



# 2019 BASEL III PILLAR 3 DISCLOSURE

AS AT SEPTEMBER 2019

APS 330:  
PUBLIC DISCLOSURE



**Important notice**

This document has been prepared by Australia and New Zealand Banking Group Limited (ANZ) to meet its disclosure obligations under the Australian Prudential Regulation Authority (APRA) ADI Prudential Standard (APS) 330: Public Disclosure.

<b>Version</b>	<b>Date Issued</b>	<b>Brief Outline of Change</b>
1.0	4 <sup>th</sup> November 2019	Version for publication.
1.1	9 <sup>th</sup> October 2024	Values for Level 1 entity Capital Ratios have been adjusted along with inclusion of associated footnotes on page 21.

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<sup>1</sup> Each table reference adopted in this document aligns to those required by APS 330 to be disclosed at half year.

## Chapter 1 - Introduction

### Purpose of this document

This document has been prepared in accordance with the Australian Prudential Regulation Authority (APRA) ADI Prudential Standard (APS) 330: Public Disclosure.

APS 330 mandates the release to the investment community and general public of information relating to capital adequacy and risk management practices. APS 330 was established to implement Pillar 3 of the Basel Committee on Banking Supervision's framework for bank capital adequacy<sup>2</sup>. In simple terms, the Basel framework consists of three mutually reinforcing 'Pillars':

Pillar 1	Pillar 2	Pillar 3
Minimum capital requirement	Supervisory review process	Market discipline
Minimum capital requirements for Credit Risk, Operational Risk, Market Risk and Interest Rate Risk in the Banking Book	Firm-wide risk oversight, Internal Capital Adequacy Assessment Process (ICAAP), consideration of additional risks, capital buffers and targets and risk concentrations, etc.	Regular disclosure to the market of qualitative and quantitative aspects of risk management, capital adequacy and underlying risk metrics

APS 330 requires the publication of various levels of information on a quarterly, semi-annual and annual basis. This document is the annual disclosure.

### Basel in ANZ

In December 2007, ANZ received accreditation for the most advanced approaches permitted under Basel for credit risk and operational risk, complementing its accreditation for market risk. Effective January 2013, ANZ adopted APRA requirements for Basel III with respect to the measurement and monitoring of regulatory capital.

### Verification of disclosures

These Pillar 3 disclosures have been verified in accordance with Board approved policy, including ensuring consistency with information contained in ANZ's Financial Report and in Pillar 1 returns provided to APRA. In addition, ANZ's external auditor has performed an agreed upon procedure review with respect to these disclosures.

### Comparison to ANZ's Financial Reporting

These disclosures have been produced in accordance with regulatory capital adequacy concepts and rules, rather than with accounting policies adopted in ANZ's financial reports. As such, there are different areas of focus and measures in some common areas of disclosures. These differences are most pronounced in the credit risk disclosures, for instance:

- The principal method for measuring the amount at risk is Exposure at Default (EAD), which is the estimated amount of exposure likely to be owed on a credit obligation at the time of default. Under the Advanced Internal Ratings Based (AIRB) approach in APS 113 Capital Adequacy: Internal Ratings-based Approach to Credit Risk, banks are accredited to provide their own estimates of EAD for all exposures (drawn, commitments or contingents) reflecting the current balance as well as the likelihood of additional drawings prior to default.
- Loss Given Default (LGD) is an estimate of the amount of losses expected in the event of default. LGD is essentially calculated as the amount at risk (EAD) less expected net recoveries from realisation of collateral as well as any post default repayments of principal and interest.
- Most credit risk disclosures split ANZ's portfolio into regulatory asset classes, which span different areas of ANZ's internal divisional and business unit organisational structure.

Unless otherwise stated, all amounts are rounded to AUD millions.

<sup>2</sup> Basel Committee on Banking Supervision, International Convergence of Capital Measurement and Capital Standards: A Revised Framework, 2004.

