee	The CMF sets the standards on how the Group identifies, assesses, manages, monitors and reports on Compliance management. The CMF is supported by a number of key policies which are set out in the Group Risk Management Approach (RMA). Compliance statements and indicators are included in the Group Risk Appetite Statement (RAS).
Insurance Risk	Insurance risk is the risk of loss due to the potential for events the Group has insured against occurring more frequently or with greater severity than anticipated. Insurance risk also covers inadequacy in product design, pricing, underwriting, claims management and reinsurance management as well as variations in policy lapses, servicing expenses, and option take up rates.	**Governing Policies:** ▪ Product Management Policy ▪ Underwriting Policy ▪ Claims Management Policy ▪ Reinsurance Management Policy **Key Management Committee:** Executive Committees of insurance writing businesses	The key limits and standards with respect to insurance risk are set via the end-to-end policies of insurance writing businesses. The major methods include: ▪ Sound product design and pricing to ensure that customers understand the extent of their cover and that premiums are sufficient to cover the risk involved; ▪ Controls to ensure payment of valid claims without undue delay; ▪ Regular review of insurance experience (as loss ratios, new business volumes and lapse rates), so that product design, policy liabilities and pricing remains sound; and ▪ Transferring a proportion of insurance risk to reinsurers to keep within risk appetite. Insurance risk is measured using actuarial techniques which are used to establish the likelihood and severity of possible insurance claims.
Strategic Risk	Strategic Risk is the risk of material stakeholder value destruction or less than planned value creation due to changes in the Group's external and internal operating environments (including macroeconomic conditions, competitive forces, technology, regulatory, political and social trends, customer preference and the environment).	**Governing Policies:** ▪ Group Strategic Risk Management Policy **Key Management Committee:** Executive Leadership Team	The Group assesses, monitors and responds to Strategic Risk throughout its processes for: ▪ strategy development, approval and review; ▪ identifying and monitoring changes and potential changes to the operating environment; and ▪ monitoring execution progress of strategies. In developing the strategy, the following is considered: ▪ impact of strategy on the Group's risk profile and measures of risk appetite; ▪ recent execution progress; and ▪ assumptions around the operating environment Climate Change is an important component of strategic risk. As for all other strategic risks, the potential adverse impacts of climate change manifest, and are therefore measured and managed, as an outcome in the Group's other material risks. In order to understand these potential impacts, and in support of our commitment to limiting climate change in line with the Paris Agreement, and the responsible global transition to net zero emissions by 2050 we: ▪ Develop scenario analyses to understand the impacts of both transition and physical climate-related risks on our business and the implications for strategic and tactical portfolio decisions; and ▪ Have developed policy frameworks which consider Environmental, Social and Governance (ESG) issues, including climate change impacts in assessing our relationships with customers and suppliers. In addition, Corporate Responsibility programs: ▪ Outline our objectives for safeguarding the environment, while supporting economic growth and development; and ▪ Provide guidelines in monitoring and reducing our own greenhouse gas emissions and energy use.

8 Credit Risk

Credit risk is the potential of loss arising from failure of a counterparty to meet their contractual obligations. It arises primarily from lending activities, the provision of guarantees (including letters of credit), investments in bonds and notes, financial markets transactions, credit enhancements, securitisations and other associated activities. In the insurance business, credit risk primarily arises from investment in bonds and notes, loans and from reliance on reinsurance.

The Group maintains a robust system of controls and processes to optimise the Group's credit risk-taking activities.

Credit risk is managed at both a Group and Business Unit level. The key credit risk related functions support the overall risk management responsibilities of the Board Risk Committee and senior management as discussed in section 7 "Risk Management" of this document.

The Group applies the following elements for effective credit risk practice in its day-to-day business activities:

- Credit Risk Management Framework with associated policies; and
- Credit Risk Rating and Measurement (pages 34 - 36).

Credit Risk Management Framework

The Board Risk Committee oversees the Group's Credit Risk Management approach which includes key elements of the Group Credit Risk Framework. The Group Credit Risk Management Framework is designed to achieve credit portfolio outcomes that are consistent with the Group's risk and return expectations. The Board Risk Committee meets approximately eight times each year.

The Group has clearly defined credit policies for the approval and management of credit risk. These set the minimum requirements for assessing the integrity and ability of counterparties to meet their contractual obligations for repayment, acceptable forms of collateral and security and the frequency of credit reviews.

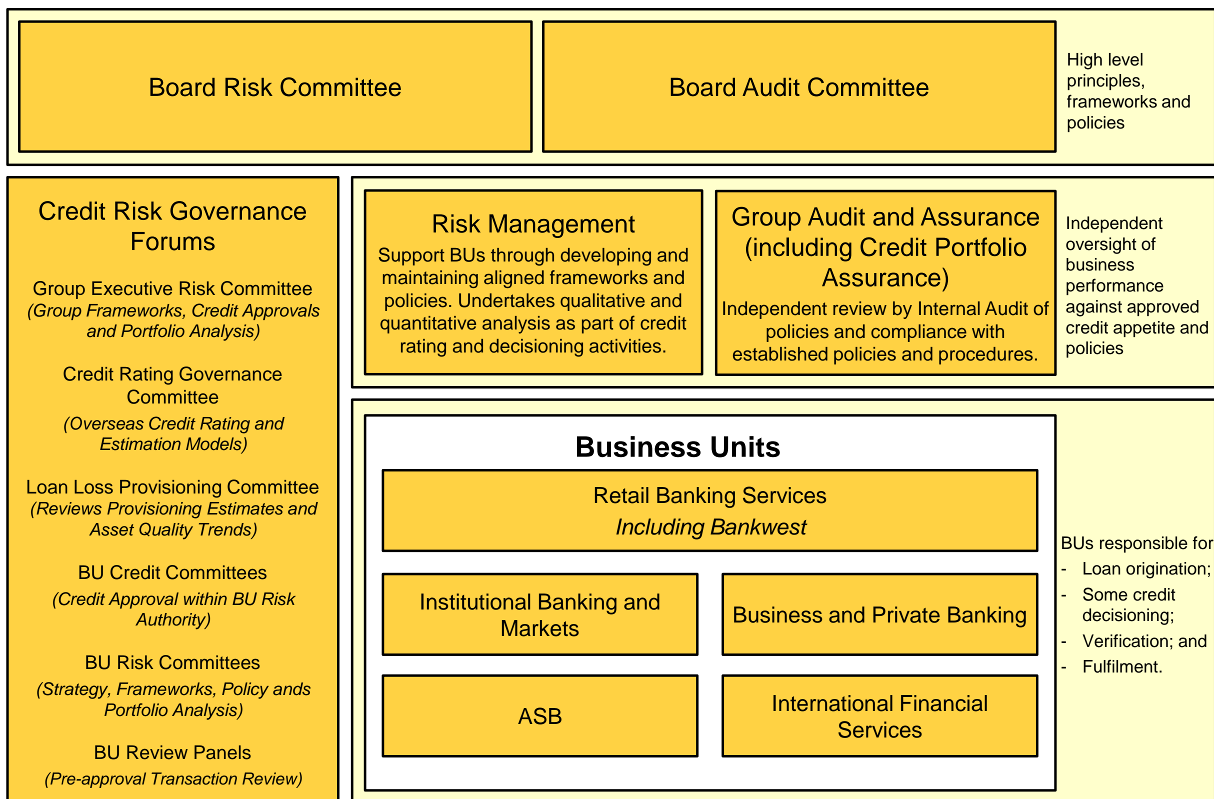
The Group's Risk Appetite Statement requires that there is appropriate diversification of credit risk. This is achieved through established policies that include limits for the key dimensions of the credit portfolio for:

- Individual obligors, or groups of related obligors;
- Industry sectors; and
- Geography (e.g. country risk).

Experts in each Business Unit are accountable for identifying ways to diversify credit risk exposure in their businesses, all within the policy limits.

The Credit Portfolio Assurance Unit, part of Group Audit and Assurance, reviews credit portfolios and Business Unit compliance with policies, application of credit risk ratings and other key practices on a regular basis. The Credit Portfolio Assurance Unit reports its findings to the Board Audit and Risk Committees as appropriate.

The chart below illustrates the approach taken to manage credit risk in the Group.



8.1 Credit Risk Exposure – Excluding Equities and Securitisation

The following tables detail credit risk exposures subject to AIRB and standardised approaches.

APS 330 Table 7i – Credit risk exposures by portfolio type and modelling approach

	30 June 2019						
		Off Balance Sheet					
Portfolio Type	On Balance Sheet $M	Non-market related $M	Market related $M	Total $M	Average exposure for June 2019 half (1) $M	Change in exposure for June 2019 half (2) $M	%
Subject to AIRB approach							
Corporate	67,899	44,298	6,647	**118,844**	121,873	(6,057)	(4. 8)
SME corporate	43,564	8,097	407	**52,068**	51,731	673	1. 3
SME retail	7,424	3,493	-	**10,917**	11,079	(324)	(2. 9)
SME retail secured by residential mortgage	4,305	1,422	-	**5,727**	5,818	(183)	(3. 1)
Sovereign	86,962	1,087	1,856	**89,905**	90,356	(902)	(1. 0)
Bank	25,029	448	8,163	**33,640**	33,900	(519)	(1. 5)
Residential mortgage	506,757	70,979	-	**577,736**	572,545	10,382	1. 8
Qualifying revolving retail	10,189	17,182	-	**27,371**	27,835	(928)	(3. 3)
Other retail	8,055	3,116	-	**11,171**	11,216	(89)	(0. 8)
Total AIRB approach	760,184	150,122	17,073	**927,379**	926,353	2,053	0. 2
Specialised lending	52,235	7,944	1,087	**61,266**	61,103	325	0. 5
Subject to standardised approach							
Corporate	1,296	175	119	**1,590**	1,506	167	11. 7
SME corporate	642	177	3	**822**	928	(212)	(20. 5)
SME retail	3,798	747	83	**4,628**	4,814	(372)	(7. 4)
Sovereign	494	1	-	**495**	493	4	0. 8
Bank	315	-	-	**315**	285	61	24. 0
Residential mortgage	13,162	1,771	-	**14,933**	14,727	412	2. 8
Other retail	1,208	41	-	**1,249**	1,370	(243)	(16. 3)
Other assets	14,533	-	-	**14,533**	12,956	3,155	27. 7
Central counterparties	-	-	7,989	**7,989**	7,628	722	9. 9
Total standardised approach	35,448	2,912	8,194	**46,554**	44,707	3,694	8. 6
Total credit exposures (3)	847,867	160,978	26,354	**1,035,199**	1,032,163	6,072	0. 6

(1) The simple average of balances as at 30 June 2019 and 31 December 2018.
(2) The difference between exposures as at 30 June 2019 and 31 December 2018.
(3) Total credit risk exposures (calculated as EAD) do not include equities or securitisation exposures.

Explanation of change in credit risk exposure

Details of credit risk exposure movements over the half year are as follows:

Asset Category	Total exposure change $M	Regulatory Exposure Driver
AIRB corporate (including SME corporate and SME retail) and specialised lending	**(5,566)**	Reduction in exposure across non-retail portfolios partly offset by FX movements and some changes in data and methodology.
AIRB sovereign	**(902)**	Reduction in liquid assets partly offset by some changes in data and methodology and FX movements.
AIRB bank	**(519)**	Reduction in liquid assets partly offset by FX movement and some changes in data and methodology.
AIRB consumer retail	**9,365**	Volume growth in residential mortgages, FX movements and some changes in data and methodology partly offset by reductions in credit card and personal loan volumes.
Total advanced and specialised lending	**2,378**	
Standardised (including other assets and central counterparties)	**3,694**	Changes to data and methodology and increases in exposure primarily due to timing of period end, across accrued interest and settlement accounts over the period.
Total (excluding securitisation and equity exposures)	**6,072**	

APS 330 Table 7i – Credit risk exposures by portfolio type and modelling approach (continued)

	31 December 2018						
		Off Balance Sheet					
	On Balance Sheet	Non-market related	Market related	Total	Average exposure for December 2018 half [1]	Change in exposure for December 2018 half [2]	
Portfolio Type	$M	$M	$M	$M	$M	$M	%
Subject to AIRB approach							
Corporate	73,335	44,040	7,526	124,901	124,925	(47)	-
SME corporate	42,768	8,382	245	51,395	52,363	(1,935)	(3. 6)
SME retail	7,669	3,572	-	11,241	10,716	1,050	10. 3
SME retail secured by residential mortgage	4,390	1,520	-	5,910	5,698	424	7. 7
Sovereign	87,303	1,324	2,180	90,807	88,431	4,752	5. 5
Bank	23,909	1,413	8,837	34,159	37,484	(6,649)	(16. 3)
Residential mortgage	496,270	71,084	-	567,354	563,188	8,328	1. 5
Qualifying revolving retail	10,533	17,766	-	28,299	28,676	(753)	(2. 6)
Other retail	8,152	3,108	-	11,260	11,339	(157)	(1. 4)
Total AIRB approach	754,329	152,209	18,788	925,326	922,820	5,013	0. 5
Specialised lending	51,743	8,597	601	60,941	61,886	(1,890)	(3. 0)
Subject to standardised approach							
Corporate	1,073	308	42	1,423	1,335	177	14. 2
SME corporate	756	278	-	1,034	723	622	large
SME retail	4,223	742	35	5,000	5,417	(834)	(14. 3)
Sovereign	491	-	-	491	492	(2)	(0. 4)
Bank	251	2	1	254	317	(125)	(33. 0)
Residential mortgage	12,453	2,068	-	14,521	13,853	1,333	10. 1
Other retail	1,388	104	-	1,492	1,542	(100)	(6. 3)
Other assets	11,378	-	-	11,378	10,140	2,476	27. 8
Central counterparties	-	-	7,267	7,267	7,232	71	1. 0
Total standardised approach	32,013	3,502	7,345	42,860	41,051	3,618	9. 2
Total credit exposures [3]	838,085	164,308	26,734	1,029,127	1,025,757	6,741	0. 7

(1) The simple average of balances as at 31 December 2018 and 30 June 2018.
(2) The difference between exposures as at 31 December 2018 and 30 June 2018.
(3) Total credit risk exposures (calculated as EAD) do not include equities or securitisation exposures.

APS 330 Table 7i – Credit risk exposures by portfolio type and modelling approach (continued)

	30 June 2018						
		Off Balance Sheet					
Portfolio Type	On Balance Sheet $M	Non-market related $M	Market related $M	Total $M	Average exposure for June 2018 half [1] $M	Change in exposure for June 2018 half [2] $M	%
Subject to AIRB approach							
Corporate	72,930	43,771	8,247	124,948	125,379	(862)	(0. 7)
SME corporate	44,508	8,511	311	53,330	54,908	(3,156)	(5. 6)
SME retail	7,076	3,115	-	10,191	10,179	24	0. 2
SME retail secured by residential mortgage	4,132	1,354	-	5,486	5,562	(152)	(2. 7)
Sovereign	82,484	1,334	2,237	86,055	87,805	(3,501)	(3. 9)
Bank	31,034	687	9,087	40,808	39,687	2,243	5. 8
Residential mortgage	487,335	71,691	-	559,026	555,285	7,481	1. 4
Qualifying revolving retail	10,828	18,224	-	29,052	27,903	2,299	8. 6
Other retail	8,314	3,103	-	11,417	11,376	83	0. 7
Total AIRB approach	748,641	151,790	19,882	920,313	918,084	4,459	0. 5
Specialised lending	52,517	9,767	547	62,831	63,519	(1,377)	(2. 1)
Subject to standardised approach							
Corporate	1,030	216	-	1,246	1,266	(39)	(3. 0)
SME corporate	199	212	1	412	345	134	48. 2
SME retail	4,808	969	57	5,834	5,761	146	2. 6
Sovereign	484	9	-	493	447	93	23. 3
Bank	238	1	140	379	302	153	67. 7
Residential mortgage	11,429	1,759	-	13,188	12,901	574	4. 6
Other retail	1,481	111	-	1,592	2,149	(1,115)	(41. 2)
Other assets	8,902	-	-	8,902	10,091	(2,378)	(21. 1)
Central counterparties	-	-	7,196	7,196	6,370	1,653	29. 8
Total standardised approach	28,571	3,277	7,394	39,242	39,632	(779)	(1. 9)
Total credit exposures [3]	829,729	164,834	27,823	1,022,386	1,021,235	2,303	0. 2

(1) The simple average of balances as at 30 June 2018 and 31 December 2017.
(2) The difference between exposures as at 30 June 2018 and 31 December 2017.
(3) Total credit risk exposures (calculated as EAD) do not include equities or securitisation exposures.

APS 330 Table 7b – Credit risk exposure by portfolio type

Portfolio Type	As at 30 Jun 19 $M	Half year average [1] $M
Corporate	**120,434**	123,379
SME corporate	**52,890**	52,659
SME retail	**15,545**	15,893
SME retail secured by residential mortgage	**5,727**	5,818
Sovereign	**90,400**	90,849
Bank	**33,955**	34,184
Residential mortgage	**592,669**	587,272
Qualifying revolving retail	**27,371**	27,835
Other retail	**12,420**	12,586
Specialised lending	**61,266**	61,104
Other assets	**14,533**	12,956
Central counterparties	**7,989**	7,628
Total credit exposures [2]	**1,035,199**	1,032,163

Portfolio Type	As at 31 Dec 18 $M	Half year average [1] $M
Corporate	126,324	126,260
SME corporate	52,429	53,086
SME retail	16,241	16,133
SME retail secured by residential mortgage	5,910	5,698
Sovereign	91,298	88,923
Bank	34,413	37,801
Residential mortgage	581,875	577,041
Qualifying revolving retail	28,299	28,676
Other retail	12,752	12,881
Specialised lending	60,941	61,886
Other assets	11,378	10,140
Central counterparties	7,267	7,232
Total credit exposures [2]	1,029,127	1,025,757

Portfolio Type	As at 30 Jun 18 $M	Half year average [1] $M
Corporate	126,194	126,645
SME corporate	53,742	55,253
SME retail	16,025	15,940
SME retail secured by residential mortgage	5,486	5,562
Sovereign	86,548	88,252
Bank	41,187	39,989
Residential mortgage	572,214	568,186
Qualifying revolving retail	29,052	27,903
Other retail	13,009	13,525
Specialised lending	62,831	63,519
Other assets	8,902	10,091
Central counterparties	7,196	6,370
Total credit exposures [2]	1,022,386	1,021,235

(1) The simple average of closing balances of each half year.
(2) Total credit risk exposures do not include equities or securitisation exposures.

APS 330 Table 7c – Credit risk exposure by portfolio type and geographic distribution

	30 June 2019 [1]			
Portfolio Type	**Australia $M**	**New Zealand $M**	**Other $M**	**Total $M**
Corporate	71,274	11,424	37,736	**120,434**
SME corporate	37,369	14,740	781	**52,890**
SME retail [2]	17,876	3,177	219	**21,272**
Sovereign	53,481	3,476	33,443	**90,400**
Bank	16,357	1,714	15,884	**33,955**
Residential mortgage	529,090	61,936	1,643	**592,669**
Qualifying revolving retail	27,369	-	2	**27,371**
Other retail	8,293	3,757	370	**12,420**
Specialised lending	49,043	7,854	4,369	**61,266**
Other assets	12,883	626	1,024	**14,533**
Central counterparties	746	-	7,243	**7,989**
Total credit exposures [3]	823,781	108,704	102,714	**1,035,199**

	31 December 2018 [1]			
Portfolio Type	**Australia $M**	**New Zealand $M**	**Other $M**	**Total $M**
Corporate	72,021	11,363	42,940	126,324
SME corporate	36,769	15,045	615	52,429
SME retail [2]	18,356	3,132	663	22,151
Sovereign	51,697	4,038	35,563	91,298
Bank	15,198	1,752	17,463	34,413
Residential mortgage	520,770	60,674	431	581,875
Qualifying revolving retail	28,299	-	-	28,299
Other retail	9,525	2,951	276	12,752
Specialised lending	49,097	7,569	4,275	60,941
Other assets	9,471	725	1,182	11,378
Central counterparties	1,041	-	6,226	7,267
Total credit exposures [3]	812,244	107,249	109,634	1,029,127

	30 June 2018 [1]			
Portfolio Type	**Australia $M**	**New Zealand $M**	**Other $M**	**Total $M**
Corporate	70,649	9,772	45,773	126,194
SME corporate	37,687	15,439	616	53,742
SME retail [2]	17,870	3,007	634	21,511
Sovereign	48,486	4,429	33,633	86,548
Bank	19,792	2,146	19,249	41,187
Residential mortgage	514,576	57,145	493	572,214
Qualifying revolving retail	29,052	-	-	29,052
Other retail	9,860	2,824	325	13,009
Specialised lending	50,963	7,252	4,616	62,831
Other assets	6,945	540	1,417	8,902
Central counterparties	1,073	-	6,123	7,196
Total credit exposures [3]	806,953	102,554	112,879	1,022,386

(1) Balances are reported based on the risk domicile of the borrowers.
(2) Including SME retail secured by residential property.
(3) Total credit risk exposures do not include equities or securitisation exposures.

APS 330 Table 7d – Credit risk exposure by portfolio type and industry sector

	30 June 2019							
	Industry Sector							
Portfolio Type	Residential mortgage $M	Other personal $M	Asset finance $M	Sovereign $M	Bank $M	Other finance $M	Agriculture $M	Mining $M
Corporate	-	-	3,517	-	-	25,086	3,038	8,057
SME corporate	-	-	2,936	-	-	1,680	17,445	180
SME retail [1]	-	-	3,549	-	-	390	1,808	122
Sovereign	-	-	-	90,400	-	-	-	-
Bank	-	-	-	-	33,955	-	-	-
Residential mortgage	592,669	-	-	-	-	-	-	-
Qualifying revolving retail	-	27,371	-	-	-	-	-	-
Other retail	-	12,140	280	-	-	-	-	-
Specialised lending	-	-	80	-	-	-	1	1,620
Other assets	-	2,418	-	-	-	-	-	-
Central counterparties	-	-	-	-	742	7,247	-	-
Total credit exposures [2]	592,669	41,929	10,362	90,400	34,697	34,403	22,292	9,979

	Industry Sector							
Portfolio Type	Manufacturing $M	Energy $M	Construction $M	Retail/ wholesale trade $M	Transport and storage $M	Property [3] $M	Other $M	Total $M
Corporate	10,814	5,832	2,888	9,676	15,584	10,807	25,135	**120,434**
SME corporate	2,950	124	2,744	7,482	1,528	411	15,410	**52,890**
SME retail [1]	806	18	1,650	2,496	461	2,412	7,560	**21,272**
Sovereign	-	-	-	-	-	-	-	**90,400**
Bank	-	-	-	-	-	-	-	**33,955**
Residential mortgage	-	-	-	-	-	-	-	**592,669**
Qualifying revolving retail	-	-	-	-	-	-	-	**27,371**
Other retail	-	-	-	-	-	-	-	**12,420**
Specialised lending	61	2,157	-	246	2,493	52,944	1,664	**61,266**
Other assets	-	-	-	-	-	-	12,115	**14,533**
Central counterparties	-	-	-	-	-	-	-	**7,989**
Total credit exposures [2]	14,631	8,131	7,282	19,900	20,066	66,574	61,884	**1,035,199**

(1) SME business lending secured by residential property has been allocated by industry.
(2) Total credit risk exposures do not include equities or securitisation exposures.
(3) Property includes Real Estate Investment Trusts (REIT) and excludes Business Services.

APS 330 Table 7d – Credit risk exposure by portfolio type and industry sector (continued)

	31 December 2018							
	Industry Sector							
	Residential mortgage	Other personal	Asset finance	Sovereign	Bank	Other finance	Agriculture	Mining
Portfolio Type	$M	$M	$M	$M	$M	$M	$M	$M
Corporate	-	-	3,222	-	-	27,023	3,054	9,701
SME corporate	-	-	2,445	-	-	1,252	17,180	249
SME retail [(1)]	-	-	3,628	-	-	385	1,845	75
Sovereign	-	-	-	91,298	-	-	-	-
Bank	-	-	-	-	34,413	-	-	-
Residential mortgage	581,875	-	-	-	-	-	-	-
Qualifying revolving retail	-	28,299	-	-	-	-	-	-
Other retail	-	12,488	264	-	-	-	-	-
Specialised lending	-	-	19	-	-	1	84	2,023
Other assets	-	2,793	-	-	-	-	-	-
Central counterparties	-	-	-	-	-	7,267	-	-
Total credit exposures [(2)]	581,875	43,580	9,578	91,298	34,413	35,928	22,163	12,048

	Industry Sector							
	Manufacturing	Energy	Construction	Retail/ wholesale trade	Transport and storage	Property [(3)]	Other	Total
Portfolio Type	$M	$M	$M	$M	$M	$M	$M	$M
Corporate	10,746	5,864	3,045	11,813	16,571	10,244	25,041	126,324
SME corporate	3,235	179	2,832	7,531	1,631	830	15,065	52,429
SME retail [(1)]	974	24	1,697	2,888	522	2,446	7,667	22,151
Sovereign	-	-	-	-	-	-	-	91,298
Bank	-	-	-	-	-	-	-	34,413
Residential mortgage	-	-	-	-	-	-	-	581,875
Qualifying revolving retail	-	-	-	-	-	-	-	28,299
Other retail	-	-	-	-	-	-	-	12,752
Specialised lending	64	2,023	1	188	2,419	51,835	2,284	60,941
Other assets	-	-	-	-	-	-	8,585	11,378
Central counterparties	-	-	-	-	-	-	-	7,267
Total credit exposures [(2)]	15,019	8,090	7,575	22,420	21,143	65,355	58,642	1,029,127

(1) SME retail business lending secured by residential property has been allocated by industry.
(2) Total credit risk exposures do not include equities or securitisation exposures.
(3) Property includes REITs and excludes Business Services.

APS 330 Table 7d – Credit risk exposure by portfolio type and industry sector (continued)

	30 June 2018							
	Industry Sector							
	Residential mortgage	Other personal	Asset finance	Sovereign	Bank	Other finance	Agriculture	Mining
Portfolio Type	$M	$M	$M	$M	$M	$M	$M	$M
Corporate	-	-	3,125	-	-	28,155	2,456	10,396
SME corporate	-	-	2,862	-	-	1,699	17,351	212
SME retail [(1)]	-	-	3,743	-	-	389	1,768	66
Sovereign	-	-	-	86,548	-	-	-	-
Bank	-	-	-	-	41,187	-	-	-
Residential mortgage	572,214	-	-	-	-	-	-	-
Qualifying revolving retail	-	29,052	-	-	-	-	-	-
Other retail	-	12,688	321	-	-	-	-	-
Specialised lending	-	-	21	-	-	3	79	1,748
Other assets	-	2,832	-	-	-	-	-	-
Central counterparties	-	-	-	-	-	7,196	-	-
Total credit exposures [(2)]	572,214	44,572	10,072	86,548	41,187	37,442	21,654	12,422

	Industry Sector							
	Manufacturing	Energy	Construction	Retail/ wholesale trade	Transport and storage	Property [(3)]	Other	Total
Portfolio Type	$M	$M	$M	$M	$M	$M	$M	$M
Corporate	10,708	7,408	2,815	11,952	15,832	8,362	24,985	126,194
SME corporate	3,101	153	2,849	7,392	1,711	577	15,835	53,742
SME retail [(1)]	884	23	1,561	2,709	490	2,305	7,573	21,511
Sovereign	-	-	-	-	-	-	-	86,548
Bank	-	-	-	-	-	-	-	41,187
Residential mortgage	-	-	-	-	-	-	-	572,214
Qualifying revolving retail	-	-	-	-	-	-	-	29,052
Other retail	-	-	-	-	-	-	-	13,009
Specialised lending	64	2,209	70	132	2,152	53,899	2,454	62,831
Other assets	-	-	-	-	-	-	6,070	8,902
Central counterparties	-	-	-	-	-	-	-	7,196
Total credit exposures [(2)]	14,757	9,793	7,295	22,185	20,185	65,143	56,917	1,022,386

(1) SME retail business lending secured by residential property has been allocated by industry.
(2) Total credit risk exposures do not include equities or securitisation exposures.
(3) Property includes REITs and excludes Business Services.

APS 330 Table 7e – Credit risk exposure by portfolio type and residual contractual maturity

	30 June 2019				
	≤ 12mths	1 ≤ 5yrs	> 5 years	No specified maturity	Total
Portfolio Type	$M	$M	$M	$M	$M
Corporate	38,873	70,106	11,455	-	**120,434**
SME corporate	20,751	28,146	3,993	-	**52,890**
SME retail [1]	7,322	7,978	5,972	-	**21,272**
Sovereign	23,449	31,697	35,254	-	**90,400**
Bank	15,201	16,708	2,046	-	**33,955**
Residential mortgage	15,920	54,939	483,145	38,665	**592,669**
Qualifying revolving retail	-	-	-	27,371	**27,371**
Other retail	483	4,636	3,023	4,278	**12,420**
Specialised lending	20,863	35,677	4,726	-	**61,266**
Other assets	2,885	524	248	10,876	**14,533**
Central counterparties	1,996	3,446	2,547	-	**7,989**
Total credit exposures [2]	147,743	253,857	552,409	81,190	**1,035,199**

	31 December 2018				
	≤ 12mths	1 ≤ 5yrs	> 5 years	No specified maturity	Total
Portfolio Type [3]	$M	$M	$M	$M	$M
Corporate	43,373	71,834	11,117	-	126,324
SME corporate	18,351	29,633	4,445	-	52,429
SME retail [1]	5,879	11,709	4,563	-	22,151
Sovereign	29,969	30,166	31,163	-	91,298
Bank	15,845	18,492	76	-	34,413
Residential mortgage	14,628	49,923	477,665	39,659	581,875
Qualifying revolving retail	-	-	-	28,299	28,299
Other retail	166	5,814	2,863	3,909	12,752
Specialised lending	22,806	33,047	5,088	-	60,941
Other assets	2,793	533	179	7,873	11,378
Central counterparties	2,619	4,459	189	-	7,267
Total credit exposures [2]	156,429	255,610	537,348	79,740	1,029,127

	30 June 2018				
	≤ 12mths	1 ≤ 5yrs	> 5 years	No specified maturity	Total
Portfolio Type [3]	$M	$M	$M	$M	$M
Corporate	41,076	73,680	11,438	-	126,194
SME corporate	18,982	29,516	5,244	-	53,742
SME retail [1]	5,395	12,401	3,715	-	21,511
Sovereign	32,032	26,608	27,908	-	86,548
Bank	19,863	21,110	214	-	41,187
Residential mortgage	13,889	43,087	474,410	40,828	572,214
Qualifying revolving retail	-	-	-	29,052	29,052
Other retail	163	5,971	3,071	3,804	13,009
Specialised lending	22,992	35,287	4,552	-	62,831
Other assets	2,900	417	248	5,337	8,902
Central counterparties	2,735	4,379	82	-	7,196
Total credit exposures [2]	160,027	252,456	530,882	79,021	1,022,386

(1) Including SME retail secured by residential property.
(2) Total credit risk exposures do not include equities or securitisation exposures.
(3) Comparative information has been restated to conform to presentation in the current period.

8.2. Past Due and Impaired Exposures, Provisions and Reserve

Provisioning for Impairment

The Group assesses and measures credit losses in accordance with statutory financial accounting requirements under the Corporations Act 2001, Australian Accounting Standards as issued by the Australian Accounting Standards Board (AASB) and APRA regulatory requirements.

On 1 July 2018 the Group adopted Accounting Standard AASB 9 "Financial Instruments" (AASB 9) resulting in a $1.06 billion increase to collective provisions. AASB 9 introduced an expected credit loss (ECL) impairment model which differs significantly from the incurred approach under AASB 139. The ECL model is forward looking and does not require evidence of an actual loss event for impairment provisions to be recognised.

The Group assesses its provisioning for impairment in accordance with AASB 9 and recognises both individually assessed provisions and collectively assessed provisions.

A monthly assessment is undertaken to assess the quality of the credit portfolio to determine the loan loss expense and provisions.

APRA Prudential Standard APS 220 "Credit Quality" (APS 220) requires the Group to report Specific Provisions and a General Reserve for Credit Losses (GRCL) and requires that impairment be recognised for both on and off balance sheet items, including financial guarantees, for the expected life. Any shortfall of the Group's provisions eligible for inclusion in the GRCL are deducted from CET1.

APRA Prudential Standard APS 111 "Capital Adequacy: Measurement of Capital" (APS 111) requires the Group to reduce CET1 when the amount of regulatory expected losses is in excess of APRA defined eligible provisions.

Collective Provisions

The ECL impairment model is used by the Group to calculate collective provisions. ECL is a probability weighted expected credit loss estimated by evaluating a range of possible outcomes and taking into account the time value of money, past events, current conditions and forecasts of future economic conditions.

The Group uses the following AASB 9 collective provisioning models in calculating ECL:

- Retail lending: Personal Loans model, Credit Cards model, Home Loans model, Retail SME model.
- Non-retail lending: Corporate Risk Rated model, Asset Finance model.

For each significant portfolio ECL is calculated as a product of the following credit risk factors at a facility level:

- Probability of default (PD): The likelihood that a debtor will be unable to pay its obligations in full without having to take actions such as realising on security or that the debtor will become 90 days overdue on an obligation or contractual commitment;
- Exposure at default (EAD): Expected balance sheet exposure at default. The Group generally calculates EAD as the higher of the drawn balance and total credit limit except for the credit cards portfolio, for which the EAD calculation also takes into account the probability of unused limits being drawn down; and
- Loss given default (LGD): The amount that is not expected to be recovered following default.

Credit risk factors of PD and LGD used in the ECL calculation are point-in-time estimates based on current conditions and adjusted to include the impact of multiple probability-weighted future forecast economic scenarios. This is distinct from the long-run and downturn estimates used for regulatory purposes described in Section 8.4.

The implementation of AASB 9 required management to make a number of judgements and assumptions and has had a significant impact of the Group's impairment provisioning methodology. Refer to Note 1.1 in the CBA Annual Report 2019 for further information.

Individually Assessed Provisions

Individually assessed provisions are made against financial assets that are individually significant, or which have been individually assessed as impaired.

Secured retail exposures with an expected loss in excess of $20,000 and defaulted non-retail exposures that are not well secured are assessed for impairment through an Individually Assessed Provisions (IAP) process. Impairment provisions on these exposures are calculated directly as the difference between the defaulted assets' carrying value and the present value of expected future cash flows including cash flows from realisation of collateral, where applicable.

General Reserve for Credit Losses

All provisions for impairment assessed on an individual basis in accordance with Australian Accounting Standards are classified as specific provisions in accordance with APS 220. Most of the collective provisions raised under the Australian Accounting Standards are included in the GRCL, however, certain collective provisions not eligible for inclusion in the GRCL, are classified as specific provisions. This includes, for example, collective provisions on retail products that are in default.

Reconciliation of Australian Accounting Standards and APS 220 based credit provisions and APS 330 Table 7j – General reserve for credit losses

	30 June 2019		
	General reserve for credit losses [1] $M	Specific provision [1] $M	Total provisions $M
Collective provision [2]	3,510	394	**3,904**
Individual provisions [2]	-	895	**895**
Total provisions	3,510	1,289	**4,799**
Additional GRCL requirement [3]	515	-	**515**
Total regulatory provisions	4,025	1,289	**5,314**

(1) Provisions classified according to APS 220.
(2) Provisions according to the Australian Accounting Standards.
(3) The Group has recognised a deduction from CET1 of $515 million in order to maintain the required minimum GRCL.

	31 December 2018		
	General reserve for credit losses [1] $M	Specific provision [1] $M	Total provisions $M
Collective provision [2]	3,453	361	3,814
Individual provisions [2]	-	920	920
Total provisions	3,453	1,281	4,734
Additional GRCL requirement [3]	539	-	539
Total regulatory provisions	3,992	1,281	5,273

(1) Provisions classified according to APS 220.
(2) Provisions according to the Australian Accounting Standards.
(3) The Group has recognised a deduction from CET1 of $539 million in order to maintain the required minimum GRCL.

	30 June 2018		
	General reserve for credit losses [1] $M	Specific provision [1] $M	Total provisions $M
Collective provision [2]	2,484	279	2,763
Individual provisions [2]	-	870	870
Total provisions	2,484	1,149	3,633
Additional GRCL requirement [3]	589	-	589
Total regulatory provisions	3,073	1,149	4,222

(1) Provisions classified according to APS 220.
(2) Provisions according to the Australian Accounting Standards.
(3) The Group has recognised a deduction from CET1 of $589 million in order to maintain the required minimum GRCL.

Credit Risk

The following tables provide a summary of the Group's financial losses by portfolio type, industry and geography.

APS 330 Table 7f (i) – Impaired, past due, specific provisions and write-offs charged by industry sector

	30 June 2019				
Industry Sector	**Impaired assets $M**	**Past due loans ≥ 90 days $M**	**Specific provision balance [(1)] $M**	**Net full year charges for individual provisions $M**	**Full year actual losses [(2)] $M**
Home loans	1,807	2,768	375	127	131
Other personal	294	27	270	7	677
Asset finance	81	2	15	11	15
Sovereign	-	-	-	-	-
Bank	9	-	9	-	-
Other finance	7	8	5	(1)	6
Agriculture	417	68	97	92	61
Mining	183	4	42	41	27
Manufacturing	143	30	68	29	9
Energy	-	-	-	-	-
Construction	170	37	76	93	45
Wholesale/retail trade	119	109	63	30	17
Transport and storage	68	17	27	28	85
Property	70	110	59	(10)	14
Other	254	157	183	30	108
Total	3,622	3,337	1,289	477	1,195

(1) Specific provision balance includes certain Australian Accounting Standards collective provisions on some defaulted loans.
(2) Actual losses equal write-offs from individual provisions, write-offs direct from collective provisions less recoveries of amounts previously written off, for the year ended 30 June 2019.

	31 December 2018				
Industry Sector	**Impaired assets $M**	**Past due loans ≥ 90 days $M**	**Specific provision balance [(1)] $M**	**Net half year charges for individual provisions $M**	**Half year actual losses [(2)] $M**
Home loans	1,547	2,689	345	56	60
Other personal	284	26	256	3	318
Asset finance	65	5	13	7	9
Sovereign	-	-	-	-	-
Bank	9	-	9	-	-
Other finance	10	5	7	-	4
Agriculture	527	57	161	73	6
Mining	272	3	21	(5)	(1)
Manufacturing	140	22	61	18	2
Energy	-	-	-	-	-
Construction	210	28	73	93	42
Wholesale/retail trade	61	106	43	7	7
Transport and storage	138	15	65	8	30
Property	78	99	63	(9)	7
Other	219	160	164	14	93
Total	3,560	3,215	1,281	265	577

(1) Specific provision balance includes certain Australian Accounting Standards collective provisions on some defaulted loans.
(2) Actual losses equal write-offs from individual provisions, write-offs direct from collective provisions less recoveries of amounts previously written off, for the half year ended 31 December 2018.

APS 330 Table 7f (i) – Impaired, past due, specific provisions and write-offs charged by industry sector (continued)

	30 June 2018				
Industry Sector	Impaired assets $M	Past due loans ≥ 90 days $M	Specific provision balance [1] $M	Net full year charges for individual provisions $M	Full year actual losses [2] $M
Home loans	1,357	2,773	343	103	125
Other personal	302	23	180	2	654
Asset finance	67	4	19	21	18
Sovereign	-	-	-	-	-
Bank	9	-	9	-	-
Other finance	9	4	7	(2)	7
Agriculture	463	40	81	13	31
Mining	304	4	29	(31)	32
Manufacturing	60	35	46	(27)	86
Energy	1	-	-	(3)	-
Construction	37	22	22	11	13
Wholesale/retail trade	66	84	40	(4)	56
Transport and storage	171	13	72	32	(3)
Property	83	59	76	5	24
Other	250	155	225	243	175
Total	3,179	3,216	1,149	363	1,218

(1) Specific provision balance includes certain Australian Accounting Standards collective provisions on some defaulted loans.
(2) Actual losses equal write-offs from individual provisions, write-offs direct from collective provisions less recoveries of amounts previously written off, for the year ended 30 June 2018.

APS 330 Table 7f (ii) – Impaired, past due, specific provisions and write-offs charged by portfolio

	30 June 2019				
Portfolio	Impaired assets $M	Past due loans ≥ 90 days $M	Specific provision balance (1) $M	Net full year charges for individual provisions $M	Full year actual losses (2) $M
Corporate including SME, specialised lending and central counterparties	1,506	542	635	343	387
Sovereign	-	-	-	-	-
Bank	9	-	9	-	-
Residential mortgage	1,807	2,768	375	127	131
Qualifying revolving retail	138	-	125	-	292
Other retail	162	27	145	7	385
Total	3,622	3,337	1,289	477	1,195

(1) Specific provision balance includes certain accounting collective provisions on some defaulted loans.
(2) Actual losses equal write-offs from individual provisions, write-offs direct from collective provisions less recoveries of amounts previously written off for the year ended 30 June 2019.

	31 December 2018				
Portfolio	Impaired assets $M	Past due loans ≥ 90 days $M	Specific provision balance (1) $M	Net half year charges for individual provisions $M	Half year actual losses (2) $M
Corporate including SME, specialised lending and central counterparties	1,720	500	671	206	199
Sovereign	-	-	-	-	-
Bank	9	-	9	-	-
Residential mortgage	1,547	2,689	345	56	60
Qualifying revolving retail	137	-	116	-	140
Other retail	147	26	140	3	178
Total	3,560	3,215	1,281	265	577

(1) Specific provision balance includes certain accounting collective provisions on some defaulted loans.
(2) Actual losses equal write-offs from individual provisions, write-offs direct from collective provisions less recoveries of amounts previously written off for the half year ended 31 December 2018.

	30 June 2018				
Portfolio	Impaired assets $M	Past due loans ≥ 90 days $M	Specific provision balance (1) $M	Net full year charges for individual provisions $M	Full year actual losses (2) $M
Corporate including SME, specialised lending and central counterparties	1,511	420	617	258	439
Sovereign	-	-	-	-	-
Bank	9	-	9	-	-
Residential mortgage	1,357	2,773	343	103	125
Qualifying revolving retail	149	-	67	-	283
Other retail	153	23	113	2	371
Total	3,179	3,216	1,149	363	1,218

(1) Specific provision balance includes certain accounting collective provisions on some defaulted loans.
(2) Actual losses equal write-offs from individual provisions, write-offs direct from collective provisions less recoveries of amounts previously written off for the year ended 30 June 2018.

Factors impacting the loss experience

The overall quality of the portfolio was stable during the financial year ended 30 June 2019. Gross impaired assets as a proportion of gross loans and advances (GLAAs) increased by six basis points to 0.48%. Total provisions as a proportion of GLAAs increased by fourteen basis points to 0.63%, mainly driven by the adoption of AASB 9 on 1 July 2018. Group actual losses decreased by $23 million on the prior year led by a reduction in commercial portfolio losses.

APS 330 Table 7g (i) – Impaired, past due and specific provisions by geographic region

	30 June 2019		
Geographic Region [1]	Impaired assets $M	Past due loans ≥ 90 days $M	Specific provision balance $M
Australia	2,890	3,192	1,123
New Zealand	521	96	98
Other	211	49	68
Total	3,622	3,337	1,289

	31 December 2018		
Geographic Region [1]	Impaired assets $M	Past due loans ≥ 90 days $M	Specific provision balance $M
Australia	2,688	3,088	1,107
New Zealand	463	86	77
Other	409	41	97
Total	3,560	3,215	1,281

	30 June 2018		
Geographic Region [1]	Impaired assets $M	Past due loans ≥ 90 days $M	Specific provision balance $M
Australia	2,229	3,085	947
New Zealand	487	100	61
Other	463	31	141
Total	3,179	3,216	1,149

(1) Balances are reported based on the risk domicile of the borrower. The Group's financial statements disclose balances based on the domicile of the lending entity.

The Group's GRCL (before tax) by geographic region is distributed as follows:

APS 330 Table 7g (ii) – GRCL by geographic region

Geographic Region	30 Jun 19 $M	31 Dec 18 $M	30 Jun 18 $M
Australia	**3,527**	3,428	2,689
New Zealand	**304**	300	225
Other	**194**	264	159
Total GRCL	**4,025**	3,992	3,073

APS 330 Table 7h (i) – Movement in collective provisions and general reserve for credit losses

	Half Year Ended		
	30 Jun 19	31 Dec 18	30 Jun 18
Movement in Collective Provisions	$M	$M	$M
Opening balance	**3,814**	2,763	2,772
Change on adoption of AASB 9 (1)	**-**	1,055	-
Net charge against profit and loss	**412**	312	331
Recoveries	**102**	104	97
Other	**39**	18	1
Write-offs	**(463)**	(438)	(438)
Total collective provisions	**3,904**	3,814	2,763
Less collective provisions transferred to specific provisions	**(394)**	(361)	(279)
Additional GRCL requirement (2)	**515**	539	589
General reserve for credit losses	**4,025**	3,992	3,073

(1) On 1 July 2018, the Group adopted AASB 9 resulting in a $1.06 billion increase to collective provisions. The increase is due to the introduction of forward looking economic factors and holding lifetime expected credit losses on stage 2 loans as prescribed under the standard.

(2) The Group has recognised these amounts as a deduction from CET1 in order to maintain the required minimum GRCL.

APS 330 Table 7h (ii) – Movement in individual provisions and specific provisions

	Half Year Ended		
	30 Jun 19	31 Dec 18	30 Jun 18
Movement in Individual Provisions	$M	$M	$M
Opening balance for the period	**920**	870	978
Net new and increased provisioning	**271**	348	255
Net write back of provisions no longer required	**(59)**	(83)	(103)
Discount unwind to interest income	**(13)**	(10)	(11)
Other	**32**	39	64
Write-offs	**(256)**	(244)	(313)
Total individual provisions	**895**	920	870
Add collective provisions transferred to specific provisions	**394**	361	279
Specific provisions	**1,289**	1,281	1,149

8.3 Portfolios Subject to Standardised and Supervisory Risk Weights

CommBank Europe Limited and PT Bank Commonwealth (Indonesia) operate under the Standardised Basel III approach and are consolidated at Level 2.

The standardised approach is also used by the Group where portfolios or segments are considered as immaterial by the size of exposure or where APRA requires a standardised approach to be used.

Portfolios that use the standardised approach include:

Commonwealth Bank of Australia:

- Some Retail SMEs (overdrawn accounts);
- Non-rated Corporate exposures;
- Some Residential Mortgages (including purchased portfolios and reverse mortgages);
- Margin lending;
- Non-recourse purchased receivables;
- Some branches; and
- Central counterparties.

Bankwest:

- Some residential mortgages (equity lines of credit); and
- Some unsecured consumer retail (personal cheque accounts).

ASB Bank Limited:

- Personal loans and Retail SME.

All exposures in the following entities:

- CommBank Europe Limited; and
- PT Bank Commonwealth (Indonesia);

The Group continues to review portfolios that use the standardised approach. Approval to apply the advanced approach will be sought from APRA when the size of exposures and number of customers within these portfolios are sufficient to qualify for advanced approaches.

Risk weights pertaining to Retail and SME Corporate Standardised portfolios have been applied in accordance with APRA Prudential Standard APS 112 “Capital Adequacy: Standardised Approach to Credit Risk” (APS 112) and with consideration to the type of collateral held and past due status. In respect of loans secured by residential mortgages, consideration is given with respect to the Loan to Value Ratio and whether mortgage insurance is held.

The Group’s definition of internal risk ratings used for Corporate, Bank and Sovereign exposures has been aligned to equivalent rating grades provided by external credit assessment institutions including S&P Global Ratings and Moody’s Investors Services.

APRA requires certain specialised lending exposures including Income Producing Real Estate, Object and Project Finance to be assigned specific risk weights according to “slotting” criteria defined by the regulator.

APS 330 Table 8b – Exposures subject to standardised and supervisory risk weights

Standardised Approach Exposures	Exposure After Credit Risk Mitigation [1] 30 Jun 19 $M	31 Dec 18 $M	30 Jun 18 $M
Risk Weight			
0%	**3,104**	3,308	1,679
20%	**3,606**	3,341	2,947
35%	**9,460**	9,417	8,889
50%	**4,075**	3,506	3,510
75%	**908**	899	880
100%	**17,393**	15,099	14,104
150%	**18**	23	37
> 150%	**1**	-	-
Capital deductions	**-**	-	-
Total	**38,565**	35,593	32,046

(1) Exposure after credit risk mitigation does not include central counterparties, equity or securitisation exposures.

Other Assets [1]	30 June 2019 Exposure $M	Risk weight %	RWA $M
Cash	3,099	-	-
Cash items in course of collection	942	20	188
Margin lending [2]	2,632	30	795
Fixed and forward purchase assets	1,460	100	1,460
Other	6,400	≥100	6,411
Total	14,533	61	8,854

Other Assets [1]	31 December 2018 Exposure $M	Risk weight %	RWA $M
Cash	3,308	-	-
Cash items in course of collection	573	20	115
Margin lending [2]	2,793	31	855
Fixed and forward purchase assets	1,431	100	1,431
Other	3,273	≥100	3,273
Total	11,378	50	5,674

Other Assets [1]	30 June 2018 Exposure $M	Risk weight %	RWA $M
Cash	1,680	-	-
Cash items in course of collection	51	20	10
Margin lending [2]	2,832	31	891
Fixed and forward purchase assets	1,462	100	1,462
Other	2,877	≥100	2,878
Total	8,902	59	5,241

(1) Other Assets are included in Standardised Approach Exposures table above.
(2) Margin lending against listed instruments are risk weighted at 20%. Other unlisted instruments are risk weighted at 100%.

Specialised Lending Exposures Subject to Supervisory Slotting [1]	30 Jun 19 $M	31 Dec 18 $M	30 Jun 18 $M
Risk Weight			
0%	**401**	342	196
70%	**17,368**	17,042	17,722
90%	**37,883**	37,944	39,356
115%	**4,808**	4,932	4,315
250%	**806**	681	1,242
Total exposures	**61,266**	60,941	62,831

(1) APRA requires specialised lending exposures including Income Producing Real Estate, Object and Project Finance to be assigned specific risk weights according to “slotting” criteria defined by the Regulator.

8.4 Portfolios Subject to Internal Ratings Based Approaches

The Group, with the exception of some relatively small portfolios, is accredited to use AIRB approaches to calculate its capital requirements under APRA Prudential Standard APS 113 "Capital Adequacy: Internal Ratings based Approach to Credit Risk" (APS 113).

Credit Risk Measurement

The measurement of credit risk is based on an internal credit risk rating system which uses expert judgement and analytical tools to calculate AIRB credit risk estimates, including obligor Probabilities of Default (PD), facility Loss Given Default (LGD), and facility Exposure at Default (EAD). These are inputs into the estimation of Expected Loss (EL) and Unexpected Loss (UL) for the credit portfolio.

The Credit Rating Governance Committee oversees Group credit rating models and processes to ensure appropriate credit risk estimates are developed and used, model performance is reviewed on a regular basis and that there is consistency across Business Unit credit models as appropriate.

Probability of Default

The PD, expressed as a percentage, is the estimate of the probability that an obligor will default within a twelve month period. It reflects an obligor's ability to generate sufficient cash flows in the future to meet the terms of all of its credit obligations to the Group. The PD rating methodology applied to the various segments of the credit portfolio is shown in APS 330 Table 9c (page 36).

PD estimates are based on a long-run average default rate for the Group's historical data. Customer risk characteristics and account performance criteria are used to define retail risk pools. Pools may be combined to ensure the number of exposures within a given pool is sufficient to allow quantification of reliable estimates and to facilitate validation of loss characteristics at the pool level.

Models are independently validated and in addition, confidence intervals are calculated to statistically demonstrate that retail pools meaningfully differentiate risk. PD model results are calibrated to obtain long-run PDs that reflect the central tendency over a full economic cycle.

The credit risk portfolio has two major PD rating segments, (i) Risk-Rated and (ii) Retail Managed.

(i) Risk-Rated Segment

This segment comprises non-retail exposures including bank and sovereign exposures. Non-Retail exposures to clients with turnover less than $50 million that are required to be risk-rated and individually managed under the Group's internal credit policy are classified under the SME Corporate asset class.

The credit risk rating system for corporate customer exposures currently in use includes 24 PD grades (16 performing, 6 weak/doubtful, 1 restructured, 1 defaulted).

Obligors that are risk-rated have their PD rating assigned via expert judgement and the appropriate PD Rating Tool. Obligors whose PD ratings are assigned via expert judgement include banks, sovereigns and/or large corporate customers with turnover $50 million and greater. Under expert judgement, PD ratings are assigned based on the expert knowledge of the credit officer conducting the review. The credit officer may use multiple rating inputs, including the use of internal PD Rating Tools, the ratings assigned by an external rating agency, benchmark rating criteria, management capability and integrity, market or other relevant information to assist with the rating decision.

PD Rating Tools are used to form a benchmark in the rating process and are based on customer financials and a number of management related questions.

For the Business and Private Banking Business Units across the Group (including within CBA and ASB), PD Rating Tools are the primary method of assigning a PD rating. PD Rating Tools are statistical models designed to predict the rating outcome under expert judgement. Ratings are assigned based on the responses to a series of questions relating to the financial condition of the customer's business, as well as questions relating to management capability and integrity. The responses are weighted by their importance in predicting credit quality and are used to calculate an overall score upon which the PD rating is determined.

The PD rating reflects the estimated probability of default for that grade over a one year horizon. The Group uses a through-the-cycle (TTC) approach whereby PD ratings are based on longer term considerations to capture a company's ability to perform through a credit cycle. External rating agencies also use a TTC PD rating approach.

The Group's PD rating criteria reflect both long-run and current considerations of the financial health of an obligor.

PD ratings fall within the following major categories:

- Exceptional – (A0 through to A3) – a strong profit history with principal and interest repayments covered by large stable surpluses;
- Strong – (B1 through to C3) – a strongly performing business with principal and interest payments well protected by stable cash operating surpluses;
- Pass – (D1 through to E3) – a soundly performing business with sufficient operating cash surpluses to meet all principal and interest repayments;
- Weak/Doubtful – (F1 through to G3) – profitability has been weak and the capacity to meet principal and interest payments is weak or doubtful;
- Restructured – (R) – concessions of interest and/or principal obligations have been provided due to the customer's financial difficulties, rendering the facility non-commercial to the Group. Restructured facilities are treated as impaired assets; and
- Default – (H) – the obligation is in default (see below).

A PD rating of "Pass" grade or above qualifies the obligor for approval of new facilities or increased exposure on normal commercial terms. An obligor whose PD rating is "Weak" (excluding F grade – well secured) or "Default" is not eligible for new facilities or increased exposure unless it will facilitate rehabilitation or protect or improve the Group's position by maximising recovery prospects.

Assignments of obligor PD ratings are reviewed at least annually with higher risk exposures being reviewed more frequently. Rating reviews are also initiated when material new information on an obligor comes to light.

Probability of Default (continued)

For the purpose of determining the PD rating, default is defined as any one of the following:

- The customer is 90 days or more overdue on a scheduled credit obligation repayment; or
- The customer is unlikely to repay their credit obligation to the Group in full, without the Group taking action such as realising available security.

Material deviations from the reference default definition are not permitted.

The Group's mapping of internal rating scales for risk-rated exposures to external rating agencies is detailed in APS 330 Table 9b (page 36).

(ii) Retail Managed Segment

This segment has sub-segments covering housing loan, credit card, personal loan facilities, and personal overdrafts. It also includes most non-retail lending where the aggregated credit exposure to a group of related obligors is less than $1 million.

The Group has been using scorecards to "auto-decision" loan applications for over 20 years in its consumer retail divisions and more recently for SME Retail applications. These are auto-decisioned for the approval of credit using a scorecard approach whereby the performance of historical applications is supplemented by information from a credit reference bureau and/or from the Group's existing knowledge of a customer's behaviour.

Customers with similar characteristics, products and subject to the same origination process are allocated the same PD.

Portfolios in the Retail Managed Segment are managed on a delinquency band approach (e.g. actions taken when loan payments are greater than 30 days past due differ from actions when payments are greater than 60 days past due) and are reviewed by the relevant Risk Management Support Unit.

Financial assets in the retail segment are classified as secured or unsecured. Unsecured facilities (e.g. credit cards) are considered impaired at 90 days past due and are generally written off once they reach 180 days past due (unless arrangements have been made between the borrower and the Group).

Secured facilities (e.g. home loans) are classified as impaired when a facility is 90 days past due and it is not well secured, the facility has been formally restructured or judgement is made that there is reasonable evidence that the customer is unable to meet contractual obligations and it is not well secured.

Common PD, EAD and LGD methodologies are followed in constructing the internal ratings process for residential mortgages, qualifying revolving retail exposures and other retail advances with the default definition applied when payment on a facility is 90 days or more past due, or a write-off amount exists against the facility.

Loss Given Default

LGDs are derived using data from accounts that were in default during any given month within the modelling observation period.

LGD is estimated as the net present value of the post default loss, including an allowance for internal and external costs, expressed as a percentage of the EAD.

Amounts recovered and the associated costs of recovery after the point of default are discounted using an appropriate discount rate inclusive of a risk premium.

LGD is impacted by:

- The level of security cover and the type of collateral held;
- Liquidity and volatility of collateral value;
- Loan workout costs (effectively the costs of providing a facility that is not generating an interest return) and management expenses (realisation costs);
- Time estimated to achieve all possible payments; and
- The discount factor applied to reflect the time value of money and the uncertainty of future cash flows.

For calculating regulatory capital an estimated downturn LGD is used that reflects likely recovery rates under stressed economic conditions except for Residential Mortgages, where a 20% floor has been determined by APRA.

It is recognised that some accounts will cure after entering default and cure rates are an important aspect of estimating a downturn LGD that is consistent with economic recession conditions.

For Corporate and SME Corporate customers, an LGD rating is applied based on the security cover ratio after taking into consideration the security lending margins applied to various security asset types. The LGD rating provides an estimate of the likely loss in the event of default, based on past experience. Secured commercial exposures receive an LGD rating of A-F. By way of examples: a rating of A is applied only to very well secured exposures where the security cover ratio exceeds 140%; an LGD rating of C reflects a security cover ratio of 100%; an LGD rating of F applies where the security cover is less than 40%. Unsecured large corporate customers, banks and sovereigns receive an LGD rating of J-N, depending on their PD rating and the existence of covenants.

For retail exposures, accounts are segmented into homogeneous "LGD" pools based on product/loan type and other relevant attributes.

The Group has policies and procedures in place setting out the circumstances where acceptable and appropriate collateral is to be taken, including valuation parameters, review frequency and independence of valuation.

Collateral types are discussed in further detail in section 8.5 "Credit Risk Mitigation" (page 46).

Exposure at Default

The dollar amount of EAD is the estimate of the amount of a facility that will be outstanding in the event of default.

For defaulted facilities it is the actual amount outstanding at default.

For non-defaulted committed facilities it is based on the actual amount outstanding, plus the undrawn amount multiplied by a credit conversion factor which represents the potential rate of conversion from the undrawn amount 12 months prior to default, to drawn amount at default. For most committed facilities, the Group applies a credit conversion factor of 100% to the undrawn amount. For uncommitted facilities the EAD will generally be the drawn balance only.

For retail exposures, a modelling approach can be used based on factors including limit usage, arrears and loan type to segment accounts into homogeneous pools for the calculation.

Credit Risk

Expected Loss

Regulatory EL is calculated as the product of PD, EAD and LGD.

Regulatory EL is reported for both defaulted and non-defaulted exposures. For non-defaulted exposures, Regulatory EL is based on the quality of exposures at a point in time using long-run PDs and downturn LGDs as required by APRA. For defaulted exposures, Regulatory EL is based on the best estimate of loss.

Regulatory EL for Specialised Lending exposures is prescribed by APRA's Supervisory Slotting approach. Regulatory EL is not required to be calculated on standardised portfolios.

Unexpected Loss

The UL for each portfolio segment is calculated based on a given level of confidence that the magnitude of the UL will not be exceeded with a known probability. UL represents the difference between EL and the point on the loss distribution associated with the required level of probability that the loss is not to exceed. The Group holds capital to cover the unexpected loss.

There are two measures of UL. The regulatory measure used to determine the regulatory capital requirement, and an internal measure based on the Group's economic capital model.

The regulatory measure is calculated based on the Basel III Framework using a 99.9% probability that UL will not be exceeded.

Economic Capital

The economic capital measure takes into account portfolio specific characteristics (e.g. industry segment) and allows for diversification effects between obligors within a portfolio segment as well as across different portfolio segments. Economic capital is the currency of risk measurement using a 99.95% probability that UL is not exceeded.

Uses of Internal Estimates of Credit Risk Components other than for Regulatory Capital Purposes

The Group uses its internal estimates of PD, LGD and EAD for a number of activities other than for AIRB regulatory capital purposes. They include:

- Management of credit risk concentrations - through the Large Credit Exposure, Industry Sector Concentration and Country Risk Exposure policies;
- Loan origination and credit quality control - through the generation and monitoring of credit risk-ratings;
- Calculation of some accounting collective provisions;
- Capital budgeting - through modelling of business plans under expected and stressed scenarios, and the calculation of economic capital; and
- Aligning risk culture to the Group's risk appetite - through its internal risk-based-pricing performance framework; ensuring the Group generates appropriate economic returns through its risk-pricing framework at both: (i) a transactional level where long-run EL is factored into interest margins and fees and (ii) at a portfolio level via Profit After Capital Charge and Return on Target Equity frameworks.

Credit Risk Ratings System

The Credit Risk Rating (CRR) is assigned by reference to a matrix that maps the PD and long-run LGD to a number commensurate with EL.

The Group uses its credit risk estimates to price transactions, measure performance and help determine the amount of capital required to support business activities.

The Group's credit risk estimates are subject to annual review in accordance with a Board Risk Committee approved Model Policy to ensure independent validation and testing of assigned risk estimates.

APS 330 Table 9b – Internal ratings structure for credit risk exposures and mapping to external ratings

Description	Internal Rating	Probability of Default	S&P Rating	Moody's Rating
Exceptional	A0 to A3	0% - 0.040%	AAA to AA-	Aaa to Aa3
Strong	B1 to C3	>0.040% - 0.447%	A+ to BBB-	A1 to Baa3
Pass	D1 to E3	>0.447% - 6.656%	BB+ to B-	Ba1 to B3
Weak/Doubtful	F1 to G3	>6.656%	CCC to C	Caa to Ca
Restructured	R	30.998%	-	-
Defaulted	H	100%	D	C

APS 330 Table 9c – PD rating methodology by portfolio segment

Portfolio Segment	PD Rating Methodology
Bank and sovereign exposures	Expert Judgement assigned risk rating, informed but not driven by rating agency views.
Large corporate exposures	Combination of Expert Judgement and PD Rating Tool assigned risk ratings depending on the industry sector.
SME Corporate exposures	PD Rating Tools and Expert Judgement assigned risk rating.
SME Retail exposures < $1m	SME Behaviour Score assigned PD pools.
Consumer retail exposures (including Residential Mortgages, qualifying revolving credit and Other Retail)	Depending on the product, PD pools are assigned using product specific Application Scorecards, Behavioural Scorecards, payment status or a combination of these.

Credit Risk Exposure Subject to the AIRB Approach

APS 330 Table 9d (i) – Non-Retail exposures by portfolio type and PD band

	30 June 2019							
	PD Band							
	0 < 0.03%	0.03% < 0.15%	0.15% < 0.5%	0.5% < 3%	3% < 10%	10% < 100%	Default	Total
Non Retail [1]	$M	$M	$M	$M	$M	$M	$M	$M
Total credit risk exposures								
Corporate	-	43,275	42,859	30,624	469	885	732	**118,844**
SME corporate	-	726	3,727	42,032	2,374	1,937	1,272	**52,068**
SME retail [2]	-	-	1,075	12,183	2,785	408	193	**16,644**
Sovereign	81,994	7,703	196	12	-	-	-	**89,905**
Bank	-	31,520	1,936	60	-	-	124	**33,640**
Total	81,994	83,224	49,793	84,911	5,628	3,230	2,321	**311,101**
Undrawn commitments [3]								
Corporate	-	18,213	16,325	9,283	165	240	72	**44,298**
SME corporate	-	128	888	6,637	232	142	70	**8,097**
SME retail [2]	-	-	922	3,573	355	56	9	**4,915**
Sovereign	831	223	31	2	-	-	-	**1,087**
Bank	-	336	112	-	-	-	-	**448**
Total	831	18,900	18,278	19,495	752	438	151	**58,845**
Exposure - weighted average EAD ($M)								
Corporate	-	2.791	1.838	0.859	0.638	0.731	2.012	**1.547**
SME corporate	-	0.551	0.489	0.458	0.442	0.378	0.413	**0.456**
SME retail [2]	-	-	0.038	0.055	0.080	0.065	0.089	**0.057**
Sovereign	7.179	9.326	0.288	0.094	-	-	-	**6.879**
Bank	-	2.677	0.799	0.541	-	-	123.736	**2.349**
Exposure - weighted average LGD (%)								
Corporate	-	54.9	47.3	41.7	46.7	46.1	49.0	**48.6**
SME corporate	-	58.3	29.8	28.9	29.7	32.0	33.7	**29.7**
SME retail [2]	-	-	37.2	31.7	34.4	30.8	35.0	**32.5**
Sovereign	5.7	58.9	49.4	48.3	-	-	-	**10.3**
Bank	-	59.4	60.0	60.0	-	-	60.0	**59.4**
Exposure - weighted average risk weight (%) [4]								
Corporate	-	30.1	54.0	80.5	176.4	242.6	122.7	**54.4**
SME corporate	-	30.1	30.7	50.8	82.9	145.1	235.8	**58.5**
SME retail [2]	-	-	35.6	50.6	90.4	114.8	363.1	**61.5**
Sovereign	1.6	13.3	38.5	96.2	-	-	-	**2.7**
Bank	-	26.2	57.4	122.3	-	-	-	**28.1**

(1) Total credit risk exposures do not include specialised lending, equity or securitisation exposures.
(2) Including SME retail secured by residential property.
(3) The credit exposure value of undrawn commitments included in Total credit risk exposures above.
(4) Includes 1.06 scaling factor.

APS 330 Table 9d (i) – Non-Retail exposures by portfolio type and PD band (continued)

	31 December 2018							
	PD Band							
	0 < 0.03%	0.03% < 0.15%	0.15% < 0.5%	0.5% < 3%	3% < 10%	10% < 100%	Default	Total
Non Retail [1]	$M	$M	$M	$M	$M	$M	$M	$M
Total credit risk exposures								
Corporate	-	45,399	46,032	31,472	589	656	753	124,901
SME corporate	-	504	3,466	42,152	2,496	1,748	1,029	51,395
SME retail [2]	-	-	1,143	12,554	2,872	412	170	17,151
Sovereign	82,881	7,679	234	13	-	-	-	90,807
Bank	-	31,371	2,606	58	-	-	124	34,159
Total	82,881	84,953	53,481	86,249	5,957	2,816	2,076	318,413
Undrawn commitments [3]								
Corporate	-	16,597	17,560	9,347	184	211	141	44,040
SME corporate	-	105	809	7,052	221	130	65	8,382
SME retail [2]	-	-	1,002	3,645	378	59	8	5,092
Sovereign	1,108	176	34	6	-	-	-	1,324
Bank	-	1,085	326	2	-	-	-	1,413
Total	1,108	17,963	19,731	20,052	783	400	214	60,251
Exposure - weighted average EAD ($M)								
Corporate	-	3. 182	1. 589	0. 750	0. 648	0. 843	1. 476	1. 948
SME corporate	-	0. 984	0. 222	0. 235	0. 249	0. 251	0. 274	0. 244
SME retail [2]	-	-	0. 031	0. 048	0. 053	0. 049	0. 081	0. 048
Sovereign	7. 490	8. 429	0. 384	0. 017	-	-	-	7. 550
Bank	-	9. 968	6. 858	0. 575	-	-	41. 245	9. 828
Exposure - weighted average LGD (%)								
Corporate	-	55. 0	48. 6	42. 1	41. 8	53. 2	53. 2	49. 3
SME corporate	-	56. 3	29. 1	29. 1	30. 4	32. 5	34. 5	29. 7
SME retail [2]	-	-	39. 0	31. 2	33. 7	31. 4	35. 5	32. 2
Sovereign	5. 6	59. 3	44. 4	43. 2	-	-	-	10. 3
Bank	-	59. 4	59. 4	58. 0	-	-	60. 0	59. 4
Exposure - weighted average risk weight (%) [4]								
Corporate	-	30. 2	56. 5	80. 6	147. 3	288. 2	140. 5	55. 2
SME corporate	-	30. 2	29. 6	51. 6	85. 1	148. 9	239. 2	58. 6
SME retail [2]	-	-	23. 0	42. 3	76. 2	108. 8	355. 0	51. 4
Sovereign	1. 5	12. 9	35. 2	86. 1	-	-	-	2. 5
Bank	-	26. 2	56. 2	79. 1	-	-	-	28. 5

(1) Total credit risk exposures do not include specialised lending, equity or securitisation exposures.
(2) Including SME retail secured by residential property.
(3) The credit exposure value of undrawn commitments included in Total credit risk exposures above.
(4) Includes 1.06 scaling factor.

APS 330 Table 9d (i) – Non-Retail exposures by portfolio type and PD band (continued)

	30 June 2018							
	PD Band							
	0 < 0.03%	0.03% < 0.15%	0.15% < 0.5%	0.5% < 3%	3% < 10%	10% < 100%	Default	Total
Non-Retail [1]	$M	$M	$M	$M	$M	$M	$M	$M
Total credit risk exposures								
Corporate	-	44,913	48,002	30,182	585	673	593	124,948
SME corporate	-	493	3,798	43,888	2,405	1,569	1,177	53,330
SME retail [2]	-	-	3,240	9,202	2,883	228	124	15,677
Sovereign	78,043	7,488	234	290	-	-	-	86,055
Bank	-	38,214	2,375	95	-	-	124	40,808
Total	78,043	91,108	57,649	83,657	5,873	2,470	2,018	320,818
Undrawn commitments [3]								
Corporate	-	16,232	18,085	9,031	150	203	70	43,771
SME corporate	-	80	886	7,148	199	127	71	8,511
SME retail [2]	-	-	1,565	2,475	408	17	4	4,469
Sovereign	997	239	41	57	-	-	-	1,334
Bank	-	554	126	7	-	-	-	687
Total	997	17,105	20,703	18,718	757	347	145	58,772
Exposure - weighted average EAD ($M)								
Corporate	-	2. 813	1. 850	0. 770	0. 519	0. 806	2. 139	1. 925
SME corporate	-	0. 836	0. 238	0. 260	0. 229	0. 239	0. 277	0. 262
SME retail [2]	-	-	0. 046	0. 043	0. 057	0. 029	0. 078	0. 046
Sovereign	7. 650	7. 808	0. 404	0. 549	-	-	-	7. 620
Bank	-	10. 270	4. 448	0. 789	-	-	41. 245	10. 003
Exposure - weighted average LGD (%)								
Corporate	-	54. 6	49. 3	43. 4	37. 4	54. 6	54. 1	49. 8
SME corporate	-	50. 5	29. 4	29. 9	30. 4	33. 2	36. 2	30. 3
SME retail [2]	-	-	31. 0	34. 1	31. 1	42. 0	38. 1	33. 0
Sovereign	5. 6	59. 2	47. 5	59. 7	-	-	-	10. 6
Bank	-	59. 5	59. 3	59. 1	-	-	60. 0	59. 5
Exposure - weighted average risk weight (%) [4]								
Corporate	-	30. 4	56. 4	81. 9	126. 6	290. 9	82. 6	54. 9
SME corporate	-	24. 7	30. 3	54. 2	83. 7	145. 8	289. 4	61. 5
SME retail [2]	-	-	17. 5	43. 3	66. 3	113. 2	361. 9	45. 7
Sovereign	1. 5	12. 5	38. 7	121. 4	-	-	-	3. 0
Bank	-	25. 4	57. 0	86. 6	-	-	-	27. 4

(1) Total credit risk exposures do not include specialised lending, equity or securitisation exposures.
(2) Including SME retail secured by residential property.
(3) The credit exposure value of undrawn commitments included in Total credit risk exposures above.
(4) Includes 1.06 scaling factor.

APS 330 Table 9d (ii) – Retail exposures by portfolio type and PD band

	30 June 2019							
	PD Band							
	0 < 0.1%	0.1% < 0.3%	0.3% < 0.5%	0.5% < 3%	3% < 10%	10% < 100%	Default	Total
Retail	$M	$M	$M	$M	$M	$M	$M	$M
Total credit risk exposures								
Residential mortgage	177,945	111,412	72,247	178,830	26,083	6,418	4,801	**577,736**
Qualifying revolving retail	192	14,755	3,783	5,720	2,346	455	120	**27,371**
Other retail	54	32	47	8,127	2,138	621	152	**11,171**
Total	178,191	126,199	76,077	192,677	30,567	7,494	5,073	**616,278**
Undrawn commitments [1]								
Residential mortgage	39,130	14,364	5,858	10,812	279	519	17	**70,979**
Qualifying revolving retail	162	11,762	2,780	2,101	328	48	1	**17,182**
Other retail	47	8	34	2,675	255	95	2	**3,116**
Total	39,339	26,134	8,672	15,588	862	662	20	**91,277**
Exposure - weighted average EAD ($M)								
Residential mortgage	0. 273	0. 287	0. 270	0. 263	0. 283	0. 225	0. 265	**0. 272**
Qualifying revolving retail	0. 004	0. 009	0. 008	0. 009	0. 008	0. 008	0. 009	**0. 009**
Other retail	0. 004	0. 313	0. 004	0. 008	0. 008	0. 001	0. 005	**0. 006**
Exposure - weighted average LGD (%)								
Residential mortgage	20. 0	19. 7	19. 5	20. 3	20. 4	19. 8	20. 2	**20. 0**
Qualifying revolving retail	81. 0	84. 9	84. 2	84. 3	84. 7	84. 0	84. 6	**84. 6**
Other retail	107. 9	99. 3	106. 9	89. 4	87. 4	90. 5	87. 4	**89. 3**
Exposure - weighted average risk weight (%) [2]								
Residential mortgage	4. 4	13. 1	20. 2	39. 4	89. 7	134. 7	174. 4	**25. 6**
Qualifying revolving retail	3. 2	5. 5	13. 7	45. 9	136. 4	213. 1	299. 7	**31. 0**
Other retail	26. 7	44. 9	70. 2	113. 4	139. 3	195. 1	343. 6	**125. 2**

(1) The credit exposure value of undrawn commitments included in Total credit risk exposures above.
(2) Includes 1.06 scaling factor.

APS 330 Table 9d (ii) – Retail exposures by portfolio type and PD band (continued)

	31 December 2018							
	PD Band							
	0 < 0.1%	0.1% < 0.3%	0.3% < 0.5%	0.5% < 3%	3% < 10%	10% < 100%	Default	Total
Retail	$M	$M	$M	$M	$M	$M	$M	$M
Total credit risk exposures								
Residential mortgage [3]	176,276	113,642	71,047	170,495	25,181	6,219	4,494	567,354
Qualifying revolving retail	208	15,086	3,993	5,928	2,424	514	146	28,299
Other retail	50	-	38	8,291	2,127	612	142	11,260
Total	176,534	128,728	75,078	184,714	29,732	7,345	4,782	606,913
Undrawn commitments [1]								
Residential mortgage [3]	39,298	14,911	5,775	10,444	292	346	18	71,084
Qualifying revolving retail	176	11,888	2,959	2,309	369	63	2	17,766
Other retail	48	-	34	2,673	252	99	2	3,108
Total	39,522	26,799	8,768	15,426	913	508	22	91,958
Exposure - weighted average EAD ($M)								
Residential mortgage	0. 271	0. 282	0. 266	0. 248	0. 280	0. 219	0. 263	0. 265
Qualifying revolving retail	0. 005	0. 010	0. 008	0. 006	0. 006	0. 008	0. 007	0. 008
Other retail	0. 004	-	0. 004	0. 011	0. 011	0. 001	0. 006	0. 008
Exposure - weighted average LGD (%)								
Residential mortgage	20. 0	19. 7	19. 5	20. 3	20. 4	19. 9	20. 2	20. 0
Qualifying revolving retail	81. 0	84. 9	84. 2	84. 3	84. 7	84. 0	84. 7	84. 6
Other retail	108. 6	-	108. 6	97. 5	98. 1	101. 2	98. 5	97. 9
Exposure - weighted average risk weight (%) [2]								
Residential mortgage	4. 5	13. 1	20. 2	39. 2	89. 6	134. 8	177. 8	25. 2
Qualifying revolving retail	3. 2	5. 5	13. 7	45. 8	135. 5	214. 0	321. 1	31. 6
Other retail	27. 9	-	70. 4	124. 6	156. 6	217. 8	492. 1	139. 7

(1) The credit exposure value of undrawn commitments included in Total credit risk exposures above.
(2) Includes 1.06 scaling factor.
(3) The Group implemented new Australian residential mortgages models which resulted in movements in credit risk exposures across PD bands.

APS 330 Table 9d (ii) – Retail exposures by portfolio type and PD band (continued)

	30 June 2018							
	PD Band							
	0 < 0.1%	0.1% < 0.3%	0.3% < 0.5%	0.5% < 3%	3% < 10%	10% < 100%	Default	Total
Retail	$M	$M	$M	$M	$M	$M	$M	$M
Total credit risk exposures								
Residential mortgage	149,608	167,058	96,786	124,768	7,450	8,809	4,547	559,026
Qualifying revolving retail	204	15,078	4,118	6,253	2,665	566	168	29,052
Other retail	51	-	320	8,255	2,043	597	151	11,417
Total	149,863	182,136	101,224	139,276	12,158	9,972	4,866	599,495
Undrawn commitments [(1)]								
Residential mortgage	53,678	6,157	4,138	7,464	155	90	9	71,691
Qualifying revolving retail	174	12,036	3,062	2,464	416	70	2	18,224
Other retail	49	-	279	2,429	247	97	2	3,103
Total	53,901	18,193	7,479	12,357	818	257	13	93,018
Exposure - weighted average EAD ($M)								
Residential mortgage	0. 252	0. 306	0. 271	0. 223	0. 239	0. 230	0. 263	0. 261
Qualifying revolving retail	0. 005	0. 010	0. 008	0. 009	0. 008	0. 008	0. 008	0. 009
Other retail	0. 004	-	0. 002	0. 009	0. 008	0. 001	0. 005	0. 006
Exposure - weighted average LGD (%)								
Residential mortgage	20. 0	19. 8	19. 7	20. 5	21. 4	20. 0	20. 1	20. 0
Qualifying revolving retail	81. 0	84. 9	84. 2	84. 3	84. 8	84. 1	84. 6	84. 6
Other retail	108. 6	-	108. 6	97. 1	98. 1	101. 4	98. 6	97. 9
Exposure - weighted average risk weight (%) [(2)]								
Residential mortgage	6. 7	17. 8	25. 9	37. 6	98. 6	134. 5	181. 3	24. 9
Qualifying revolving retail	3. 2	5. 5	13. 7	45. 9	135. 1	214. 0	307. 5	33. 0
Other retail	27. 9	-	79. 8	125. 6	156. 7	217. 2	406. 4	137. 9

(1) The credit exposure value of undrawn commitments included in Total credit risk exposures above.
(2) Includes 1.06 scaling factor.

Analysis of Losses

The following tables provide a summary of financial losses by AIRB portfolio (APS 330 Table 9e) and a comparison of financial losses to regulatory EL estimates (APS 330 Table 9f (i)).

APS 330 Table 9e – Actual losses by portfolio type

	30 June 2019		
	Full year losses in reporting period		
Portfolio Type	Gross write-offs $M	Recoveries $M	Actual losses $M
Corporate	151	(1)	150
SME corporate	80	(4)	76
SME retail (including SME retail secured by residential mortgages)	51	(14)	37
Specialised lending	65	-	65
Total corporate including SME and specialised lending	347	(19)	328
Sovereign	-	-	-
Bank	-	-	-
Residential mortgage (excluding SME retail secured by residential mortgages)	135	(5)	130
Qualifying revolving retail	396	(86)	310
Other retail	418	(85)	333
Total AIRB and specialised lending portfolios	1,296	(195)	1,101

	31 December 2018		
	Half year losses in reporting period		
Portfolio Type	Gross write-offs $M	Recoveries $M	Actual losses $M
Corporate	99	(1)	98
SME corporate	47	(2)	45
SME retail (including SME retail secured by residential mortgages)	35	(3)	32
Specialised lending	16	-	16
Total corporate including SME and specialised lending	197	(6)	191
Sovereign	-	-	-
Bank	-	-	-
Residential mortgage (excluding SME retail secured by residential mortgages)	63	(4)	59
Qualifying revolving retail	183	(44)	139
Other retail	207	(44)	163
Total AIRB and specialised lending portfolios	650	(98)	552

	30 June 2018		
	Full year losses in reporting period		
Portfolio Type	Gross write-offs $M	Recoveries $M	Actual losses $M
Corporate	198	(3)	195
SME corporate	96	(6)	90
SME retail (including SME retail secured by residential mortgages)	51	(13)	38
Specialised lending	25	-	25
Total corporate including SME and specialised lending	370	(22)	348
Sovereign	-	-	-
Bank	-	-	-
Residential mortgage (excluding SME retail secured by residential mortgages)	128	(3)	125
Qualifying revolving retail	372	(89)	283
Other retail	410	(76)	334
Total AIRB and specialised lending portfolios	1,280	(190)	1,090

APS 330 Table 9f (i) – Historical loss analysis by portfolio type

Portfolio Type	30 June 2019 Full year actual loss $M	30 June 2019 Regulatory one year expected loss estimate $M
Corporate	150	706
SME corporate	76	673
SME retail (including SME retail secured by residential mortgages)	37	155
Specialised lending	65	772
Total corporate including SME and specialised lending	328	2,306
Sovereign	-	4
Bank	-	136
Residential mortgage (excluding SME retail secured by residential mortgages)	130	1,312
Qualifying revolving retail	310	445
Other retail	333	503
Total AIRB and specialised lending portfolios	1,101	4,706

Portfolio Type	31 December 2018 Half year actual loss $M	31 December 2018 Regulatory one year expected loss estimate $M
Corporate	98	697
SME corporate	45	597
SME retail (including SME retail secured by residential mortgages)	32	158
Specialised lending	16	736
Total corporate including SME and specialised lending	191	2,188
Sovereign	-	4
Bank	-	136
Residential mortgage (excluding SME retail secured by residential mortgages)	59	1,240
Qualifying revolving retail	139	480
Other retail	163	552
Total AIRB and specialised lending portfolios	552	4,600

Portfolio Type	30 June 2018 Full year actual loss $M	30 June 2018 Regulatory one year expected loss estimate $M
Corporate	195	713
SME corporate	90	573
SME retail (including SME retail secured by residential mortgages)	38	115
Specialised lending	25	704
Total corporate including SME and specialised lending	348	2,105
Sovereign	-	5
Bank	-	138
Residential mortgage (excluding SME retail secured by residential mortgages)	125	1,125
Qualifying revolving retail	283	527
Other retail	334	553
Total AIRB and specialised lending portfolios	1,090	4,453

Actual losses may differ from modelled regulatory EL for a number of reasons.

Actual losses (whether from standardised or AIRB portfolios) are historical and are based on the quality of impaired assets in prior periods, full or partial write-offs, and more recent economic conditions. Actual losses are expected to be below the regulatory EL estimate in most years.

Regulatory EL measures economic loss at a point in time and includes costs (such as internal costs) not included in actual losses. Regulatory EL is calculated on non-defaulted and defaulted AIRB exposures using long-run PDs and downturn LGDs for non-defaulted exposures, and the Best Estimate of Expected Loss (BEEL) for defaulted exposures.

Accuracy of Risk Estimates

The following tables compare credit risk estimates used in calculating regulatory capital to realised outcomes.

Probability of Default

APS 330 Table 9f (ii) compares estimates of long-run PD to actual default rates averaged over 11 financial years to 30 June 2019.

Average estimated PD is based on the average of long-run PD's for obligors that are not in default at the beginning of each financial year in the observation period. Actual PD is based on the number of defaulted obligors during the year compared to the non-defaulted obligors measured at the beginning of each financial year.

APS 330 Table 9f (ii) – Accuracy of risk estimates – PD

	As at 30 June 2019	
Portfolio Type	Average estimated PD %	Average actual PD %
Corporate	1. 27	0. 86
SME corporate	2. 23	1. 95
SME retail (including SME retail secured by residential mortgages) [1]	1. 70	1. 52
Specialised lending [2]	n/a	1. 53
Sovereign [3]	0. 59	0. 02
Bank [3]	0. 29	0. 23
Residential mortgage (excluding SME retail secured by residential mortgages)	0. 86	0. 75
Qualifying revolving retail	1. 93	2. 00
Other retail	4. 96	4. 69

(1) The average actual PD represents a 5 year observation period for part of the portfolio.
(2) Average estimated PD not relevant for specialised lending under the Supervisory Slotting approach.
(3) Actual PDs based on a low volume of defaults observed.

Loss Given Default and Exposure at Default

LGDs for non-retail portfolios are based on accounts that defaulted in 2009 to 2017 financial years. LGDs for retail portfolios are based on accounts that defaulted in 2009 to 2018 financial years. Defaults occurring in the most recent years have been excluded from the analysis, to allow sufficient time for workout of impaired assets, booking of losses and more meaningful disclosures.

The EAD ratio compares estimates of EAD prior to default to realised EAD for obligors that defaulted.

APS 330 Table 9f (iii) – Accuracy of risk estimates – LGD and EAD

	As at 30 June 2019		
Portfolio Type	Average estimated downturn LGD %	Average actual LGD %	Ratio of estimated EAD to actual EAD
Corporate	54. 8	38. 7	1. 1
SME corporate	32. 4	20. 0	1. 1
SME retail (including SME retail secured by residential mortgages)	31. 5	21. 7	1. 1
Specialised lending [1]	n/a	31. 1	1. 2
Sovereign [2]	61. 3	1. 3	1. 8
Bank [2]	65. 4	109. 9	1. 8
Residential mortgage (excluding SME retail secured by residential mortgages) [3]	20. 6	5. 9	1. 0
Qualifying revolving retail	87. 5	70. 3	1. 1
Other retail	97. 4	77. 1	1. 0

(1) Average estimated LGD is not relevant for specialised lending under Supervisory Slotting approach.
(2) Actual LGDs based on a low volume of defaults observed.
(3) Estimated downturn LGD based on minimum regulatory floor requirements imposed by APRA and RBNZ.

8.5 Credit Risk Mitigation

Collateral

The Group has policies and procedures in place setting out the acceptable collateral for mitigating credit risk. These include valuation parameters, review frequency and independence of valuation. The Chief Credit Officer (or delegate) is responsible for approving acceptable collateral types.

The collateral type, value, liquidity, realisation costs, security lending margin and loss experience are key determinants of the LGD percentage that is assigned to a credit risk exposure. Collateral held for any credit facility is valued, recorded and controlled as follows:

Real Estate Collateral

Real estate collateral values can only be used for reducing LGD estimates where the following criteria are met:

- Objective market value of collateral - the collateral must be valued by an independent valuer (or via a valuation approach approved by the Business Unit CRO or delegate), at no more than the current fair value under which the property could be sold via a private contract between a willing seller and an arm's length buyer on the date of valuation;
- Revaluation - the value of the collateral should be up-to-date, which the Group monitors and when appropriate, updates;
- Insurance - steps are taken to ensure that property taken as collateral is adequately insured against damage or destruction at origination with documentation requiring the customer to maintain adequate insurance for the life of the credit exposure;
- Prior claim - other parties may have senior claims to the Group on an asset offered for collateral. For example, council rates and land tax usually benefit from specific legal protection. The impact of such claims needs to be considered when assessing collateral values; and
- Environment - the risk of environmental liability arising in respect of the collateral must be appropriately assessed, monitored and where appropriate, reflected in the valuation of collateral.

Home loans are generally secured by mortgages over borrowers' residential properties. In limited circumstances, collateral in the form of cash or commercial property may be provided in addition to residential property. With the exception of some relatively small portfolios, for loans with a Loan to Valuation ratio (LVR) of higher than 80% either a Low Deposit Premium or margin is levied, or Lender's Mortgage Insurance (LMI) is taken out to protect the Group by covering the difference between the principal amount plus interest owing and the net amount received from selling the collateral upon default.

Non-Real Estate Collateral

Non-real estate collateral values are only used for reducing LGD estimates where there is a sound process for determining the value of the collateral. Monitoring processes appropriate for the exposure and the collateral type are required to be in place. The main non-real estate collateral types include:

- Cash (usually in the form of a charge over a term deposit) and other liquid assets (e.g. bonds, shares, investment funds);
- Fixed or floating charges over a company's assets, including stock, debtors and work in progress; and
- A charge over assets being financed (e.g. vehicles, equipment).

Where financial collateral is highly correlated with the counterparty exposure that it is used to secure (wrong way risk), policy specifies that no risk reduction can be taken for the collateral held.

Other - Including Credit Default Swaps and Guarantees

The Group mitigates its credit exposure by entering into master netting arrangements with counterparties with which it undertakes a significant volume of transactions. Counterparty credit risk is reduced by a master netting arrangement to the extent that if an event of default occurs, all amounts with the counterparty are terminated and settled on a net basis.

The Group mitigates its counterparty credit risk exposure from dealing in Global Markets type products through the use of Credit Support Annexes (CSAs) and clearing of eligible trades with Central Counterparties (CCPs). CSAs require the counterparty (or the Group) to post collateral when Mark-to-Market positions exceed agreed threshold and minimum transfer amounts.

Other forms of credit risk mitigation used to either reduce or transfer credit risk include purchasing credit derivatives (e.g. credit default swaps) and/or guarantees from highly rated banks or corporates. To be an eligible mitigant, the credit derivative or guarantee must be contractually binding, have legal certainty and be non-cancellable. APS 330 Table 10b and 10c (page 47) discloses the Group's coverage of exposure by credit default swaps and guarantees.

Portfolio Management

The Group applies a Board-approved Large Credit Exposure Policy (LCEP). This policy governs the authority of management with regard to the amount of credit provided to any single counterparty, or group of related counterparties (as determined by applying Aggregation Policy) within the risk-rated segment.

The objective of the LCEP is to limit the risk of catastrophic loss to the Group through over-exposure to the failure of a single obligor, or group of related counterparties. The LCEP is reviewed annually.

Usage of LCEP limits is determined at both individual counterparty and group of related counterparty levels. Limits are tiered by counterparty type, PD Rating, security cover and facility maturity.

Management reports to the Executive Risk Committee and the Risk Committee each quarter, on a total credit risk exposure basis:

- All exposures at, or greater than, the LCEP limits, including those resulting from term extension, PD or security cover deterioration; and
- All exposures ceasing to exceed LCEP limits since the last report.

All relevant borrower specific credit submissions prominently display relative compliance with the LCEP.

Credit risk concentration limits are in place to ensure portfolio diversification and prevent over concentration to industries or countries. Geographic dispersion monitoring within Australia and New Zealand is also conducted for some larger sub-portfolios. Periodic stress tests of major credit risk concentrations are conducted to identify potential changes in market conditions such as changes in interest rates, droughts, etc. that could adversely impact the credit portfolio's performance. Action is taken where necessary to reduce the volatility of losses.

APS 330 Table 10b and 10c – Credit risk mitigation

	30 June 2019				
	Total exposure [1]	Eligible financial collateral	Exposures covered by guarantees	Exposures covered by credit derivatives	Coverage
	$M	$M	$M	$M	%
Advanced approach [2]					
Corporate	118,844	-	77	4	0. 1
SME corporate	52,068	-	-	-	-
SME retail [3]	16,644	-	-	-	-
Sovereign	89,905	-	-	-	-
Bank	33,640	-	216	57	0. 8
Residential mortgage	577,736	-	-	-	-
Qualifying revolving retail	27,371	-	-	-	-
Other retail	11,171	-	-	-	-
Total advanced approach	927,379	-	293	61	-
Specialised lending	61,266	-	-	-	-
Standardised approach					
Corporate	1,590	-	-	-	-
SME corporate	822	15	-	-	1. 8
SME retail	4,628	-	-	-	-
Sovereign	495	-	-	-	-
Bank	315	-	-	-	-
Residential mortgage	14,933	-	-	-	-
Other retail	1,249	-	-	-	-
Other assets	14,533	-	-	-	-
Central clearing counterparties	7,989	-	-	86	1. 1
Total standardised approach	46,554	15	-	86	0. 2
Total exposures	1,035,199	15	293	147	-

	31 December 2018				
	Total exposure [1]	Eligible financial collateral	Exposures covered by guarantees [4]	Exposures covered by credit derivatives	Coverage [4]
	$M	$M	$M	$M	%
Advanced approach [2]					
Corporate	124,901	-	91	262	0. 3
SME corporate	51,395	-	-	-	-
SME retail [3]	17,151	-	-	-	-
Sovereign	90,807	-	-	-	-
Bank	34,159	-	308	128	1. 3
Residential mortgage	567,354	-	-	-	-
Qualifying revolving retail	28,299	-	-	-	-
Other retail	11,260	-	-	-	-
Total advanced approach	925,326	-	399	390	0. 1
Specialised lending	60,941	-	-	-	-
Standardised approach					
Corporate	1,423	-	-	-	-
SME corporate	1,034	19	-	-	1. 8
SME retail	5,000	-	-	-	-
Sovereign	491	-	-	-	-
Bank	254	-	-	-	-
Residential mortgage	14,521	-	-	-	-
Other retail	1,492	-	-	-	-
Other assets	11,378	-	-	-	-
Central clearing counterparties	7,267	-	-	-	-
Total standardised approach	42,860	19	-	-	-
Total exposures	1,029,127	19	399	390	0. 1

(1) Credit derivatives that are treated as part of synthetic securitisation structures are excluded from credit risk mitigation disclosures and included within those relating to securitisation.
(2) Advanced approach: Exposure for derivatives and guarantees is after netting and financial collateral.
(3) Including SME retail secured by residential property.
(4) Comparative information has been restated to conform to presentation in the current period.

APS 330 Table 10b and 10c – Credit risk mitigation (continued)

	30 June 2018				
	Total exposure [1] $M	Eligible financial collateral $M	Exposures covered by guarantees [4] $M	Exposures covered by credit derivatives $M	Coverage [4] %
Advanced approach [2]					
Corporate	124,948	-	145	342	0. 4
SME corporate	53,330	-	-	-	-
SME retail [3]	15,677	-	-	-	-
Sovereign	86,055	-	-	-	-
Bank	40,808	-	227	139	0. 9
Residential mortgage	559,026	-	-	-	-
Qualifying revolving retail	29,052	-	-	-	-
Other retail	11,417	-	-	-	-
Total advanced approach	920,313	-	372	481	0. 1
Specialised lending	62,831	-	-	-	-
Standardised approach					
Corporate	1,246	-	-	-	-
SME corporate	412	38	-	-	9. 2
SME retail	5,834	7	-	-	0. 1
Sovereign	493	-	-	-	-
Bank	379	-	-	-	-
Residential mortgage	13,188	1	-	-	-
Other retail	1,592	-	-	-	-
Other assets	8,902	-	-	-	-
Central clearing counterparties	7,196	-	-	-	-
Total standardised approach	39,242	46	-	-	0. 1
Total exposures	1,022,386	46	372	481	0. 1

(1) Credit derivatives that are treated as part of synthetic securitisation structures are excluded from credit risk mitigation disclosures and included within those relating to securitisation.
(2) Advanced approach: Exposure for derivatives and guarantees is after netting and financial collateral.
(3) Including SME retail secured by residential property.
(4) Comparative information has been restated to conform to presentation in the current period.

8.6 Counterparty Credit Risk

Counterparty Credit Risk (CCR) is the risk that the counterparty to a transaction could default before the final settlement of the transaction's cash flows. An economic loss would occur if the transactions or a portfolio of transactions with the counterparty has a positive economic value for the Group at the time of default. Unlike an exposure to credit risk through a loan, where the exposure to credit risk is unilateral and only the lending bank faces the risk of loss, CCR creates a bilateral risk of loss whereby the market value for many different types of transactions can be positive or negative to either counterparty. The market value is uncertain and can vary over time with the movement of underlying market factors.

Capital is allocated to CCR exposures after taking into account the risk-rating and expected exposure to the counterparty, and correlations and diversification impacts across risk types.

CCR is controlled through a variety of credit policies and procedures including, but not limited, to the following:

- Large Credit Exposure Policy;
- Country Risk Exposure Policy;
- Aggregation Policy;
- Netting Policy;
- Collaterisation of Derivative Transactions Policy;
- Wrong Way risk Policy; and
- Specific product policies.

Wrong-way risk is a risk associated with CCR. There are two types of wrong-way risk, general and specific. General wrong-way risk arises when the PD of counterparties is positively correlated with general market risk factors. Specific wrong-way risk arises when the exposure to a particular counterparty and the PD of the counterparty providing credit risk mitigation for the exposure are highly correlated.

Specific wrong-way risk is controlled through not recognising any risk reduction from credit risk mitigation provided by highly correlated counterparties. General wrong way risk is monitored through the Group's stress testing activities and is controlled via the Group's policies that manage industry, country and individual counterparty concentrations.

Credit Support Annexes (CSAs) are used with some large corporates and most bank and non-bank financial institution counterparties to collateralise CCR for Global Markets products. The use of CSAs is governed by the Collaterisation of Derivative Transactions Policy and Netting Policies. CSAs lower the wrong-way risk that arises from market movements by requiring the counterparty (or the Group) to post collateral to cover mark-to-market values that might be owed upon a counterparty default.

Aggregate threshold and minimum transfer amounts, are the amounts by which the counterparty (or the Bank) can be out of the money before they may be obliged to post collateral. In approximately 8% of ISDA Master Agreements and CSAs these amounts vary depending on the counterparty's long-term debt rating. In the remaining agreements the amounts are fixed. Generally, a counterparty's rating is considered in determining its Threshold and Minimum Transfer amount. A trend to lower thresholds has been observed since the Global Financial Crisis. This trend will continue in line with regulatory change.

Risk Managers provide sign-off on terms of the CSA prior to the documentation being executed. Upon execution of a CSA with a counterparty, all relevant threshold levels are input into the collateral management system.

Collateral stress testing is used to determine the effect that a rating downgrade would have on the Group's collateral obligation to its counterparties.

As at 30 June 2019, the maximum additional collateral that could be posted to other counterparties based on the Group's current rating is $71.1 million. As at 30 June 2019, a unilateral one-notch and two-notch downgrade in the Group's rating would have resulted in a further $50.2 million and $158 million of collateral being posted to other counterparties respectively. Collateral stress tests are also conducted on the Group's counterparties so that it can monitor for likely collateral stresses in the event of a counterparty downgrade.

APS 330 Table 11b (i) Counterparty credit risk derivative exposure under the current exposure method [1]

	30 Jun 19 $M	31 Dec 18 $M	30 Jun 18 $M
Gross positive fair value	24,732	27,951	31,595
Netting benefits	(14,012)	(17,065)	(18,919)
Netted current credit exposure	10,720	10,886	12,676
Collateral held, of which:			
Cash	(4,794)	(4,498)	(5,748)
Net derivatives credit exposure	5,926	6,388	6,928
Potential Future Exposure under the Current Exposure Method	12,439	13,079	13,699
Exposure at Default	18,365	19,467	20,627

(1) Excluding exposures to CCPs.

APS 330 Table 11b (ii) Counterparty credit risk derivative exposure [1]

	Current Credit Exposure		
	30 Jun 19	31 Dec 18	30 Jun 18
Exposure type	$M	$M	$M
Interest rate contracts	8,604	6,208	6,333
Foreign currency contracts	15,761	21,505	24,761
Equity contracts	63	5	5
Credit derivatives	11	14	24
Commodities and other	293	219	472
Total	24,732	27,951	31,595

(1) Excluding exposures to CCPs.

APS 330 Table 11c Counterparty credit risk derivative transactions

	Own Credit Portfolio as		Intermediation Activity as	
	Protection buyer	Protection seller	Protection buyer	Protection seller
Notional Value by Product type as at 30 June 19 [1] [2]	$M	$M	$M	$M
Credit default swaps	1,491	-	49	1,287
Total return swaps	-	-	-	-
Credit options	-	-	-	-
Other	-	-	-	-
Total	1,491	-	49	1,287

	Own Credit Portfolio as		Intermediation Activity as	
	Protection buyer	Protection seller	Protection buyer	Protection seller
Notional Value by Product type as at 31 December 18 [1] [2]	$M	$M	$M	$M
Credit default swaps	1,369	-	48	1,606
Total return swaps	-	-	-	-
Credit options	-	-	-	-
Other	-	-	-	-
Total	1,369	-	48	1,606

	Own Credit Portfolio as		Intermediation Activity as	
	Protection buyer	Protection seller	Protection buyer	Protection seller
Notional Value by Product type as at 30 June 18 [1] [2]	$M	$M	$M	$M
Credit default swaps	1,488	-	46	1,920
Total return swaps	-	-	-	-
Credit options	-	-	-	-
Other	-	-	-	-
Total	1,488	-	46	1,920

(1) Excluding exposures to CCPs.
(2) Notional values are presented for credit derivatives with positive fair values and include credit derivative hedges.

8.7 Securitisation

Securitisation is defined as a structure where the cash flow from a pool of assets is used to service obligations to at least two different tranches or classes of creditors (typically holders of debt securities), with each class or tranche reflecting a different degree of credit risk (i.e. one class of creditor is entitled to receive payments from the pool before another class of creditors).

Securitisations may be categorised as either:

Traditional securitisations - a securitisation where the pool is transferred (or assigned) to, and held by, or otherwise held directly in its name by, an SPV; or

Synthetic securitisation - a securitisation whereby the credit risk, or part of the credit risk, of a pool is transferred to a third party which need not be an SPV. The transfer of credit risk can be undertaken through the use of funded (e.g. credit linked notes) or unfunded (e.g. credit default swaps) credit derivatives or guarantees.

Securitisation Activities

The Group is involved in the following types of business activities that give rise to securitisation exposures:

- Group originated securitisations – where the Group equitably assigns home loans it has originated to a SPV, which in turn raises wholesale funding by the issuance of notes to external investors. The Medallion Programme is the Group's securitisation program of CBA and ASB originated residential mortgage loans, and the Swan Programme is the Group's securitisation program of Bankwest originated residential mortgage loans. CBA has also established an internal securitisation where CBA retains all the notes issued to use as collateral to raise contingent liquidity from the Reserve Bank of Australia (RBA);
- Third-party securitisations – where assets are originated by parties other than the Group. Such transactions usually have added layers of credit protection, whether it is lender's mortgage insurance, over-collateralisation, cash reserves and/or other subordinated credit support. The nature of the underlying assets is similar to those that the Group would normally support in a non-securitised form including residential and commercial mortgages, personal loans, revolving credit exposures, and vehicle loans and equipment financing. The Group acts as a funder/note holder;
- The purchase of asset/mortgage backed securities for trading or portfolio investment; and
- The provision of interest rate swaps, cross-currency swaps and/or liquidity support facilities to an external SPV where the Group may be the arranger, lead manager and/or originator of the respective securities or underlying assets.

For contingent liquidity, the Group manages a $56 billion RMBS portfolio which is not intended to be issued publicly. These notes will be held by the Group and the senior notes, if required, can be used for repurchase agreements with the RBA to generate additional liquidity for the Group. These RMBS are eligible collateral for repurchase agreements with the RBA.

Strategic Issues

For the Group, securitisation has provided and will continue to provide a source of liquidity through RBA repurchase transactions and an opportunistic rather than core external funding source. The Group, when undertaking an intermediary role for third-party securitisations, receives fee-based income and collateral business in other banking products.

Regulatory Compliance

APRA's requirements in managing the capital and risks associated with securitisation activities and exposures are set out in APRA's Prudential Standard APS 120 "Securitisation" (APS 120) and Prudential Practice Guide APG 120 "Securitisation". To be compliant with the standard the Group has policies and procedures that include:

- Appropriate risk management systems to identify, measure, monitor and manage the risks arising from the Group's involvement in securitisation;
- Monitoring the effects of securitisation on its risk profile, including credit quality, and how it has aligned with its risk management practices; and
- Measures to ensure that it is not providing implicit support for a securitisation.

The Group's securitisation activities also need to comply with other prudential standards applicable to any traded or Balance Sheet exposure.

The Group uses a hierarchy detailed in APS 120 to determine the credit rating grade for regulatory capital purposes. The two approaches the Group uses are the Ratings-Based Approach or the Supervisory Formula Approach (SFA).

Securitisation Risk Management Framework

Risk Assessment

Securitisation activities expose the Group to risks including liquidity risk, market risk, operational risk and credit risk, which are managed in accordance with the Group's respective risk management frameworks. Where the Group arranges either a Group-originated or third-party securitisation transaction, the capital markets issuance will be rated by at least one ECAI based on their respective rating models. The Group uses recognised ECAI including S&P Global Ratings, Moody's Investors Service and/or Fitch Ratings for both Group-originated and third-party securitisation transactions.

The Group undertakes credit assessment on all securitisation transactions. In addition to compliance with the securitisation and other prudential standards, credit risk assessment of securitisation exposures is performed in accordance with the Group's policies and procedures.

The risk assessment takes into account a wide range of credit, reputation, origination, concentration and servicing factors related to the underlying portfolio of assets being securitised in addition to the capital structure of the proposed securitisation SPV.

Where a securitisation exposure is held through a warehouse structure prior to terming out via the debt capital markets, the credit ratings of the warehouse facility are also assessed by the Group using the rating methodologies of the ECAI and/or other models accepted by APRA.

Credit Approval

Credit approval authorities relating to securitisation are restricted to officers with appropriately badged delegations. Risk Management's Institutional Banking and Markets team is responsible for approval and limit management and monitoring for all securitisations. Proposed exposures that exceed individual approval authorities are referred to various credit committees of the Group for decisioning.

Each Group-originated or third-party transaction is led by a Deal Team leader who is responsible for the deal origination and its compliance with Group policies and prudential standards.

Exposure Reporting and Monitoring

All securitisation exposures and limits are recorded on appropriate risk systems and monitored for limit and capital compliance.

Where exposures are fair valued for accounting purposes, the transactions are monitored under the Group's market risk management framework (refer section 10, page 65). This includes a limit framework and monitoring around the size and turnover of such exposures, and a robust independent price validation process conducted on the prices used to value those exposures. All securitisation limits and exposures are reviewed in accordance with the Group's approved risk management framework which in turn is subject to periodic internal (internal audits and reviews) and external reviews (conducted by external audit and APRA). At a minimum, the following reviews are undertaken:

Externally-rated exposures:

- External ratings are reviewed on a weekly basis via a report that tracks rating changes; and
- The underlying pool and transaction performance is reviewed monthly via an internally produced report and/ or reports provided by issuers.

The Group has no exposure to resecuritisation transactions.

Third-party unrated client securitisation exposures:

- The Bank receives periodic and detailed pool performance data from the issuer/trust manager. The pool performance data reports are extracted and reviewed for changes in underlying pool quality;
- Dynamic models are run monthly to determine the required credit support; and
- Formal credit reviews are conducted at least annually for all third-party client exposures.
- Group-originated securitisation program exposures:
- Formal reviews are conducted at least annually for all Medallion and Swan exposures; and
- The Bank receives the monthly Investor reports and underlying pool data.

Exposure Aggregation

Securitisation SPVs are bankruptcy remote entities. Generally, there is no legally enforceable obligation on the asset originator or issuer to provide ongoing credit support to such transactions and they are mostly not aggregated for either Group Large Credit Exposure Policy or APRA prudential standard compliance. Aggregation is assessed on a case by case basis having regard to the proposed structure. The Group will aggregate, where appropriate, the broader banking exposures to the proposed originator and/or issuing entities in making its determinations.

Group-Originated Securitisations

General Principles

Where the Group intends to securitise assets it has originated, it ensures the terms and conditions applicable to the proposed securitisation and any support facilities or dealings are arm's length and market based and compliant with APRA's prudential regulations. These transactions are managed by the Group's Treasury.

Where the Group has sold assets to a SPV but retains a servicer role in managing those assets on behalf of the SPV the Group ensures those securitised assets are effectively ring-fenced from the Group's own assets. Where the Group or its subsidiary provides support services such as servicing to the SPV, these need to be subject to arm's length, market based terms and be of an equivalent standard available in the market.

Purchase of Securities issued under Group-Originated Securitisation

Any purchases of either securities issued by an SPV or assets of an SPV must be arm's length in nature and approved under the Group's credit approval process. No pre-existing obligation to purchase public securities or the underlying assets of the SPV exists. The Group's SPVs under the Medallion and Swan programs are consolidated for accounting purposes. As at 30 June 2019 the Group achieved capital relief for $5.1 billion of assets in externally issued RMBS with $8.6 billion not achieving capital relief.

The Group holds less than 20% (excepting permitted underwritings as per APS 120) of the public securities outstanding issued by an SPV for Group-originated securitisations.

The aggregated value of all securities held by the Group under its various public Medallion and Swan programs does not exceed 10% of the Group's Level 2 capital (excepting permitted security underwritings as per APS 120).

Summary of Accounting Policies

Securitisations may, depending on the individual arrangement, result in: continued recognition of the securitised assets on the Balance Sheet of the Group; continued recognition of the assets to the extent of the Group's continuing involvement in those assets (as defined within AASB 9 "Financial Instruments" (AASB 9); or derecognition of the assets and the separate recognition, as assets or liabilities, of any rights and obligations created or retained in the transfer of assets to the securitisation vehicle.

A securitisation transaction is first assessed for any potential requirement to consolidate the vehicles used.

The assessment is made considering the requirements of AASB 10 "Consolidated Financial Statements" (AASB 10). AASB 10 introduces control as the single basis for consolidation for all entities, regardless of the nature of the investee. The Group exercises judgement at inception and periodically, to assess whether a structured entity should be consolidated based on the Bank's power over the relevant activities of the entity and the significance of its exposure to variable returns of the structured entity.

For the Group's accounting policy on the derecognition of financial assets and financial liabilities and the measurement of any retained interests, refer to the 2019 Annual Report.

The valuation process of any retained interests in securitisation exposures primarily focuses on quotations from third parties and calibrated valuations from market standard models with key inputs such as spreads to discount rates, default and recovery rates that may be observable or unobservable. This process did not change in 2019.

Assets are valued according to the normal methods appropriate to the asset class. As at 30 June 2019 and 31 December 2018, the Group had no assets awaiting securitisation.

The Group discloses all contractual commitments, such as liquidity lines, and applies the accounting policies as set out in the Group's 2019 Annual Report. The Group provides support for securitisation transactions to the extent of those contractual obligations.

APS 330 Table 12g (i) – Banking book exposures securitised – traditional securitisation

	30 June 2019			
Underlying Asset	**Group originated assets capital relief [1] $M**	**Group originated assets - non capital relief [2] $M**	**Group originated assets - internal RMBS[3] $M**	**Third party originated assets [4] $M**
Residential mortgage	5,074	8,563	60,939	-
Credit cards and other personal loans	-	-	-	-
Auto and equipment finance	-	-	-	-
Commercial loans	-	-	-	-
Other	-	-	-	-
Total	5,074	8,563	60,939	-

	31 December 2018			
Underlying Asset	**Group originated assets capital relief [1] $M**	**Group originated assets - non capital relief [2] $M**	**Group originated assets - internal RMBS[3] $M**	**Third party originated assets [4] $M**
Residential mortgage	5,392	9,043	60,921	-
Credit cards and other personal loans	-	-	-	-
Auto and equipment finance	-	-	-	-
Commercial loans	-	-	-	-
Other	-	-	-	-
Total	5,392	9,043	60,921	-

	30 June 2018			
Underlying Asset	**Group originated assets capital relief [1] $M**	**Group originated assets - non capital relief [2] $M**	**Group originated assets - internal RMBS[3] $M**	**Third party originated assets [4] $M**
Residential mortgage	4,234	10,078	60,740	-
Credit cards and other personal loans	-	-	-	-
Auto and equipment finance	-	-	-	-
Commercial loans	-	-	-	-
Other	-	-	-	-
Total	4,234	10,078	60,740	-

(1) Group originated assets (capital relief) comprise CBA Medallion and Bankwest Swan Trusts subject to capital treatment under APS 120.
(2) Group originated assets (non-capital relief) comprise CBA Medallion and Bankwest Swan Trusts subject to capital treatment under APS 113.
(3) Group originated assets (internal RMBS) comprise CBA Medallion, Bankwest Swan and ASB Medallion Trusts held for contingent liquidity purposes.
(4) Third-party originated assets comprise assets managed and sponsored by the Group.

APS 330 Table 12g (ii) – Banking book exposures securitised – synthetic securitisation

APS 120 provides specific regulatory treatment for synthetic securitisations where credit risk is transferred to a third party, however, legal ownership of the underlying assets remains with the originator.

The Group has not undertaken any synthetic securitisation in the banking book.

APS 330 Table 12g (iii) – Total banking book exposures securitised

APS 330 Table 12g (i) discloses the total banking book exposures securitised by the Group.

APS 330 Table 12h – Past due and impaired banking book exposures by asset type

	30 June 2019			
	Group originated assets securitised			
Underlying Asset	**Outstanding exposure $M**	**Impaired $M**	**Past due $M**	**Losses recognised $M**
Residential mortgage	74,575	11	328	-
Credit cards and other personal loans	-	-	-	-
Auto and equipment finance	-	-	-	-
Commercial loans	-	-	-	-
Other	-	-	-	-
Total	74,575	11	328	-

	31 December 2018			
	Group originated assets securitised			
Underlying Asset	**Outstanding exposure $M**	**Impaired $M**	**Past due $M**	**Losses recognised $M**
Residential mortgage	75,356	10	276	-
Credit cards and other personal loans	-	-	-	-
Auto and equipment finance	-	-	-	-
Commercial loans	-	-	-	-
Other	-	-	-	-
Total	75,356	10	276	-

	30 June 2018			
	Group originated assets securitised			
Underlying Asset	**Outstanding exposure $M**	**Impaired $M**	**Past due $M**	**Losses recognised $M**
Residential mortgage	75,052	7	234	-
Credit cards and other personal loans	-	-	-	-
Auto and equipment finance	-	-	-	-
Commercial loans	-	-	-	-
Other	-	-	-	-
Total	75,052	7	234	-

APS 330 Table 12i – Banking book exposures intended to be securitised

The Group does not have any outstanding banking book exposures that are intended to be securitised at 30 June 2019.

APS 330 Table 12j (i) – Banking book activity for the reporting period

The Group securitised $4,322 million new exposures in the banking book during the full year ended 30 June 2019.

	Full year ended 30 June 2019	
Underlying Asset	Total exposures securitised $M	Recognised gain or loss on sale $M
Residential mortgages	4,147	-
Credit cards and other personal loans	16	-
Auto and equipment finance	150	-
Commercial loans	9	-
Other	-	-
Total	4,322	-

	Half year ended 31 December 2018	
Underlying Asset	Total exposures securitised $M	Recognised gain or loss on sale $M
Residential mortgages	2,570	-
Credit cards and other personal loans	-	-
Auto and equipment finance	150	-
Commercial loans	9	-
Other	-	-
Total	2,729	-

	Full year ended 30 June 2018	
Underlying Asset	Total exposures securitised $M	Recognised gain or loss on sale $M
Residential mortgages	5,445	-
Credit cards and other personal loans	200	-
Auto and equipment finance	349	-
Commercial loans	491	-
Other	-	-
Total	6,485	-

APS 330 Table 12k – Banking book securitisation exposures retained or purchased

Securitisation Facility Type	30 June 2019 On Balance Sheet $M	Off Balance Sheet $M	Total exposures $M
Liquidity support facilities	-	254	254
Warehouse facilities	3,579	3,283	6,862
Derivative facilities	156	11	167
Holdings of securities	8,095	-	8,095
Other	-	5	5
Total securitisation exposures in the banking book	11,830	3,553	15,383

Securitisation Facility Type	31 December 2018 On Balance Sheet $M	Off Balance Sheet $M	Total exposures $M
Liquidity support facilities	-	260	260
Warehouse facilities	4,253	3,425	7,678
Derivative facilities	78	12	90
Holdings of securities	7,853	-	7,853
Other	-	5	5
Total securitisation exposures in the banking book	12,184	3,702	15,886

Securitisation Facility Type	30 June 2018 On Balance Sheet $M	Off Balance Sheet $M	Total exposures $M
Liquidity support facilities	-	240	240
Warehouse facilities	4,632	2,501	7,133
Derivative facilities	56	10	66
Holdings of securities	7,885	-	7,885
Other	-	-	-
Total securitisation exposures in the banking book	12,573	2,751	15,324

APS 330 Table 12l (i) – Banking book exposure by risk weighting

Total securitisation exposures in the banking book increased by $73 million or 0.5% during the full year ended 30 June 2019. The corresponding RWA increased by $18 million or 0.6%, mainly due to the upward revision of warehouse risk weights.

	30 June 2019					
	Exposures		Total	Risk Weighted Assets		Total
	Securitisation	Resecuritisation	exposures	Securitisation	Resecuritisation	RWA
Risk Weight Band	$M	$M	$M	$M	$M	$M
≤ 25%	14,825	-	**14,825**	2,710	-	**2,710**
> 25% ≤ 35%	470	-	**470**	130	-	**130**
> 35% ≤ 50%	-	-	**-**	-	-	**-**
> 50% ≤ 75%	85	-	**85**	60	-	**60**
> 75% ≤ 100%	-	-	**-**	-	-	**-**
> 100% ≤ 650%	-	-	**-**	-	-	**-**
> 650% ≤ 1250%	-	-	**-**	-	-	**-**
Total	15,380	-	**15,380**	2,900	-	**2,900**

	31 December 2018					
	Exposures		Total	Risk Weighted Assets		Total
	Securitisation	Resecuritisation	exposures	Securitisation	Resecuritisation	RWA
Risk Weight Band	$M	$M	$M	$M	$M	$M
≤ 25%	15,652	-	**15,652**	2,913	-	**2,913**
> 25% ≤ 35%	-	-	**-**	-	-	**-**
> 35% ≤ 50%	-	-	**-**	-	-	**-**
> 50% ≤ 75%	231	-	**231**	132	-	**132**
> 75% ≤ 100%	-	-	**-**	-	-	**-**
> 100% ≤ 650%	-	-	**-**	-	-	**-**
> 650% ≤ 1250%	-	-	**-**	-	-	**-**
Total	15,883	-	**15,883**	3,045	-	**3,045**

	30 June 2018					
	Exposures		Total	Risk Weighted Assets		Total
	Securitisation	Resecuritisation	exposures	Securitisation	Resecuritisation	RWA
Risk Weight Band	$M	$M	$M	$M	$M	$M
≤ 25%	14,880	-	**14,880**	2,705	-	**2,705**
> 25% ≤ 35%	195	-	**195**	58	-	**58**
> 35% ≤ 50%	150	-	**150**	62	-	**62**
> 50% ≤ 75%	82	-	**82**	57	-	**57**
> 75% ≤ 100%	-	-	**-**	-	-	**-**
> 100% ≤ 650%	-	-	**-**	-	-	**-**
> 650% ≤ 1250%	-	-	**-**	-	-	**-**
Total	15,307	-	**15,307**	2,882	-	**2,882**

APS 330 Table 12l (ii) – Banking book exposure deducted entirely from capital

Total securitisation exposures deducted from Tier 1 capital decreased by $14 million during the half year ended 31 December 2018 mainly due to the complete runoff of bad rating exposures and there is nil movement during the half year ended 30 June 2019.

	Common Equity Tier 1 Capital		
	30 Jun 19	31 Dec 18	30 Jun 18
Underlying Asset	$M	$M	$M
Residential mortgage	3	3	17
Credit cards and other personal loans	-	-	-
Auto and equipment finance	-	-	-
Commercial loans	-	-	-
Other	-	-	-
Total	3	3	17

APS 330 Table 12m – Banking book exposures subject to early amortisation

The Group has not undertaken any securitisation subject to early amortisation treatment.

APS 330 Table 12n – Banking book resecuritisation exposures

As at 30 June 2019, banking book resecuritisation exposures without credit risk mitigation was nil (31 December 2018: nil, 30 June 2018: nil).

The Group did not have any resecuritisation exposures subject to credit risk mitigation.

The Group did not have any exposure to third-party guarantors providing guarantees for securitised assets.

APS 330 Table 12o (i) – Trading book exposures securitised – traditional securitisation

The Group has no traditional securitisation exposures in the trading book.

APS 330 Table 12o (ii) – Trading book exposures securitised – synthetic securitisation

The Group has not undertaken any synthetic securitisation in the trading book.

APS 330 Table 12o (iii) – Total trading book exposures securitised

The Group has not securitised any exposures in the trading book.

APS 330 Table 12p – Trading book exposures intended to be securitised

The Group does not have any outstanding trading book exposures that are intended to be securitised at 30 June 2019.

APS 330 Table 12q – Trading book activity for the reporting period

The Group participated in third-party securitisation in the trading book during the full year ended 30 June 2019, relating to nil residential mortgages (31 December 2018: nil, 30 June 2018: $40 million), nil auto and equipment finance (31 December 2018: nil, 30 June 2018: $1 million), and $2 million personal finance (31 December 2018: nil, 30 June 2018: $1 million) exposures.

APS 330 Table 12r – Trading book exposures subject to APS 116

The aggregate amount of exposures securitised by the Group and subject to Prudential Standard APS 116 “Capital Adequacy: Market Risk” (APS 116) was $27 million as at 30 June 2019 (31 December 2018: $18 million, 30 June 2018: $40 million), all of which are traditional securitisations. This consists of:

- Securities held in the trading book subject to the Standard Method of nil (31 December 2018: nil , 30 June 2018: $22 million); and
- Derivatives held in the trading book subject to the Internal Models Approach (IMA) of $27 million (31 December 2018: $18 million, 30 June 2018: $18 million).

APS 330 Table 12s – Trading book exposures retained or purchased subject to APS 120

	30 June 2019		
Securitisation Facility Type	**On Balance Sheet $M**	**Off Balance Sheet $M**	**Total exposures $M**
Liquidity support facilities	-	-	-
Warehouse facilities	-	-	-
Derivative facilities	19	8	27
Holdings of securities	-	-	-
Other	-	-	-
Total securitisation exposures in the trading book	19	8	27

	31 December 2018		
Securitisation Facility Type	**On Balance Sheet $M**	**Off Balance Sheet $M**	**Total exposures $M**
Liquidity support facilities	-	-	-
Warehouse facilities	-	-	-
Derivative facilities	6	12	18
Holdings of securities	-	-	-
Other	-	-	-
Total securitisation exposures in the trading book	6	12	18

	30 June 2018		
Securitisation Facility Type	**On Balance Sheet $M**	**Off Balance Sheet $M**	**Total exposures $M**
Liquidity support facilities	-	-	-
Warehouse facilities	-	-	-
Derivative facilities	4	14	18
Holdings of securities	22	-	22
Other	-	-	-
Total securitisation exposures in the trading book	26	14	40

APS 330 Table 12t (i) – Trading book exposures retained/purchased subject to IMA

The Group has $27 million of derivatives exposures held in the trading book subject to IMA (default risk) under APS 116 as at 30 June 2019 (31 December 2018: $18 million, 30 June 2018: $18 million).

APS 330 Table 12t (ii) – Trading book exposures subject to APS 120 by risk weighting

	30 June 2019			
Risk Weight Band	IAA Approach $M	RBA Approach $M	SFA Approach $M	Total exposures $M
≤ 25%	-	11	10	21
> 25% ≤ 35%	-	-	6	6
> 35% ≤ 50%	-	-	-	-
> 50% ≤ 75%	-	-	-	-
> 75% ≤ 100%	-	-	-	-
> 100% ≤ 650%	-	-	-	-
> 650% ≤ 1250%	-	-	-	-
Total	-	11	16	27

	31 December 2018			
Risk Weight Band	IAA Approach $M	RBA Approach $M	SFA Approach $M	Total exposures $M
≤ 25%	-	10	8	18
> 25% ≤ 35%	-	-	-	-
> 35% ≤ 50%	-	-	-	-
> 50% ≤ 75%	-	-	-	-
> 75% ≤ 100%	-	-	-	-
> 100% ≤ 650%	-	-	-	-
> 650% ≤ 1250%	-	-	-	-
Total	-	10	8	18

	30 June 2018			
Risk Weight Band	IAA Approach $M	RBA Approach $M	SFA Approach $M	Total exposures $M
≤ 25%	-	35	5	40
> 25% ≤ 35%	-	-	-	-
> 35% ≤ 50%	-	-	-	-
> 50% ≤ 75%	-	-	-	-
> 75% ≤ 100%	-	-	-	-
> 100% ≤ 650%	-	-	-	-
> 650% ≤ 1250%	-	-	-	-
Total	-	35	5	40

APS 330 Table 12u (i) – RWA of trading book exposures retained/purchased subject to IMA

The Group has $201 million of RWA held in the trading book subject to IMA (default risk) under APS 116 as at 30 June 2019 (31 December 2018: $401 million, 30 June 2018: $360 million).

APS 330 Table 12u (ii) – Capital requirements (RWA) of trading book exposures subject to APS 120 by risk weighting

	30 June 2019									
	IAA Approach		RBA Approach		SFA Approach		Standardised Approach		Total Capital Requirements	
	Securitisation	Resecuritisation	Securitisation	Resecuritisation	Securitisation	Resecuritisation	Securitisation	Resecuritisation	Securitisation	Resecuritisation
Risk Weight Band	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M
≤ 25%	-	-	2	-	1	-	-	-	3	-
> 25% ≤ 35%	-	-	-	-	2	-	-	-	2	-
> 35% ≤ 50%	-	-	-	-	-	-	-	-	-	-
> 50% ≤ 75%	-	-	-	-	-	-	-	-	-	-
> 75% ≤ 100%	-	-	-	-	-	-	-	-	-	-
> 100% ≤ 650%	-	-	-	-	-	-	-	-	-	-
> 650% ≤ 1250%	-	-	-	-	-	-	-	-	-	-
Total	-	-	2	-	3	-	-	-	5	-

	31 December 2018									
	IAA Approach		RBA Approach		SFA Approach		Standardised Approach		Total Capital Requirements	
	Securitisation	Resecuritisation	Securitisation	Resecuritisation	Securitisation	Resecuritisation	Securitisation	Resecuritisation	Securitisation	Resecuritisation
Risk Weight Band	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M
≤ 25%	-	-	2	-	1	-	-	-	3	-
> 25% ≤ 35%	-	-	-	-	-	-	-	-	-	-
> 35% ≤ 50%	-	-	-	-	-	-	-	-	-	-
> 50% ≤ 75%	-	-	-	-	1	-	-	-	1	-
> 75% ≤ 100%	-	-	-	-	-	-	-	-	-	-
> 100% ≤ 650%	-	-	-	-	-	-	-	-	-	-
> 650% ≤ 1250%	-	-	-	-	-	-	-	-	-	-
Total	-	-	2	-	2	-	-	-	4	-

	30 June 2018									
	IAA Approach		RBA Approach		SFA Approach		Standardised Approach		Total Capital Requirements	
	Securitisation	Resecuritisation	Securitisation	Resecuritisation	Securitisation	Resecuritisation	Securitisation	Resecuritisation	Securitisation	Resecuritisation
Risk Weight Band	$M	$M	$M	$M	$M	$M	$M	$M	$M	$M
≤ 25%	-	-	7	-	1	-	-	-	8	-
> 25% ≤ 35%	-	-	-	-	-	-	-	-	-	-
> 35% ≤ 50%	-	-	-	-	-	-	-	-	-	-
> 50% ≤ 75%	-	-	-	-	-	-	-	-	-	-
> 75% ≤ 100%	-	-	-	-	-	-	-	-	-	-
> 100% ≤ 650%	-	-	-	-	-	-	-	-	-	-
> 650% ≤ 1250%	-	-	-	-	-	-	-	-	-	-
Total	-	-	7	-	1	-	-	-	8	-

APS 330 Table 12u (iii) – Trading book exposures entirely deducted from capital

The Group has no trading book exposures that are deducted entirely from Common Equity Tier 1 capital as at 30 June 2019 (31 December 2018: nil; 30 June 2018: nil).

The Group did not have any trading book exposures that are credit enhancements deducted from total capital or any other exposures deducted from total capital.

APS 330 Table 12v – Trading book exposures subject to early amortisation

The Group has not undertaken any securitisation subject to early amortisation treatment.

APS 330 Table 12w – Trading book resecuritisation exposures

The Group did not have any trading book resecuritisation exposures without credit risk mitigation as at 30 June 2019 (31 December 2018: nil; 30 June 2018: nil).

The Group did not have any resecuritisation exposures subject to credit risk mitigation.

The Group did not have any third-party guarantors providing guarantees for securitised assets.

APS 330 Table 5a – Total securitisation activity for the reporting period

The Group disclosed the summary of the current period's securitisation activity including the total amount of exposures securitised and gain or loss recognised on sale by exposure type in APS 330 Table 12j (banking book) and APS 330 Table 12q (trading book).

The total exposures securitised in the full year to 30 June 2019 was $4,324 million (30 June 2018: $6,527 million). The total exposures securitised in the half year to 31 December 2018 was $2,729 million.

APS 330 Table 5b – Summary of total securitisation exposures retained or purchased

	As at 30 June 2019		
Securitisation Facility Type	**On Balance Sheet $M**	**Off Balance Sheet $M**	**Total exposures $M**
Liquidity support facilities	-	254	254
Warehouse facilities	3,579	3,283	6,862
Derivative facilities	175	19	194
Holdings of securities	8,095	-	8,095
Other	-	5	5
Total securitisation exposures	11,849	3,561	15,410

	As at 31 December 2018		
Securitisation Facility Type	**On Balance Sheet $M**	**Off Balance Sheet $M**	**Total exposures $M**
Liquidity support facilities	-	260	260
Warehouse facilities	4,253	3,425	7,678
Derivative facilities	84	24	108
Holdings of securities	7,853	-	7,853
Other	-	5	5
Total securitisation exposures	12,190	3,714	15,904

	As at 30 June 2018		
Securitisation Facility Type	**On Balance Sheet $M**	**Off Balance Sheet $M**	**Total exposures $M**
Liquidity support facilities	-	240	240
Warehouse facilities	4,632	2,501	7,133
Derivative facilities	60	24	84
Holdings of securities	7,907	-	7,907
Other	-	-	-
Total securitisation exposures	12,599	2,765	15,364

9 Equity Risk

Equity risk is the potential loss arising from price volatility in equity investments.

The Group holds equity investments in the banking book for both capital gain and strategic reasons. Equity investments acquired for strategic reasons require approval from the relevant Finance and Risk Management functions, including governance by the Board Risk Committee and monitoring by an independent Market Risk Management function. The method of measurement applied to banking book securities is determined by the Group's accounting policies. This varies depending on the significance of the holding between equity accounting and measurement at fair value.

In accordance with AASB 128 "Investments in Associates and Joint Ventures" (AASB 128), significant holdings, where significant influence exists (generally interests above 20%) (Associates) are accounted for using the equity method. Under the equity method, investments are initially recorded at cost and adjusted for the Group's share of the Associate post-acquisition profits or losses and other comprehensive income, less any dividends received. Other holdings are recognised at fair value.

When an active market exists, a fair value is determined using quoted market prices. When a quoted price in an active market is not available, fair value is determined using market accepted valuation techniques. Key assumptions applied include trading multiples for businesses displaying similar characteristics to the equity investments being valued.

Changes in the value of equity investments in the banking book are recognised in the income statement, or an equity reserve based on their accounting classification.

Under the application of Basel III, APRA requires that all these equity investments be fully deducted from CET1.

APS 330 Table 16b to 16f – Equity investment exposures [(1)]

	30 June 2019	
Equity Investments	**Balance Sheet value $M**	**Fair value $M**
Value of listed (publicly traded) equities	1,868	1,655
Value of unlisted (privately held) equities	1,199	1,164
Total	3,067	2,819

	31 December 2018	
Equity Investments	**Balance Sheet value $M**	**Fair value $M**
Value of listed (publicly traded) equities	1,819	1,450
Value of unlisted (privately held) equities	1,270	1,186
Total	3,089	2,636

	30 June 2018	
Equity Investments	**Balance Sheet value $M**	**Fair value $M**
Value of listed (publicly traded) equities	1,747	1,553
Value of unlisted (privately held) equities	1,177	1,173
Total	2,924	2,726

	Half year ended		
Gains on Equity Investments	**30 Jun 19 $M**	**31 Dec 18 $M**	**30 Jun 18 $M**
Cumulative realised gains in reporting period	**45**	13	-
Total unrealised gains	**104**	167	183

(1) Equity investment exposures including non-traded equity investments as well as investments in associates are treated as capital deductions and are not risk weighted at Level 2.

10 Market Risk

Market risk is the potential of an adverse impact on the Group's earnings or capital from changes in interest rates, foreign exchange rates, equity and commodity prices, credit spreads, and the resale value of assets under operating leases at maturity (lease residual value risk).

The Group makes a distinction between Traded and Non-traded market risk for the purposes of risk management, measurement and reporting. Traded market risk principally arises from the Group's trading book activities within the Institutional Banking and Markets business and its subsidiary financial institutions.

Non-traded market risk includes interest rate risk that arises from banking book activities, non-traded equity risk, market risk arising from the insurance business, structural foreign exchange risk and lease residual value risk.

Market Risk Management Governance Overview

The Group's appetite for market risk is determined by the Board and is expressed via the Group's Risk Appetite Statement and its framework of limits and policies. The limits are designed to manage the volatility in earnings and value due to market risk. The policies establish a sound operating environment for market risk, which is consistent with the governance and control standards of the Group and conform to prudential regulatory requirements.

The market risk profile of the Group is overseen by the Board Risk Committee and senior executive management via the Group's Asset and Liability Committee (ALCO). The Portfolio and Market Risk Management (PMRM) unit provides support to the Risk Committee and ALCO in the performance of their market risk management accountabilities.

Market risk may only be generated by authorised business areas across the Group. The key functional areas that must be established to support market risk activity comprise:

- An approved Trading, Treasury or Origination function;
- An independent Market Risk Oversight area; and
- A Senior Management Oversight Committee.

The chart on page 66 summarises governance arrangements for market risk.

The Market Risk Oversight area supports the implementation of the Board approved policies through the establishment of Market Risk Standards and other documents that define the operational requirements for managing market risk, including details of sub-limits, stress testing, key controls, delegations, reporting and escalation requirements. The Market Risk Oversight area is responsible for the daily monitoring and analysis of risk positions. Senior Management has oversight of market risk performance against risk and return expectations on a monthly basis. The Board Risk Committee meets approximately eight times each year and considers the operation of the market risk management framework together with any issues that may arise.

Market Risk Measurement

The Group uses Value-at-Risk (VaR) as one of the measures of Traded and Non-traded market risk. VaR measures potential loss using historically observed market volatility and correlation between different markets. The VaR measured for Traded market risk uses two years of daily movement in market rates. The VaR measure for Non-traded Banking Book market risk uses six years of daily movement in market rates.

VaR is modelled at a 97.5% confidence level over a 1-day holding period for trading book positions. A 20-day holding period is used for Interest Rate Risk in the Banking Book (IRRBB), insurance business market risk and Non-traded equity risk.

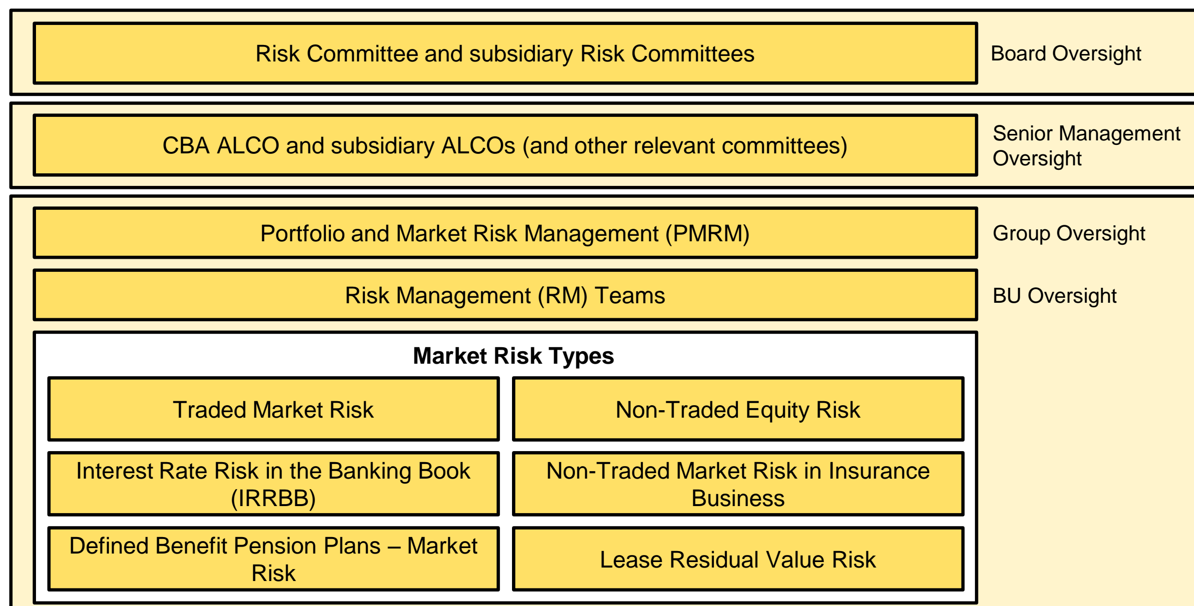
Stressed VaR (SVaR) is calculated for Traded market risk using the same methodology as the regular Traded market risk VaR except that the historical data is taken from a one year observation period of significant market volatility as seen during the Global Financial Crisis (GFC).

VaR is driven by historical observations and is not an estimate of the maximum loss that the Group could experience from an extreme market event. As a result of this limitation, management also uses stress testing to measure the potential for economic loss at confidence levels significantly higher than 97.5%. Management then uses these results in decisions to manage the economic impact of market risk positions.

The stress events considered for market risk are extreme but plausible market movements, and have been back-tested against moves seen during 2008 and 2009 at the height of the GFC. The results are reported to the Board Risk Committee and the Group's ALCO on a regular basis. Stress tests also include a range of forward looking macroeconomic scenario stresses.

Market Risk

Market Risk Governance



10.1 Traded Market Risk

The Group trades and distributes financial market products and provides risk management solutions to customers on a global basis.

The objectives of the Group's financial markets activities are to:

- Provide risk management and capital market products and services to customers;
- Efficiently assist in managing the Group's own market risks; and
- Conduct profitable market making within a controlled framework to assist in the provision of products and services to customers.

The Group maintains access to markets by quoting bid and offer prices with other market makers and carries an inventory of treasury, capital market and risk management instruments, including a broad range of securities and derivatives.

The Group participates in all major markets across interest rate, foreign exchange, debt, equity and commodity products as required to provide treasury, capital markets and risk management services to customers of the Group.

Income is earned from spreads achieved through market making and from warehousing market risk. Trading positions are valued at fair value and taken to profit and loss on a mark-to-market basis. Market liquidity risk is controlled by concentrating trading activity in highly liquid markets.

The Group measures and manages Traded market risk through a combination of VaR and stress-test limits, together with other key controls including permitted instruments, sensitivity limits and term restrictions. Thus Traded market risk is managed under a clearly defined risk appetite within the Group Market Risk Policy and limit structure approved by the Board Risk Committee. Risk is monitored by the independent Market Risk Oversight function.

Capital Calculation Methods

The Group is accredited by APRA as an Internal Model user for regulatory capital calculation for Group trading book activity.

Consequently, general market risk regulatory capital is calculated for interest rates (including credit spread), foreign exchange, equity and commodity risk using this model.

There are also a small number of products in the trading book for which regulatory capital is determined using the standard method. In accordance with the standard method, the Group applies the maturity method against these products for capital calculations, and a specific risk charge is calculated for debt specific and equity position risk. Inflation linked products and a small number of path dependent rates related products are managed in this manner.

Capital Calculation Methods (continued)

The breakdown of RWA for Traded market risk by modelling method is summarised in the table below.

Traded Market Risk RWA by Modelling Approach [1]	30 Jun 19 $M	31 Dec 18 $M	30 Jun 18 $M
Internal Model Approach	**9,834**	4,499	7,477
Standard Method	**651**	764	778
Total Traded Market Risk RWA	**10,485**	5,263	8,255

(1) Refer to page 11 for commentary.

The capital requirement for Traded market risk under the standard method is disclosed in APS 330 Table 13b.

APS 330 Table 13b – Traded Market Risk Under the Standard Method

Exposure Type	30 Jun 19 $M	31 Dec 18 $M	30 Jun 18 $M
Interest rate risk	**51. 9**	60. 9	61. 9
Equity risk	**0. 2**	0. 1	0. 2
Foreign exchange risk	**-**	0. 1	0. 1
Commodity risk	**-**	-	-
Total	**52. 1**	61. 1	62. 2
Risk Weighted Asset equivalent [1]	**651**	764	778

(1) Risk Weighted Assets equivalent is the capital requirements multiplied by 12.5 in accordance with APRA Prudential Standard APS 110.

Traded Market Risk Internal Model

The VaR and SVaR results calculated under the internal model approach are summarised in APS 330 Table 14f (i).

APS 330 Table 14f (i) – Value-at-Risk and Stressed Value-at-Risk for Trading Portfolios Under the Internal Model Approach

	Aggregate Value-at-Risk Over the Reporting Period			
Average VaR [1]	Mean value $M	Maximum value $M	Minimum value $M	As at balance date $M
Over the 6 months to 30 June 2019	30	46	21	40
Over the 6 months to 31 December 2018	48	75	27	41
Over the 6 months to 30 June 2018	59	103	26	67

	Aggregate SVaR Over the Reporting Period			
Stressed VaR [1]	Mean value $M	Maximum value $M	Minimum value $M	As at balance date $M
Over the 6 months to 30 June 2019	180	347	98	201
Over the 6 months to 31 December 2018	89	162	51	85
Over the 6 months to 30 June 2018	117	178	65	123

(1) 10 day, 99% confidence interval over the reporting period.

Internal Model Approach – Back-test results

The Internal Model is subject to back-testing against hypothetical profit and loss. In the 6 months to 30 June 2019 there were no back-test outliers. The back-test results are summarised in APS 330 Table 14f (ii) and details of these are provided in APS 330 Table 14f (iii). A comparison of VaR with actual gains or losses during the 6 months to 30 June 2019 is illustrated in APS 330 Table 14f (iv).

APS 330 Table 14f (ii) - Summary Table of the Number of Back-Testing Outliers [1]	
Over the 6 months to 30 June 2019	-
Over the 6 months to 31 December 2018	-
Over the 6 months to 30 June 2018	-

(1) 1 day, 99% confidence interval over the reporting period.

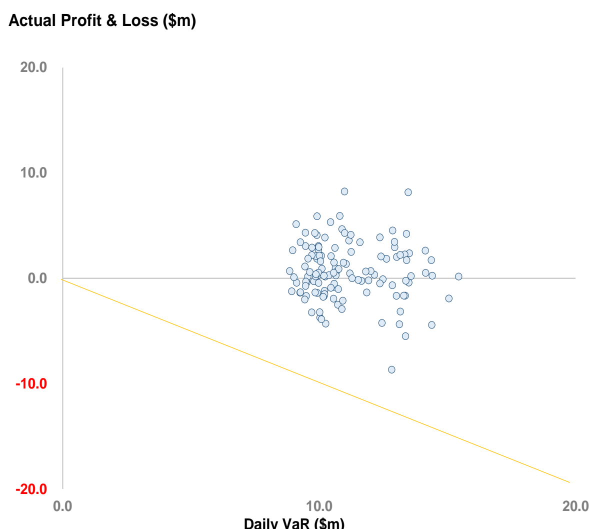
APS 330 Table 14f (iii): Details of Back-Test

Date	Over the Reporting Period 1 January 2019 to 30 June 2019	
	Hypothetical loss $M	VaR 99% $M
	-	-

Date	Over the Reporting Period 1 July 2018 to 31 December 2018	
	Hypothetical loss $M	VaR 99% $M
	-	-

Date	Over the Reporting Period 1 January 2018 to 30 June 2018	
	Hypothetical loss $M	VaR 99% $M
	-	-

APS 330 Table 14f (iv): Comparison of VaR estimates Outliers with actual gains/losses experiences



10.2 Non-Traded Market Risk

Non-traded market risk activities are governed by the Group market risk framework approved by the Board Risk Committee. The Group market risk framework governs all the activities performed in relation to Non-traded market risk.

Interest Rate Risk in the Banking Book

Interest rate risk is the current and prospective impact to the Group's financial condition due to adverse changes in interest rates to which the Group's Balance Sheet is exposed. The maturity transformation activities of the Group create mismatches in the repricing terms of asset and liability positions. These mismatches may have undesired earnings and value outcomes depending on the interest rate movements.

The Group's New Zealand banking subsidiary, ASB Bank, manages its own domestic interest rate risk in the banking book in accordance with its own interest rate risk management policies and the policies of the Group. The Group also has a relatively small banking subsidiary in Indonesia, PTBC that manages its own interest rate risk in the banking book on a similar basis.

The Group's objective is to manage interest rate risk to achieve stable and sustainable net interest income in the long-term.

The Group measures and manages the impact of interest rate risk in two ways:

(i) Next 12 Months' Earnings

Interest rate risk from an earnings perspective is the impact based on changes to the net interest income over the next 12 months.

The risk to net interest income over the next 12 months from changes in interest rates is measured on a monthly basis.

Earnings risk is measured through a sensitivity analysis which applies an instantaneous 100 basis point parallel shock in interest rates across the yield curve.

The prospective change to the net interest income is measured by using an Asset and Liability Management simulation model which incorporates both existing and anticipated new business in its assessment. The change to the Balance Sheet product mix, growth, funding and pricing strategies is incorporated.

Assets and liabilities that reprice directly from observable market rates are measured based on the full extent of the rate shock that is applied. Products that are priced based on Group administered or discretionary interest rates and that are impacted by customer behaviour are measured by taking into consideration the historic repricing strategy of the Group and repricing behaviours of customers. In addition to considering how the products have repriced in the past, the expected change in price based on both the current and anticipated competitive market forces are also considered in the sensitivity analyses.

(ii) Economic Value

Interest rate risk from an economic value perspective is based on a 20-day, 97.5% VaR measure.

Measuring the change in the economic value of equity is an assessment of the long-term impact to the earnings potential of the Group present valued to the current date. The Group assesses the potential change in its economic value of equity through the application of the VaR methodology.

A 20-day 97.5% VaR measure is used to capture the net economic value for all Balance Sheet assets and liabilities due to adverse changes in interest rates.

The impact of customer prepayments on the contractual cash flows for fixed rate products is included in the calculation.

Cash flows for discretionary priced products are behaviourally adjusted and repriced at the resultant profile.

Determining Interest Rate Risk in the Banking Book

APRA requires Australian banks accredited for the Advanced Approach under the Basel III framework to incorporate regulatory capital for IRRBB in their assessment of total capital. The capital requirement associated with IRRBB is measured by the Group's internal measurement model which incorporates the following risk calculations:

- Repricing and yield curve risks, which arise from repricing mismatches between assets and liabilities, are jointly determined from the distribution of changes in the economic value of the banking book as a consequence of interest rate changes (overall level of the yield curve and the shape of the yield curve). A historical simulation VaR approach is used, with IRRBB regulatory capital determined with respect to a one year holding period and a 99% level of confidence. Interest rate scenarios are constructed over a historical observation period of six years.
- Basis risk is measured as the risk of loss in earnings of the banking book arising from differences between the actual and expected interest margins on banking book items. The IRRBB regulatory capital requirement for basis risk is measured under a dynamic simulation approach, as the change in net interest income over a twelve month forecast period in response to an adverse change to implied forward cash rates.
- Optionality risk is measured as the risk of loss in economic value owing to the existence of stand-alone or embedded options in the banking book, to the extent that such potential losses are not included in the measurement of repricing, yield curve or basis risks. Optionality risk arising from a departure from assumed prepayment behaviour is calculated from a stressed prepayment rate scenario by the VaR model. Optionality risk arising from the use of replicating portfolios for indeterminate maturity or discretionary rate items is measured by the VaR model under an applied mismatch between the underlying product balances and the unhedged term asset positions.
- The embedded loss or gain in banking book items not accounted for on a mark-to-market basis is measured and included in the regulatory capital for IRRBB. The embedded loss or gain measures the difference between the book value and economic value of banking book activities, based on transfer-priced assets and liabilities.

These interest rate risk calculations are summed (subject to the capital requirement not being less than zero in total) and multiplied by 12.5 to derive Regulatory RWA for IRRBB in accordance with APRA's Prudential Standard APS 110 "Capital Adequacy" (APS 110).

Stress Testing of Interest Rate Risk in the Banking Book

Stress testing of IRRBB measures the impact of extreme but plausible market movements on both an earnings and an economic value basis. The results are reported to the Board Risk Committee and the Group ALCO on a regular basis.

The Stress Testing figures in APS 330 Table 17b (below) represent expected net change in the economic value of assets and liabilities, held for purposes other than trading, based on a 200 basis point parallel rate shock. In addition APS 330 Table 17b includes the Regulatory RWA for IRRBB.

APS 330 Table 17b – Interest Rate Risk in the Banking Book

	Change in Economic Value		
	30 Jun 19	31 Dec 18	30 Jun 18
Stress Testing: Interest Rate Shock Applied	$M	$M	$M
AUD			
200 basis point parallel increase	**(702)**	(328)	(1,259)
200 basis point parallel decrease	**770**	368	1,368
NZD			
200 basis point parallel increase	**(330)**	(298)	(269)
200 basis point parallel decrease	**351**	317	287
USD			
200 basis point parallel increase	**(133)**	(59)	(76)
200 basis point parallel decrease	**143**	67	87
Other			
200 basis point parallel increase	**(11)**	(5)	19
200 basis point parallel decrease	**12**	3	(19)

	30 Jun 19	31 Dec 18	30 Jun 18
Regulatory RWA [1]	$M	$M	$M
Interest rate risk in the banking book	**9,898**	13,872	24,381

(1) Refer to page 11 for commentary.

Market Risk

Structural Foreign Exchange Risk

Structural Foreign Exchange Risk is the risk that movements in foreign exchange rates may have an adverse effect on the Group's Australian dollar earnings and economic value when the Group's foreign currency denominated earnings and capital are translated into Australian dollars. The Group's primary exposure to this risk arises from its New Zealand banking and insurance, Asian and US operations. This risk is managed in accordance with the following Risk Committee approved principles:

- Permanently deployed capital in a foreign jurisdiction is not hedged; and
- Forecast earnings from the Group's New Zealand banking and insurance subsidiaries are hedged.

The management of structural foreign exchange risk is regularly reported to the Group's ALCO.

Non-Traded Equity Risk

The Group retains Non-Traded Equity Risk primarily through business activities in Wealth Management. This activity is subject to governance arrangements approved by the Risk Committee, and is monitored within the Board Risk Management function.

A 20-day, 97.5% confidence VaR is used to measure the economic impact of adverse changes in value. The 30 June 2019 VaR measure is $22 million (30 June 2018: $21 million) (refer also to section 9 "Equity Risk").

Market Risk in Insurance Businesses

There are two main sources of market risk in the Life Insurance businesses: (i) market risk arising from guarantees made to policyholders; and (ii) market risk arising from the investment of Shareholders' capital.

Guarantees (to Policyholders)

All financial assets within the Life Insurance Statutory Funds directly support either the Group's life insurance or life investment contracts. Market risk arises for the Group on contracts where the liabilities to policyholders are guaranteed by the Group. The Group manages this risk by having an asset and liability management framework which includes the use of hedging instruments. The Group also monitors the risk on a monthly basis.

Shareholders' Capital

A portion of financial assets held within the Insurance business, both within the Statutory Funds and in the Shareholders' Funds of the Life Insurance company represents shareholder (Group) capital. Market risk also arises for the Group on the investment of this capital. Shareholders' funds in the Australian Life Insurance businesses are invested 99% in income assets (cash and fixed interest) and 1% in growth assets as at 30 June 2019.

Lease Residual Value Risk

The Group takes lease residual value risk on assets such as industrial, mining, rail, aircraft, marine, technology, healthcare and other equipment. A lease residual value guarantee then exposes the Group to the movement in second-hand prices of these assets. The lease residual value risk within the Group is controlled through a risk management framework approved by the Board Risk Committee. Supporting this framework is an internal Market Risk Standard document, which has a risk limit framework that includes asset, geographic and maturity concentration limits, and stress testing that is performed by the Market Risk Oversight function.

Commonwealth Bank Group Super Fund

The Commonwealth Bank Group Super Fund (the Fund) has a defined benefit portion that creates market risk for the Group. Risk Management and Group Corporate Affairs provide oversight of the market risks of the Fund held and managed on behalf of the employees receiving defined benefit pension funds on behalf of the Group. Regular reporting is provided to senior management via the Group's ALCO and the Board Risk Committee on the status of the surplus, risk sensitivities and risk management options. For further information on the Fund, refer to Note 10.2 of the Annual Report 2019.

11 Operational Risk

Operational risk is defined as the risk of loss arising from inadequate or failed internal processes, people, systems or from external events, exposing the Group to loss, reputational damage and/or regulatory scrutiny.

Operational Risk Objectives

The Group's operational risk objectives are designed to support the achievement of its financial and business goals, through:

- The maintenance of an effective internal control environment and system;
- The demonstration of effective governance, including a consistent approach to operational risk management across the Group;
- Transparency, escalation and resolution of risk and control incidents and issues; and
- Making decisions based upon an informed risk-return analysis and appropriate standards of professional practice.

Operational Risk Management Framework

The Operational Risk Management Framework (ORMF) is integral to the achievement of the Group's operational risk objectives and is embedded within business practices across the Group. It comprises four core components to ensure sound management and measurement of the Group's operational risk. The core components are:

- Governance;
- Management, Measurement and Systems;
- Analytics, Review and Reporting; and
- People and Culture.

The ORMF is supported by a single platform, internally referred to as RiskInSite, which enables consistent application of the ORMF across the Group; including assessment of operational risks, monitoring and review activities, escalation and remediation of control weaknesses and loss incident management, and reporting to management and Boards.

Compliance Risk Management

Compliance risk is the risk of legal or regulatory sanctions, material financial loss, or loss of reputation that the Group may incur as a result of its failure to comply with the requirements of relevant laws, regulations, industry standards, rules, codes and guidelines, and includes societal expectations.

The Group's Compliance Management Framework (CMF) is broadly consistent with the Australian Standard on Compliance Programs and aims to help meet the Group's obligations under the Corporations Act 2001, the Group's Australian Financial Services Licence and Australian Credit Licences. The CMF also aims to support the Group's compliance with requirements in the offshore jurisdictions in which it operates. The CMF incorporates key mandatory requirements and roles and responsibilities for managing compliance risk. It captures compliance requirements, Group compliance policies, regulatory change and people and culture considerations.

The CMF provides for the assessment of compliance risks, implementation of controls, monitoring and testing of framework effectiveness and the escalation, remediation and reporting of compliance incidents and compliance control weaknesses.

APRA Prudential Inquiry report findings

The APRA Prudential Inquiry report, published on 1 May 2018 highlighted a number of areas for improvement in the ORMF and CMF.

Following the report, the Group entered into an Enforceable Undertaking (EU) with APRA. Under the terms of the EU the Group has had endorsed, by APRA, a Remedial Action Plan. The plan outlines the actions it is taking to improve the ORMF and CMF.

Roles and Responsibilities

Every staff member has a responsibility for managing operational risk and compliance. Individual responsibilities and limits of authority are articulated within the position descriptions for each role.

Within the Group, accountability for operational risk and compliance has been structured into "Three Lines of Accountability" as per section 7. This is the subject of improvements under the Remedial Action Plan.

Risk Mitigation through Insurance

The Group insures against selected unexpected insurable operational risk losses. The Group's insurance program is structured based upon the Group's risk appetite and risk retention strategies.

In designing the Group's insurance program, the adequacy and appropriateness of cover are considered along with the Group's operational risk profile.

The insurance program is subject to review by the Executive Leadership Team and the Board.

Capital Measurement Approach

Operational Risk Capital is calculated using the Group's Advanced Measurement Approach (AMA) methodology.

The Operational Risk Measurement System (ORMS) describes the Group's AMA methodology which combines internal and external loss data and judgement based scenarios into loss distributions using Monte Carlo simulations, to produce regulatory and economic capital for the Group and each business unit. Direct inputs into the model include scenarios (called Quantitative Risk Assessments), internal loss data and external loss data sourced from an external provider the Operational Riskdata eXchange association (ORX). Inputs to scenarios include internal and external loss data, business environment and internal control factors, and business judgement.

Operational Risk

Economic Capital Calculation

The outcomes of the operational risk capital measurement process include an economic capital requirement based on a 99.95% confidence interval that is calibrated to the Group's overall target AA debt rating.

Regulatory Capital Calculation

The Group has approval from APRA to calculate its operational risk regulatory capital using the Basel II Advanced Measurement Approach, the requirements of which are unchanged under Basel III. The Group uses the AMA model APRA granted permission for it to use in March 2016 for calculating Operational Risk Capital.

APS330 Table 6e - Capital requirements for operational risk

	30 Jun 19	31 Dec 18	30 Jun 18
	$M	$M	$M
Total operational risk RWA [1]	**59,805**	56,653	56,448

(1) Refer to page 11 for commentary.

12 Liquidity Risk

12.1 Liquidity and Funding Risk

Overview

The Group's liquidity and funding policies are designed to ensure it will meet its obligations as and when they fall due by ensuring it is able to borrow funds on an unsecured basis, has sufficient liquid assets to borrow against on a secured basis, or sell to raise immediate funds without adversely affecting the Group's net asset value.

The Group's liquidity policies are designed to ensure it maintains sufficient cash balances and liquid asset holdings to meet its obligations to customers, in both ordinary market conditions and during periods of extreme stress. These policies are intended to protect the value of the Group's operations during periods of unfavourable market conditions.

The Group's funding policies are designed to achieve diversified sources of funding by product, term, maturity date, investor type, investor location, currency and concentration, on a cost effective basis. This objective applies to the Group's wholesale and retail funding activities.

Liquidity and Funding Risk Management Framework

The CBA Board is ultimately responsible for the sound and prudent management of liquidity risk across the Group. The Group's liquidity and funding policies, structured under a formal Group Liquidity and Funding Risk Management Framework, are approved by the Board and agreed with APRA. The Group has an Asset and Liability Committee (ALCO), the charter of which includes reviewing the management of assets and liabilities, reviewing liquidity and funding policies and strategies, as well as regularly monitoring compliance with those policies across the Group. Group Treasury manages the Group's liquidity and funding positions in accordance with the Group's liquidity policies and has ultimate authority to execute liquidity decisions should the Group Contingent Funding Plan be activated. Risk Management provides oversight of the Group's liquidity and funding risks, compliance with Group policies and manages the Group's relationship with prudential regulators.

Subsidiaries within the Colonial Group apply their own liquidity and funding strategies to address their specific needs. The Group's New Zealand banking subsidiary, ASB Bank, manages its own domestic liquidity and funding needs in accordance with its own liquidity policies and the policies of the Group. ASB's liquidity policy is also overseen by the Reserve Bank of New Zealand.

Liquidity and Funding Policies and Management

The Group's liquidity and funding policies provide that:

- An excess of liquid assets over the minimum prescribed under APRA's Liquidity Coverage Ratio (LCR) requirement is maintained. Australian ADIs are required to meet a 100% LCR, calculated as the ratio of high quality liquid assets to 30 day net cash outflows projected under a prescribed stress scenario;
- A surplus of stable funding from various sources, as measured by APRA's Net Stable Funding Ratio (NSFR), is maintained. The NSFR is calculated by applying APRA prescribed factors to assets and liabilities to determine a ratio of required stable funding to available stable funding which must be greater than 100%;
- Additional internal funding and liquidity metrics are calculated and stress tests additional to the LCR are run;
- Short and long-term wholesale funding limits are established, monitored and reviewed regularly;
- The Group's wholesale funding market capacity is regularly assessed and used as a factor in funding strategies;
- Balance Sheet assets that cannot be liquidated quickly are funded with stable deposits or term borrowings that meet minimum maturity requirements with appropriate liquidity buffers;
- Liquid assets are held in Australian dollar and foreign currency denominated securities in accordance with expected requirements;
- The Group has three categories of liquid assets within its domestic liquid assets portfolio. The first includes cash, government and Australian semi-government securities. The second includes Negotiable Certificates of Deposit, bank bills, bank term securities, supranational bonds, Australian Residential Mortgage-backed Securities (RMBS) and securities that meet certain Reserve Bank of Australia (RBA) criteria for purchases under reverse repo. The final category is internal RMBS, being mortgages that have been securitised but retained by the Bank, that are repo-eligible with the RBA under stress; and
- Offshore branches and subsidiaries adhere to liquidity policies and hold appropriate foreign currency liquid assets to meet required regulations.

The Group's key funding tools include:

- Its consumer retail funding base, which includes a wide range of retail transaction accounts, savings accounts and term deposits for individual consumers;
- Its small business customer and institutional deposit base; and
- Its wholesale international and domestic funding programs which include its Australian dollar negotiable certificates of deposit; Australian dollar bank bills; Asian Transferable Certificates of Deposit program; Australian, U.S. and Euro Commercial Paper programs; U.S. Extendible Notes programs; Australian dollar Domestic Debt Program; U.S.144a and 3a2 Medium-Term Note Programs; Euro Medium-Term Note Program; multi jurisdiction Covered Bond program; and its Medallion and Swan securitisation programs.

The Group's key liquidity tools include:

- A regulatory liquidity management reporting system delivering granular customer and product type information to inform business decision making, product development and resulting in a greater awareness of the liquidity risk adjusted value of banking products;
- A liquidity management model similar to a "maturity ladder" or "liquidity gap analysis", that allows forecasting of liquidity needs on a daily basis;
- An additional liquidity management model that implements the agreed prudential liquidity policies. This model is calibrated with a series of "stress" liquidity crisis scenarios, incorporating both systemic and idiosyncratic crisis assumptions, such that the Group will have sufficient liquid assets available to ensure it meets all of its obligations as and when they fall due;
- Central bank repurchase agreement facilities including the RBA's Committed Liquidity Facility that provide the Group with the ability to borrow funds on a secured

basis, even when normal funding markets are unavailable; and

- A robust Contingent Funding Plan that is regularly tested so that it can be activated in case of need due to a liquidity event.

12.2 Liquidity Coverage Ratio

The Group calculates its LCR position on a daily basis, ensuring a buffer is maintained over the minimum regulatory requirement of 100% and the Board's risk appetite. Over the June quarter, excess liquid assets averaged $33 billion and the average LCR decreased by 2% from 134% to 132%. The Group reduced its liquid assets reflecting less requirements as Net Cash Outflows (NCOs) decreased.

The Group's mix of liquid assets consists of High Quality Liquid Assets (HQLA), being cash, deposits with central banks, Australian Semi-Government and Commonwealth Government securities. Liquid assets also includes repo eligible securities with the Reserve Bank of Australia under the Committed Liquidity Facility (CLF) and securities classified as liquid assets by the Reserve Bank of New Zealand. Liquid assets are distributed across the Group to support regulatory and internal requirements and are consistent with the distribution of liquidity needs by currency.

NCOs are modelled under an APRA prescribed 30 day severe liquidity stress scenario. The Group manages modelled NCOs by maintaining a large base of low LCR outflow customer deposits and actively managing its wholesale funding maturity profile as part of its overall liquidity management strategy. Average NCOs decreased over the quarter due to lower wholesale funding maturities.

APS 330 Table 20 - LCR disclosure template

		30 Jun 19	30 Jun 19	31 Mar 19	31 Mar 19
		Total unweighted value (average) [1]	Total weighted value (average) [1]	Total unweighted value (average) [1]	Total weighted value (average) [1]
		$M	$M	$M	$M
Liquid assets, of which:					
1	High-quality liquid assets (HQLA)		88,018		94,197
2	Alternative liquid assets (ALA)		45,324		45,267
3	Reserve Bank of New Zealand (RBNZ) securities		3,217		3,202
Cash outflows					
4	Retail deposits and deposits from small business customers, of which:	290,720	25,427	286,448	24,947
5	Stable deposits	161,888	8,094	160,442	8,022
6	Less stable deposits	128,832	17,333	126,006	16,925
7	Unsecured wholesale funding, of which:	115,493	59,480	119,340	63,361
8	Operational deposits (all counterparties) and deposits in networks for cooperative banks	31,197	7,690	30,615	7,546
9	Non-operational deposits (all counterparties)	75,053	42,547	76,520	43,610
10	Unsecured debt	9,243	9,243	12,205	12,205
11	Secured wholesale funding		965		1,533
12	Additional requirements, of which:	153,354	21,997	152,415	21,979
13	Outflows related to derivatives exposures and other collateral requirements	7,426	7,426	7,578	7,578
14	Outflows related to loss of funding on debt products	-	-	-	-
15	Credit and liquidity facilities	145,928	14,571	144,837	14,401
16	Other contractual funding obligations	35	14	77	8
17	Other contingent funding obligations	77,769	7,304	80,263	9,448
18	**Total cash outflows**		115,187		121,276
Cash inflows					
19	Secured lending	7,802	1,005	8,650	1,765
20	Inflows from fully performing exposures	9,734	6,524	9,451	6,506
21	Other cash inflows	4,008	4,008	6,193	6,193
22	**Total cash inflows**	21,544	11,537	24,294	14,464
23	**Total liquid assets**		136,559		142,666
24	**Total net cash outflows**		103,650		106,812
25	**Liquidity Coverage Ratio (%)**		132		134
Number of data points used (Business Days)			59		61

(1) The averages presented are calculated as simple averages of daily observations over the previous quarter.

12.3 Net Stable Funding Ratio

The Net Stable Funding Ratio (NSFR) requires Australian ADIs to have sufficient Available Stable Funding (ASF) to meet their Required Stable Funding (RSF) over a one year horizon. The Group calculates its NSFR position daily, ensuring a buffer is maintained over the regulatory requirement of 100% and the Board's risk appetite. The ASF and RSF are calculated by applying APRA-prescribed factors to liabilities, assets and off-balance sheet commitments.

The Group's main sources of ASF are deposits from retail and SME customers, wholesale funding and capital. The main contributors to RSF are residential mortgages and loans to business and corporate customers.

The small decrease in the NSFR from 113% to 112% from 31 March 2019 to 30 June 2019 was driven by higher RSF from loans and lower ASF from wholesale funding.

		As at 30 June 2019				
		Unweighted value by residual maturity				Weighted value
		No Maturity	0 - 6 months	7 - 12 months	> 12 months	
		$M	$M	$M	$M	$M
Available Stable Funding (ASF) Item						
1	**Capital**	69,403	-	-	21,738	**91,141**
2	Regulatory Capital	69,403	-	-	21,738	91,141
3	Other Capital Instruments	-	-	-	-	-
4	**Retail deposits and deposits from small business customers**	266,439	122,664	25	173	**360,618**
5	Stable deposits (1)	152,242	52,358	18	12	194,399
6	Less stable deposits (2)	114,197	70,306	7	161	166,219
7	**Wholesale funding**	91,084	169,460	45,288	107,871	**188,807**
8	Operational deposits	38,047	-	-	-	**19,023**
9	Other wholesale funding	53,037	169,460	45,288	107,871	**169,784**
10	**Liabilities with matching interdependent assets**	-	-	-	-	**-**
11	**Other liabilities**	-	12,498	-	88	**88**
12	NSFR Derivative liabilities	-	3,964	-	-	**-**
13	All other liabilities and equity not included in the above categories	-	8,534	-	88	**88**
14	**Total ASF**					**640,654**
Required Stable Funding (RSF) Item						
15 a)	**Total NSFR HQLA**					**3,831**
15 b)	**ALA**					**5,070**
15 c)	**RBNZ Securities**					**397**
16	**Deposits held at other financial institutions for operational purposes**	-	-	-	-	**-**
17	**Performing loans and securities**	1,344	54,204	30,373	635,609	**513,413**
18	Performing loans to financial institutions secured by Level 1 HQLA	1,211	4,375	-	-	**559**
19	Performing loans to financial institutions secured by non-Level 1 HQLA and unsecured performing loans to financial institutions	133	15,999	6,523	18,373	**24,054**
20	Performing loans to non-financial corporate clients, loans to retail and small business customers, and loans to sovereigns, central banks and public sector entities (PSEs), of which:	-	24,752	17,507	138,574	**138,808**
21	With a risk weight of less than or equal to 35% under APS 112	-	37	45	544	**395**
22	Performing residential mortgages, of which;	-	6,050	5,956	475,276	**345,097**
23	With a risk weight equal to 35% under APS 112	-	5,196	5,129	387,210	**269,072**
24	Securities that are not in default and do not qualify as HQLA, including exchange-traded equities	-	3,028	387	3,386	**4,895**
25	**Assets with matching interdependent liabilities**	-	-	-	-	**-**
26	**Other assets:**	7,257	26,178	893	25,318	**41,446**
27	Physical traded commodities, including gold	7,257	-	-	-	**6,169**
28	Assets posted as initial margin for derivative contracts and contributions to default funds of central counterparties (CCPs)	-	965	-	-	**821**
29	NSFR derivative assets	-	8,775	-	-	**4,811**
30	NSFR Derivative liabilities before deduction of variation margin posted	-	12,891	-	-	**2,578**
31	All other assets not included in the above categories	-	3,547	893	25,318	**27,067**
32	**Off-balance sheet items**	-	169,460	-	-	**7,761**
33	**Total RSF**					**571,918**
34	**Net Stable Funding Ratio (%)**					**112**

(1) Stable deposits are the portion of deposits that are protected under the Financial Claims Scheme where depositors have an established relationship with the Bank or the deposits are in transactional accounts.
(2) Less stable deposits are the portion of deposits that do not meet the requirements of stable deposits.

12.3 Net Stable Funding Ratio Disclosure (continued)

		As at 31 March 2019				
		Unweighted value by residual maturity				Weighted value
		No Maturity	0 - 6 months	7 - 12 months	> 12 months	
		$M	$M	$M	$M	$M
Available Stable Funding (ASF) Item						
1	**Capital**	66,859	-	-	22,288	89,147
2	Regulatory Capital	66,859	-	-	22,288	89,147
3	Other Capital Instruments	-	-	-	-	-
4	**Retail deposits and deposits from small business customers**	264,697	124,706	9	47	360,745
5	Stable deposits [(1)]	151,587	52,976	7	13	194,354
6	Less stable deposits [(2)]	113,110	71,730	2	34	166,391
7	**Wholesale funding**	81,843	177,362	51,508	109,171	194,239
8	Operational deposits	29,219	-	-	-	14,610
9	Other wholesale funding	52,624	177,362	51,508	109,171	179,629
10	**Liabilities with matching interdependent assets**	-	-	-	-	-
11	**Other liabilities**	-	10,665	-	4	4
12	NSFR Derivative liabilities	-	2,866	-	-	-
13	All other liabilities and equity not included in the above categories	-	7,799	-	4	4
14	**Total ASF**					644,135
Required Stable Funding (RSF) Item						
15 a)	**Total NSFR HQLA**					3,786
15 b)	**ALA**					5,070
15 c)	**RBNZ Securities**					396
16	**Deposits held at other financial institutions for operational purposes**	-	-	-	-	-
17	**Performing loans and securities**	1,430	56,365	30,783	630,550	510,860
18	Performing loans to financial institutions secured by Level 1 HQLA	1,137	4,778	-	-	592
19	Performing loans to financial institutions secured by non-Level 1 HQLA and unsecured performing loans to financial institutions	293	19,051	4,771	20,722	26,009
20	Performing loans to non-financial corporate clients, loans to retail and small business customers, and loans to sovereigns, central banks and public sector entities (PSEs), of which:	-	24,243	19,983	137,885	139,203
21	With a risk weight of less than or equal to 35% under APS 112	-	47	50	565	415
22	Performing residential mortgages, of which;	-	5,814	5,377	468,450	340,071
23	With a risk weight equal to 35% under APS 112	-	4,990	4,606	380,707	264,345
24	Securities that are not in default and do not qualify as HQLA, including exchange-traded equities	-	2,479	652	3,493	4,985
25	**Assets with matching interdependent liabilities**	-	-	-	-	-
26	**Other assets:**	6,536	25,148	296	25,173	40,846
27	Physical traded commodities, including gold	6,536	-	-	-	5,556
28	Assets posted as initial margin for derivative contracts and contributions to default funds of central counterparties (CCPs)	-	1,013	-	-	861
29	NSFR derivative assets	-	8,004	-	-	5,139
30	NSFR Derivative liabilities before deduction of variation margin posted	-	12,074	-	-	2,415
31	All other assets not included in the above categories	-	4,057	296	25,173	26,875
32	**Off-balance sheet items**	-	167,715	-	-	7,631
33	**Total RSF**					568,589
34	**Net Stable Funding Ratio (%)**					**113**

(1) Stable deposits are the portion of deposits that are protected under the Financial Claims Scheme where depositors have an established relationship with the Bank or the deposits are in transactional accounts.
(2) Less stable deposits are the portion of deposits that do not meet the requirements of stable deposits.

13 Appendices

13.1 Detailed Capital Disclosures Template (APS 330 Attachment A)

The Group is applying the Basel III regulatory adjustments in full as implemented by APRA. These tables should be read in conjunction with section 13.3 Regulatory Balance Sheet and section 13.4 Reconciliation between Detailed Capital Template and Regulatory Balance Sheet.

Summary Group Capital Adequacy Ratios (Level 2)	30 Jun 19 Basel III APRA %	30 Jun 19 Basel III Internationally Comparable %
CET1	10. 7	16. 2
Tier 1	12. 7	18. 7
Total Capital	15. 5	22. 1

		30 Jun 19 Basel III $M	Reconciliation Table Reference
Common Equity Tier 1 Capital: instruments and reserves			
1	Directly issued qualifying ordinary shares (and equivalent for mutually-owned entities) capital	**38,106**	Table A
2	Retained earnings	**28,045**	
3	Accumulated other comprehensive income (and other reserves)	**3,144**	
4	Directly issued capital subject to phase out from CET1 (only applicable to mutually-owned companies)	**-**	
5	Ordinary share capital issued by subsidiaries and held by third parties (amount allowed in group CET1)	**-**	Table B
6	Common Equity Tier 1 Capital before regulatory adjustments	**69,295**	
Common Equity Tier 1 Capital: regulatory adjustments			
7	Prudential valuation adjustments	**(22)**	
8	Goodwill (net of related tax liability)	**(7,680)**	Table C
9	Other intangibles other than mortgage servicing rights (net of related tax liability)	**(2,013)**	Table C
10	Deferred tax assets that rely on future profitability excluding those arising from temporary differences (net of related tax liability)	**-**	Table D
11	Cash-flow hedge reserve	**(787)**	
12	Shortfall of provisions to expected losses [1]	**(360)**	
13	Securitisation gain on sale (as set out in paragraph 562 of Basel II framework)	**-**	
14	Gains and losses due to changes in own credit risk on fair valued liabilities	**(30)**	
15	Defined benefit superannuation fund net assets [2]	**(324)**	
16	Investments in own shares (if not already netted off paid-in capital on reported Balance Sheet)	**-**	
17	Reciprocal cross-holdings in common equity	**-**	
18	Investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation, net of eligible short positions, where the ADI does not own more than 10% of the issued share capital (amount above 10% threshold)	**-**	Table G
19	Significant investments in the ordinary shares of banking, financial and insurance entities that are outside the scope of regulatory consolidation, net of eligible short positions (amount above 10% threshold)	**-**	Table G
20	Mortgage service rights (amount above 10% threshold)	**-**	
21	Deferred tax assets arising from temporary differences (amount above 10% threshold, net of related tax liability)	**-**	Table D
22	Amount exceeding the 15% threshold		
23	of which: significant investments in the ordinary shares of financial entities	**-**	Table G
24	of which: mortgage servicing rights	**-**	
25	of which: deferred tax assets arising from temporary differences	**-**	Table D
	CET1 (Internationally Comparable)	**58,079**	

(1) Represents general reserve for credit losses of $360 million (post tax), with associated tax amount incorporated in the row 26e adjustment. As at 30 June 2019 there is no shortfall with eligible credit provisions in excess of regulatory expected loss (pre-tax) using stressed loss given default assumptions associated with the loan portfolio included in row 50.

(2) In accordance with APRA regulations, the surplus in the Group's defined benefit superannuation fund, net of any deferred tax liability, must be deducted from Common Equity Tier 1.

13.1 Detailed Capital Disclosures Template (APS 330 Attachment A) (continued)

		30 Jun 19 Basel III $M	Reconciliation Table Reference
APRA Specific Regulatory Adjustments			
26	National specific regulatory adjustments (rows 26a, 26b, 26c, 26d, 26e, 26f, 26g, 26h, 26i, 26j)		
26a	of which: treasury shares	108	Table A
26b	of which: offset to dividends declared due to a dividend reinvestment plan (DRP), to the extent that the dividends are used to purchase new ordinary shares issued by the ADI	-	
26c	of which: deferred fee income	-	
26d	of which: equity investments in financial institutions not reported in rows 18, 19 and 23	(5,852)	Table G
26e	of which: deferred tax assets not reported in rows 10, 21 and 25	(2,581)	Table D
26f	of which: capitalised expenses	(720)	
26g	of which: investments in commercial (non-financial) entities that are deducted under APRA prudential requirements	(142)	Table G
26h	of which: covered bonds in excess of asset cover in pools	-	
26i	of which: undercapitalisation of a non-consolidated subsidiary	-	
26j	of which: other national specific regulatory adjustments not reported in rows 26a to 26i	(525)	
27	Regulatory adjustments applied to Common Equity Tier 1 due to insufficient Additional Tier 1 and Tier 2 to cover deductions	-	
28	Total regulatory adjustments to CET1 (1)	(20,928)	
29	CET1 (APRA)	48,367	
Additional Tier 1 Capital: instruments			
30	Directly issued qualifying Additional Tier 1 instruments		
31	of which: classified as equity under applicable accounting standards	-	
32	of which: classified as liabilities under applicable accounting standards	9,045	Table E
33	Directly issued capital instruments subject to phase out from Additional Tier 1	143	Table E
34	Additional Tier 1 instruments (and CET1 instruments not included in row 5) issued by subsidiaries and held by third parties (amount allowed in group AT1)	-	
35	of which: instruments issued by subsidiaries subject to phase out	-	Table E
36	Additional Tier 1 Capital before regulatory adjustments	9,188	Table E
Additional Tier 1 Capital: regulatory adjustments			
37	Investments in own Additional Tier 1 instruments	-	
38	Reciprocal cross-holdings in Additional Tier 1 instruments	-	
39	Investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation, net of eligible short positions, where the ADI does not own more than 10% of the issued share capital (amount above 10% threshold)	-	
40	Significant investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation (net of eligible short positions)	(200)	
41	National specific regulatory adjustments (rows 41a, 41b, 41c)	-	
41a	of which: holdings of capital instruments in group members by other group members on behalf of third parties	-	
41b	of which: investments in the capital of financial institutions that are outside the scope of regulatory consolidations not reported in rows 39 and 40	-	
41c	of which: other national specific regulatory adjustments not reported in rows 41a and 41b	-	
42	Regulatory adjustments applied to Additional Tier 1 due to insufficient Tier 2 to cover deductions	-	
43	Total regulatory adjustments to Additional Tier 1 Capital	(200)	
44	Additional Tier 1 Capital (AT1)	8,988	
45	Tier 1 Capital (T1=CET1+AT1)	57,355	
Tier 2 Capital: instruments and provisions			
46	Directly issued qualifying Tier 2 instruments	11,368	Table F
47	Directly issued capital instruments subject to phase out from Tier 2	613	Table F
48	Tier 2 instruments (and CET1 and AT1 instruments not included in rows 5 or 34) issued by subsidiaries and held by third parties (amount allowed in group Tier 2)	-	
49	of which: instruments issued by subsidiaries subject to phase out	-	
50	Provisions	799	
51	Tier 2 Capital before regulatory adjustments	12,780	

(1) Total regulatory adjustments to CET1 of $20,928 million in row 28 is net of APRA's allowance for treasury shares held by the Group's eligible employee share scheme trusts of $108 million as detailed in row 26a.

13.1 Detailed Capital Disclosures Template (APS 330 Attachment A) (continued)

		30 Jun 19 Basel III $M	Reconciliation Table Reference
Tier 2 Capital: regulatory adjustments			
52	Investments in own Tier 2 instruments	(15)	
53	Reciprocal cross-holdings in Tier 2 instruments	-	
54	Investments in the Tier 2 Capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation, net of eligible short positions, where the ADI does not own more than 10% of the issued share capital (amount above 10% threshold)	(15)	
55	Significant investments in the Tier 2 Capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation, net of eligible short positions	-	
56	National specific regulatory adjustments (rows 56a, 56b, 56c)		
56a	of which: holdings of capital instruments in group members by other group members on behalf of third parties	-	
56b	of which: investments in the capital of financial institutions that are outside the scope of regulatory consolidation not reported in rows 54 and 55	-	
56c	of which: other national specific regulatory adjustments not reported in rows 56a and 56b	-	
57	Total regulatory adjustments to Tier 2 Capital	(30)	
58	Tier 2 Capital (T2)	12,750	
59	Total Capital (TC=T1+T2)	70,105	
60	Total risk weighted assets based on APRA standards	452,762	
Capital ratios and buffers			
61	Common Equity Tier 1 (as a percentage of risk weighted assets)	10.7%	
62	Tier 1 (as a percentage of risk weighted assets)	12.7%	
63	Total Capital (as a percentage of risk weighted assets)	15.5%	
64	Buffer requirement (minimum CET1 requirement of 4.5% plus capital conservation buffer of 2.5% plus any countercyclical buffer requirements, expressed as a percentage of risk weighted assets)	8.0%	
65	of which: capital conservation buffer requirement	3.5%	
66	of which: ADI-specific countercyclical buffer requirements	-	Table H
67	of which: G-SIB buffer requirement (not applicable)	n/a	
68	Common Equity Tier 1 available to meet buffers (as a percentage of risk weighted assets)	10.7%	
National minima			
69	National Common Equity Tier 1 minimum ratio	-	
70	National Tier 1 minimum ratio	-	
71	National Total Capital minimum ratio	-	
Amount below thresholds for deductions (not risk weighted)			
72	Non-significant investments in the capital of other financial entities	33	Table G
73	Significant investments in the ordinary shares of financial entities	5,819	Table G
74	Mortgage servicing rights (net of related tax liability)	-	
75	Deferred tax assets arising from temporary differences (net of related tax liability)	2,581	Table D
Applicable caps on the inclusion of provisions in Tier 2			
76	Provisions eligible for inclusion in Tier 2 in respect of exposures subject to standardised approach (prior to application of cap)	272	
77	Cap on inclusion of provisions in Tier 2 under standardised approach	352	
78	Provisions eligible for inclusion in Tier 2 in respect of exposures subject to internal ratings-based approach (prior to application of cap)	527	
79	Cap for inclusion of provisions in Tier 2 under internal ratings-based approach	2,067	
Capital instruments subject to phase-out arrangements (only applicable between 1 Jan 2018 and 1 Jan 2022)			
80	Current cap on CET1 instruments subject to phase out arrangements	-	
81	Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities)	-	
82	Current cap on AT1 instruments subject to phase out arrangements	1,574	
83	Amount excluded from AT1 instruments due to cap (excess over cap after redemptions and maturities)	-	Table E
84	Current cap on Tier 2 instruments subject to phase out arrangements	967	
85	Amount excluded from Tier 2 due to cap (excess over cap after redemptions and maturities)	-	Table F

13.2 Detailed Leverage Disclosures Template (APS 330 Attachment E)

APS 330 Table 19 – Summary comparison of accounting assets vs leverage ratio exposure measure

		30 Jun 19 Basel III APRA $M
1	Total consolidated assets as per published financial statements	976,502
2	Adjustment for investments in banking, financial, insurance or commercial entities that are consolidated for accounting purposes but outside the scope of regulatory consolidation	(18,064)
3	Adjustment for assets held on the Balance Sheet in a fiduciary capacity pursuant to the Australian Accounting Standards but excluded from the leverage ratio exposure measure	-
4	Adjustments for derivative financial instruments	4,317
5	Adjustment for SFTs (i.e. repos and similar secured lending)	304
6	Adjustment for Off Balance Sheet exposures (i.e. conversion to credit equivalent amounts of Off Balance Sheet exposures)	81,124
7	Other adjustments	(21,002)
8	**Leverage ratio exposure**	**1,023,181**

APS 330 Table 18 – Leverage ratio disclosure template

		30 Jun 19 Basel III APRA $M
On Balance Sheet exposures		
1	On Balance Sheet items (excluding derivatives and securities financing transactions (SFTs), but including collateral)	917,841
2	Asset amounts deducted in determining Tier 1 capital	(21,002)
3	**Total On Balance Sheet exposures (excluding derivatives and SFTs)**	**896,839**
Derivative exposures		
4	Replacement cost associated with all derivatives transactions (i.e. net of eligible cash variation margin)	11,203
5	Add-on amounts for potential future credit exposure (PFCE) associated with all derivatives transactions	16,498
6	Gross-up for derivatives collateral provided where deducted from the Balance Sheet assets pursuant to the Australian Accounting Standards	-
7	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	-
8	(Exempted central counterparty (CCP) leg of client-cleared trade exposures)	-
9	Adjusted effective notional amount of written credit derivatives	1,947
10	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	(116)
11	**Total derivative exposures**	**29,532**
SFT exposures		
12	Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions	15,382
13	(Netted amounts of cash payables and cash receivables of gross SFT assets)	-
14	CCR exposure for SFT assets	304
15	Agent transaction exposures	-
16	**Total SFT exposures**	**15,686**
Other Off Balance Sheet exposures		
17	Off Balance Sheet exposure at gross notional amount	175,816
18	(Adjustments for conversion to credit equivalent amounts)	(94,692)
19	**Other Off Balance Sheet exposures**	**81,124**
Capital and total exposures		
20	Tier 1 Capital	57,355
21	Total exposures	1,023,181
Leverage ratio		
22	Leverage ratio (%)	5.6

13.3 Regulatory Balance Sheet

The following table provides details on the Commonwealth Bank of Australia Group's Balance Sheet and the Level 2 Regulatory Balance Sheet as at 30 June 2019.

	Group Balance Sheet $M	Adjustment [1] $M	Level 2 Regulatory Balance Sheet $M	Template/ Reconciliation Table Reference
Assets				
Cash and liquid assets	29,387	(6)	29,381	
Receivables due from other financial institutions	8,093	-	8,093	
Assets at fair value through Income Statement:				
Trading	32,506	-	32,506	
Other	1,171	(518)	653	
Derivative assets	25,215	-	25,215	
Investment securities:				Table G
At amortised cost	7,355	-	7,355	
At fair value through Other Comprehensive Income	78,912	-	78,912	
Loans, bills discounted and other receivables	755,141	(4,738)	750,403	
Bank acceptances of customers	32	-	32	
Investment in regulatory non-consolidated subsidiaries	-	2,906	2,906	Table G
Property, plant and equipment	2,383	-	2,383	
Investment in associates and joint ventures	3,001	(7)	2,994	Table G
Intangible assets	7,965	1,795	9,760	Table C
Deferred tax assets	1,675	17	1,692	Table D
Other assets	7,115	(1,091)	6,024	
Assets held for sale	16,551	(16,422)	129	Table G
Total assets	976,502	(18,064)	958,438	
Liabilities				
Deposits and other public borrowings	636,040	3,472	639,512	
Payables due to other financial institutions	23,370	-	23,370	
Liabilities at fair value through Income Statement	8,520	-	8,520	
Derivative liabilities	22,777	89	22,866	
Bank acceptances	32	-	32	
Current tax liabilities	326	(110)	216	
Other provisions	2,751	(284)	2,467	
Debt issues	163,990	(4,792)	159,198	
Bills payable and other liabilities	10,285	(425)	9,860	
Loan capital	22,966	-	22,966	Table E
Liabilities held for sale	15,796	(15,663)	133	
Total liabilities	906,853	(17,713)	889,140	
Net assets	69,649	(351)	69,298	
Shareholders' Equity				
Share capital:				
Ordinary share capital	38,020	86	38,106	Row 1, Table A
Reserves	3,092	52	3,144	Row 3
Retained profits	28,482	(437)	28,045	Row 2
Shareholders' Equity attributable to Equity holders of the Bank	69,594	(299)	69,295	
Non-controlling interests	55	(52)	3	Table B
Total Shareholders' Equity	69,649	(351)	69,298	

(1) Reflects the deconsolidation of the insurance and funds management entities and those entities through which securitisation of the Group's assets are conducted. These entities are classified as non-consolidated subsidiaries by APRA and are excluded from the Level 2 Regulatory Consolidated Banking Group.

13.4 Reconciliation between Detailed Capital Template and Regulatory Balance Sheet

The following tables provide additional information on the differences between the detailed capital disclosures template (section 13.1) and the Regulatory Balance Sheet (section 13.3).

Table A	30 Jun 19 $M	Template Reference
Share Capital		
Ordinary Share Capital	38,020	
Add Treasury Shares held by the Group's life insurance operations	86	
Total per Balance Sheet (Ordinary Share Capital Internationally Comparable) [1]	38,106	Row 1
Treasury Shares held by the Group's employee share scheme trusts (APRA specific adjustment)	108	Row 26a
Total Ordinary Share Capital and Treasury Shares (APRA)	38,214	

Table B	30 Jun 19 $M	Template Reference
Non-Controlling Interests		
Total per Balance Sheet [1]	3	
Less ASB perpetual shares transferred to Additional Tier 1 Capital (refer Table E)	-	
Less other non controlling interests not included in capital	(3)	
Total per Capital Template (APRA and Internationally Comparable)	-	Row 5

Table C	30 Jun 19 $M	Template Reference
Goodwill & Other Intangibles		
Total per Balance Sheet [1]	9,760	
Less capitalised software and other intangibles separately disclosed in template	(2,080)	
Total per Capital Template - Goodwill (APRA and Internationally Comparable)	7,680	Row 8
Other intangibles (including capitalised software) per Balance Sheet	2,080	
Less DTL associated with other intangibles	(67)	
Total per Capital Template - Other Intangibles (APRA and Internationally Comparable)	2,013	Row 9

Table D	30 Jun 19 $M	Template Reference
Deferred Tax Assets		
Deferred tax assets per Balance Sheet [1]	1,692	
Less deferred tax liabilities per Balance Sheet [1]	-	
Net Deferred Tax Assets [2]	1,692	
Adjustments required in accordance with APRA prudential standards [3]	889	
Deferred tax asset adjustment before applying prescribed thresholds (APRA specific adjustment)	2,581	Row 26e
Less amounts below prescribed threshold - risk weighted [4]	(2,581)	Row 75
Total per Capital Template (Internationally Comparable)	-	Row 10, 21, 25

(1) Represents the balance per Level 2 Regulatory Balance Sheet.
(2) Represents the balance of deferred tax assets net of deferred tax liabilities per Level 2 Regulatory Balance Sheet.
(3) Represents the deferred tax balances associated with reserves ineligible for inclusion in regulatory capital, the general reserve for credit losses, intangibles, and the impact of limitations of netting of balances within the same geographic tax authority.
(4) The BCBS allows these items to be risk weighted at 250% if the balance falls below prescribed threshold levels. APRA require these to be deducted from CET1 Capital.

13.4 Reconciliation between Detailed Capital Template and Regulatory Balance Sheet (continued)

Table E	30 Jun 19 $M	Template Reference
Additional Tier 1 Capital		
Total Loan Capital per Balance Sheet [1]	22,966	
Less fair value hedge adjustments [2]	(519)	
Total Loan Capital net of issue costs at their contractual values	22,447	
Less amount related to Tier 2 Capital Instruments	(13,314)	
Total Tier 1 Loan Capital	9,133	
Add ASB perpetual shares transferred from Non-Controlling interest (refer Table B)	-	
Add issue costs [3]	55	
Less Basel III transitional relief amortisation for directly issued instruments [4]	-	Row 83
Less Basel III transitional relief amortisation for instruments issued by subsidiaries [4]	-	Row 83
Total per Capital Template (APRA)	9,188	Row 36
Additional Tier 1 Capital Instruments comprises		
Basel III Complying Instruments		
PERLS VII	3,000	
PERLS VIII	1,450	
PERLS IX	1,640	
PERLS X	1,365	
PERLS XI	1,590	
	9,045	Row 32
Basel III Non-Complying Instruments		
Other Instruments	143	
Less Basel III transitional relief amortisation for directly issued instruments [4]	-	Row 83
	143	Row 33
Basel III Non Complying Instruments - issued by subsidiaries		
ASB preference shares	-	
Less Basel III transitional relief amortisation for instruments issued by subsidiaries [4]	-	Row 33
	-	Row 35
Total Basel III Non Complying Instruments	143	
Total Additional Tier 1 Capital Instruments (APRA)	9,188	Row 36

Table F	30 Jun 19 $M	Template Reference
Tier 2 Capital Instruments		
Total included in Balance Sheet	13,314	
Less amount of Tier 2 debt issued by subsidiary ineligible for inclusion in the Group's Capital [5]	(67)	
Add issue costs [3]	34	
Less amortisation of instruments [6]	(1,300)	
Less Basel III transitional relief amortisation for directly issued instruments [4]	-	Row 85
Total per Capital Template (APRA and Internationally Comparable)	11,981	Row 46, 47

(1) Represents the balance per Level 2 Regulatory Balance Sheet.
(2) For regulatory capital purposes, APRA requires these instruments to be included as if they were unhedged.
(3) Unamortised issue costs relating to capital instruments are netted off against each instrument in the Balance Sheet. For regulatory capital purposes, these capital instruments are shown at face value. The unamortised issue costs are deducted from CET1 as part of capitalised expenses in Row 26f in the Capital template.
(4) Basel III transitional arrangements apply to directly issued capital instruments and instruments issued by subsidiaries not compliant with the new Basel III requirements.
(5) Represents notes issued by the Group through ASB, its New Zealand subsidiary. The amount of these notes that contributes to ASB capital in excess of its minimum regulatory requirements is not eligible for inclusion in the Group's capital.
(6) APRA requires these instruments to be amortised by 20% of the original amount during each of the last five years to maturity. This is in addition to Basel III transitional arrangements.

Details on the main features of Capital instruments included in the Group's Regulatory Capital, (Ordinary Share Capital, Additional Tier 1 Capital and Tier 2 Capital) as required by APS 330 Attachment B can be found at www.commbank.com.au/about-us/investors/regulatory-disclosure

13.4 Reconciliation between Detailed Capital Template and Regulatory Balance Sheet (continued)

Table G	30 Jun 19 $M	Template Reference
Equity Investments		
Investment in commercial entities	142	Row 26g
Investments in significant financial entities	2,913	Row 26d, 73
Investments in non-significant financial entities	33	Row 26d, 72
	3,088	
Equity investment in non-consolidated subsidiaries	2,906	Row 26d, 73
Total Equity Investments before applying prescribed thresholds APRA specific adjustment (1)	5,994	
Less amounts risk weighted under Internationally Comparable (2)	(5,994)	
Total per Capital Template (Internationally Comparable)	-	Row 18, 19, 23

(1) Equity Investments are classified in the Level 2 Regulatory Balance Sheet across Investments in Associates, Assets held for Sale, Investment Securities and Investment in non-consolidated subsidiaries. In addition, the Group has undrawn commitments (Off-Balance Sheet) which are deemed in the nature of equity for Regulatory Capital purposes.
(2) The aggregate of investments in significant financial entities of $2,913 million, investments in non-significant financial entities of $33 million and equity investment in non-consolidated subsidiaries of $2,906 million is a total of $5,852 million and is included in row 26d in the Capital template. The BCBS allows for equity investments to be concessionally risk weighted provided they are below prescribed thresholds. APRA requires such items to be deducted 100% from CET1 capital. The remaining balance of $142 million related to Investments in commercial entities are risk weighted under Internationally Comparable methodology, with no prescribed threshold limits.

Countercyclical Capital Buffer

The countercyclical capital buffer (CCyB), which is effective for Australian ADI's from 1 January 2016, represents an extension to the capital conservation buffer and may require an ADI to hold additional CET1 of up to 2.5%. The CCyB is calculated as the sum of the specific buffer set by APRA with respect to Australian private sector exposures and the weighted average for offshore private sector exposures where the CCyB has been enacted.

Table H

Country (1)	RWA (2) $M	Jurisdictional Buffer %	ADI Specific Buffer (3) %	Template Reference
United Kingdom	5,486	1.000%	0.015%	
Hong Kong	531	2.500%	0.004%	
Norway	725	2.000%	0.004%	
Sweden	3	2.000%	0.000%	
Others	352,017	0.000%	0.000%	
Total	**358,762**		**0.023%**	**Row 66**

(1) Represents country of ultimate risk as at 30 June 2019.
(2) Represents total private sector (excludes Banks and Sovereigns) credit and specific market risk RWA.
(3) Calculated as each country share of total private sector credit and specific market RWA multiplied by the CCyB applicable in each country.

13.5 Entities excluded from Level 2 Regulatory Consolidated Group

The legal entities included within the accounting scope of consolidation, but excluded from the Level 2 Regulatory Consolidated Group are detailed below.

The total assets and liabilities should not be aggregated as some of the entities listed are holding companies for other entities included in the table below.

Entity name	Total Assets $M	Total Liabilities $M
(a) Securitisation		
Medallion Trust Series 2017-1	1,548	1,549
Medallion Trust Series 2017-2	1,916	1,918
Medallion Trust Series 2018-1	1,639	1,638
Swan Trust Series 2010-1	62	62

Entity name	Total Assets $M	Total Liabilities $M
(b) Insurance and Funds Management		
Avanteos Investments Limited	84	28
Avanteos Pty Ltd	-	-
CFSPAI Europe Co Limited	1	-
CFSPAI Europe Holdco Limited	-	-
CISL (NO. 1) Pty Limited	-	-
CFSGAM Services Pty Limited	149	93
Colonial (UK) Trustees Limited	-	-
Colonial First State Asset Management (Australia) Limited	96	41
Colonial First State Investments Limited	674	293
Colonial First State Infrastructure Holdings Limited	220	17
Colonial First State Infrastructure Managers (Australia) Pty Limited	2	2
Colonial First State Managed Infrastructure Limited	26	12
Colonial Mutual Superannuation Pty Ltd	10	-
Colonial Services Pty Limited	-	-
Commonwealth Custodial Services Pty Ltd	-	-
Commonwealth Insurance Limited	996	735
EDIF II GP Sarl	9	8
Emerald Holding Company Pty Limited	-	-
First Gas Consolidated Group	2,053	1,629
First State European Diversified Infrastructure Sarl	1	1
First State Infrastructure Managers (International) Limited	3	3
First State Investments Fund Management Sarl	13	12
First State Investment Management (UK) Limited	180	115
First State Investment Services (UK) Limited	322	271
First State Investments (Hong Kong) Limited	199	122
First State Investments (Japan) Limited	1	-
First State Investments (Ireland) Limited	4	-
First State Investments (Singapore)	108	58
First State Investments (UK) Limited	298	277
First State Investments (US) LLC	14	11
First State Investments GIP Management Sarl	1	-
First State Investments International Inc	-	-
First State Investments International Limited	47	12
First State Nominees (Hong Kong) Limited	-	-
Jacques Martin Administration and Consulting Pty Ltd	3	1
Premium Alternative Investments Pty Limited	-	-
Premium Plantations Pty Limited	-	-
Premium Plantations Services Pty Ltd	-	-
PT Commonwealth Life	797	558
PT First State Investments Indonesia	5	3
Realindex Investments Pty Limited	16	7
St Andrew's Australia Pty Ltd	-	-
The Colonial Mutual Life Assurance Society Limited	12,395	10,631
Total Keen Investment Limited	1	-
Water Utilities Group	91	9

13.6 List of APRA APS 330 Tables

The following schedule lists the quantitative tables in this document as referenced in APRA Prudential Standard APS 330 "Capital Adequacy: Public Disclosure" paragraphs 12, 47 and Attachments A to H.

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(1) Details can be found at www.commbank.com.au/about-us/investors/regulatory-disclosure.

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(1) Details can be found at www.commbank.com.au/about-us/investors/regulatory-disclosure.

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13.8 Glossary

Term	Definition
Additional Tier 1 Capital (AT1)	Additional Tier 1 Capital is a Basel III defined concept and consists of high quality capital that essentially includes providing a permanent and unrestricted commitment of funds, is freely available to absorb losses, ranks behind the claims of depositors and other more senior creditors in the event of a wind-up, and provides for fully discretionary capital distributions.
Advanced Internal Ratings Based (AIRB) Approach	Used to measure credit risk in accordance with the Group's Basel III accreditation that allows the Group to use internal estimates of PD, LGD and EAD for the purposes of calculating regulatory capital.
Advanced Measurement Approach (AMA)	Used to measure operational risk in accordance with the Group's Basel III accreditation that allows the Group to use its own internal model for the purposes of calculating regulatory capital.
ALCO	CBA's Asset and Liability Committee
ASB	ASB Bank Limited – a subsidiary of the Commonwealth Bank of Australia that is directly regulated by the Reserve Bank of New Zealand.
Australian Accounting Standards	The Australian Accounting Standards as issued by the Australian Accounting Standards Board (AASB).
Australian Prudential Regulation Authority (APRA)	The regulator of banks, insurance companies and superannuation funds, credit unions, building societies and friendly societies in Australia.
Authorised Deposit-taking Institution (ADI)	Includes banks, building societies and credit unions which are authorised by APRA to take deposits from customers.
ADI Prudential Standards (APS)	APRA's ADI Prudential Standards. For more information, refer to the APRA website.
Bank	Basel asset class – includes claims on ADIs and overseas banks.
Basel II	Refers to the Basel Committee on Banking Supervision's Revised Framework for International Convergence of Capital Measurement and Capital Standards issued in June 2006 and as subsequently amended.
Basel 2.5	Refers to the Basel II framework revised (2009) to include additional requirements such as the Incremental Risk Charge (IRC), Stressed VaR (SVaR), the treatment of securitisation exposure and the Comprehensive Risk Measure (CRM) for certain correlation trading activities.
Basel III	Refers to the Basel Committee on Banking Supervision's framework for more resilient banks and banking systems issued December 2010 (revised June 2011) and Capital requirements for bank exposures to central counterparties (July 2012).
CBA	Commonwealth Bank of Australia – the head entity of the Group.
Central Counterparty (CCP)	A clearing house that interposes itself between counterparties to contracts traded in one or more financial markets, thereby ensuring the future performance of open contracts.
Collective Provision	All loans and receivables that do not have an individually assessed provision are assessed collectively for impairment. The collective provision is maintained to reduce the carrying value of the portfolio of loans to their estimated recoverable amounts. These provisions are reported in the Group's Financial Statements in accordance with Australian Accounting Standards (AASB 9 Financial Instruments) which was adopted by the Group on 1 July 2018.
Committed Liquidity Facility (CLF)	The Reserve Bank of Australia (RBA) provides the CLF to participating ADIs under the LCR, as a shortfall in Commonwealth government and semi-government securities exists in Australia. ADIs can draw under the CLF in a liquidity crisis against qualifying securities pledged to the RBA. The amount of the CLF for each ADI is set by APRA annually.
Common Equity Tier 1 (CET1) Capital	The highest quality of capital available to the Group reflecting the permanent and unrestricted commitment of funds that are freely available to absorb losses. It comprises ordinary share capital, retained earnings and reserves less prescribed deductions.

13.8 Glossary (continued)

Term	Definition
Corporate	Basel asset class - includes commercial credit risk where annual revenues exceed $50 million.
Countercyclical capital buffer (CCyB)	An extension of the capital conservation buffer that can be imposed by the national authority to protect the banking sector from periods of excess credit growth that have often been associated with the build-up of system-wide risk.
Counterparty Credit Risk (CCR)	The risk that the counterparty to a transaction could default before the final settlement of the transaction's cash flows
Credit Valuation Adjustment (CVA) Risk	The risk of mark-to-market losses related to deterioration in the credit quality of a derivative counterparty.
Exposure at Default (EAD)	The extent to which a bank may be exposed upon default of an obligor.
Extended Licenced Entity (ELE)	APRA may deem an entity of an ADI to be part of the ADI itself for the purposes of measuring the ADI's exposures to related entities.
External Credit Assessment Institution (ECAI)	For example: Moody's Investor Services, S&P Global Ratings or Fitch Ratings.
General Reserve for Credit Losses (GRCL)	APS 220 "Credit Quality" (APS 220) requires the Group to establish a reserve that covers credit losses prudently estimated, but not certain to arise, over the full life of all individual facilities making up the business of the ADI. Most of the Group's collective provisions are included in the GRCL. An excess of required GRCL over the Group's collective provisions is recognised as a deduction from CET1.
Group	Commonwealth Bank of Australia and its subsidiaries
Impaired Assets	Facilities are classified as impaired where there is doubt as to whether the full amounts due, including interest and other payments due, will be achieved in a timely manner.
Individual provisions	Provisions made against individual facilities in the credit-rated managed segment where there is objective evidence of impairment and full recovery of principal and interest is considered doubtful. These provisions are as reported in the Group's Financial Statements in accordance with the Australian Accounting Standards (AASB 9 Financial Instruments). Also known as individually assessed provisions or IAP.
Interest Rate Risk in the Banking Book (IRRBB)	Interest Rate Risk in the Banking Book (IRRBB) is the risk that the Bank's profit derived from Net Interest Income (interest earned less interest paid), in current and future periods, is adversely impacted from changes in interest rates. This is measured from two perspectives: firstly by quantifying the change in the net present value of the Balance Sheet's future earnings potential, and secondly as the anticipated change to the Net Interest Income earned over 12 months. This calculation is driven by APRA regulations with further detail outlined in the Bank's Basel III Pillar 3 report.
Level 1	The Parent Bank (Commonwealth Bank of Australia) and offshore branches (the Bank) and APRA approved Extended Licensed Entities (ELE).
Level 2	The Consolidated Banking Group excluding the insurance and funds management businesses and the entities through which securitisation of Group assets is conducted.
Level 3	The conglomerate group including the Group's insurance and funds management businesses (the Group).
Leverage Ratio	Tier 1 Capital divided by Total Exposures, with this ratio expressed as a percentage.
Liquidity Coverage Ratio (LCR)	The LCR is a quantitative liquidity measure that is part of the Basel III reforms. It was implemented by APRA in Australia on 1 January 2015. It requires Australian ADIs to hold sufficient liquid assets to meet 30 day net cash outflows projected under an APRA-prescribed stress scenario.
Loss Given Default (LGD)	The fraction of EAD that is not expected to be recovered following default.
Net Cash Outflows	Net cash outflows in the LCR are calculated by applying prescribed run-off factors on liabilities and various Off Balance Sheet exposures that can generate a cash outflow in the next 30 days.

13.8 Glossary (continued)

Term	Definition
Net Stable Funding Ratio (NSFR)	The NSFR more closely aligns the behaviour term of assets and liabilities. It is the ratio of the amount of available stable funding (ASF) to the amount of required stable funding (RSF). ASF is the portion of an Authorised Deposit-taking Institution's (ADI) capital and liabilities expected to be a reliable source of funds over a one year time horizon. RSF is a function of the liquidity characteristics and residual maturities of an ADI's assets and off-balance sheet activities.
Other Assets	Basel asset class – primarily includes Cash, Investments in Related Entities, Fixed Assets and Margin Lending.
Other Retail	Basel asset class – primarily includes retail credit exposures not otherwise classed as a residential mortgage, SME retail or a qualifying revolving retail asset.
Past Due	Facilities are past due when a contracted amount, including principal or interest, has not been met when due or it is otherwise outside contracted arrangements.
Probability of Default (PD)	The likelihood that a debtor fails to meet an obligation or contractual commitment.
Prudential Capital Ratio (PCR)	The regulatory minimum CET1, Tier 1 and Total Capital ratios that the Group is required to maintain at all times.
Qualifying Revolving Retail (QRR)	Basel asset class – represents revolving exposures to individuals less than $0.1m, unsecured and unconditionally cancellable by the Group. Only Australian retail credit cards qualify for this AIRB asset class.
RBA	Reserve Bank of Australia.
RBNZ	Reserve Bank of New Zealand.
Residential Mortgage	Basel asset class – retail exposures secured by residential mortgage property.
Risk Weighted Assets (RWA)	The value of the Group's On and Off Balance Sheet assets are adjusted by risk weights calculated according to various APRA prudential standards. For more information, refer to the APRA website.
Scaling Factor	In order to broadly maintain the aggregate level of capital in the global financial system post implementation of Basel II, the Basel Committee on Banking Supervision applies a scaling factor to the risk weighted assets amounts for credit risk under the IRB approach of 1.06.
Securitisation	Basel asset class – Group-originated securitised exposures and the provision of facilities to customers in relation to securitisation activities.
SME Corporate	Basel asset class – Small and Medium Enterprise (SME) commercial credit risk where annual revenues are less than $50 million and exposures are greater than $1 million.
SME Retail	Basel asset class – Small and Medium Enterprise (SME) exposures up to $1 million that are not secured by residential mortgage property.
SME Retail Secured by Residential Mortgage	Basel asset class – Small and Medium Enterprise (SME) exposures up to $1 million that are partly or fully secured by residential mortgage property.
Sovereign	Basel asset class – primarily includes claims on Australian and foreign governments, central banks (including Reserve Bank of Australia), international banking agencies and regional development banks.
Specialised Lending	Basel asset classes subject to the supervisory slotting approach and which include Income Producing Real Estate (IPRE), object finance, project finance and commodity finance.
Specific Provisions	APS 220 "Credit Quality" (APS 220) requires ADIs to report as specific provisions all provisions for impairment assessed by an ADI on an individual basis in accordance with the Australian Accounting Standards and that portion of provisions assessed on a collective basis which are deemed ineligible to be included in the General Reserve for Credit Losses (which are primarily collective provisions on some defaulted assets).

13.8 Glossary (continued)

Term	Definition
Stressed Value-at-Risk (SVaR)	Stressed Value-at-Risk (SVaR) uses the same methodology as Value at Risk (VaR) except that the historical data used is taken from a one year observation period of significant market volatility as seen during the Global Financial Crisis.
Tier 1 Capital	Comprises CET1 and Additional Tier 1 Capital.
Tier 2 Capital	Capital items that fall short of the necessary conditions to qualify as Tier 1 Capital.
Total Exposures (as used in the Leverage Ratio)	The sum of On Balance Sheet items, derivatives, securities financing transactions (SFTs), and Off Balance Sheet items, net of any Tier 1 regulatory deductions that are already included in these items, as outlined in APS 110 “Capital Adequacy” (APS 110) Attachment D.