## Chapter 2 – Risk appetite and governance

**Risk types:** ANZ is exposed to a broad range of inter-related business risks.

- **Capital Adequacy risk** is the risk of loss arising from the Group failing to maintain the level of capital required by prudential regulators and other key stakeholders (shareholders, debt investors, depositors, rating agencies, etc.) to support ANZ's consolidated operations and risk appetite.
- **Compliance risk** is the risk of failure to act in accordance with laws, regulations, industry standards and codes, internal policies and procedures and principles of good governance as applicable to ANZ's businesses.
- **Credit risk** is the risk of financial loss resulting from a counterparty failing to fulfil its obligations or a decrease in credit quality of a counterparty resulting in a financial loss. Credit Risk incorporates the risks associated with us lending to customers who could be impacted by climate change or by changes to laws, regulations, or other policies adopted by governments or regulatory authorities, including carbon pricing and climate change adaptation or mitigation policies.
- **Equity risk** is the risk of financial loss arising from the unexpected reduction in value of equity investments not held in the trading book including those of the Group's associates.
- **Insurance risk** is risk of unexpected losses resulting from worse than expected claims experience, including any of the following that expose an insurer to financial loss: inadequate or inappropriate underwriting, claims management, reserving, insurance concentrations, reinsurance management, product design and pricing.
- **Market risk** stems from ANZ's trading and balance sheet activities and is the risk to the Group's earnings arising from changes in any interest rates, foreign exchange rates, credit spreads, volatility, and correlations or from fluctuations in bond, commodity or equity prices.
- **Liquidity and Funding risk** is the risk that the Group is unable to meet its payment obligations as they fall due, including repaying depositors or maturing wholesale debt or the Group having insufficient capacity to fund increases in assets.
- **Operational risk** is risk of loss and/or non-compliance with laws resulting from inadequate or failed internal processes, people and/or systems, or from external events. This definition includes legal risk, and the risk of reputation loss, or damage arising from inadequate or failed internal processes, people and systems, but excludes strategic risk.
- **Reputation risk**<sup>3</sup> is defined as the risk of loss that directly or indirectly impacts earnings, capital adequacy or value, that is caused by adverse perceptions of the Group held by any of customers, the community, shareholders, investors, regulators, or rating agencies, conduct risk associated with the Group's employees or contractors (or both) or the social or environmental (or both) impacts of our lending decisions.
- **Securitisation risk** is the risk of credit related losses greater than expected due to a securitisation failing to operate as anticipated, or of the values and risks accepted or transferred, not emerging as expected.
- **Strategic risk** is the risk that the Group's business strategy and strategic objectives may lead to an increase in other key Material Risks – for example: Credit Risk, Market Risk and Operational Risk.
- **Technology risk** is the risk of loss and/or non-compliance with laws resulting from inadequate or failed internal processes, people and systems or from external events impacting on IT assets, including the compromise of an IT asset's confidentiality, integrity or availability.

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<sup>3</sup> Regulatory Capital is calculated in accordance with the definition of Operational Risk outlined in APS 115 Capital Adequacy: Advanced Measurement Approaches to Operational Risk, and therefore excludes reputation risk considerations.

### Risk Appetite Framework

ANZ's Board is ultimately responsible for ANZ's risk management framework, which includes the Group Risk Appetite Statement (RAS). The Group RAS is the document which clearly and concisely sets out the Board's expectations regarding the degree of risk that ANZ is prepared to accept in pursuit of its strategic objectives and business plan.

The articulation of risk appetite and risk tolerances is central to the risk appetite statement. ANZ's Group RAS conveys the following:

- The degree of risk (risk appetite) that ANZ is prepared to accept in pursuit of its strategy, objectives and business plans with consideration of its shareholders' and customers' best interests.
- For each material risk, ANZ has set the maximum level of risk (risk tolerance) that it is willing to operate within, expressed as a risk limit and based on its risk appetite, risk profile and capital strength. Risk tolerances translate risk appetite into operational limits for the day-to-day management of material risks, where possible.
- The process for ensuring that risk tolerances are set at an appropriate level, based on an estimate of the impact in the event that a risk tolerance is breached, and the likelihood that each material risk is realised.
- The process for monitoring compliance with each risk tolerance and for taking appropriate action in the event that it is breached; and
- The timing and process for review of the risk appetite and risk tolerances.

### Risk management governance

The Board is principally responsible for overseeing the establishment by Management of a sound risk management culture with an operational structure and the necessary resources to facilitate effective risk management throughout ANZ, and which in turn supports the ability of ANZ to operate consistently within its risk appetite and approves the risk appetite within which management is expected to operate and including ANZ's risk appetite statement and risk management strategy. The Committees and their purpose are:

#### Risk Committee

The purpose of the Risk Committee is to assist the Board of Directors in the effective discharge of its responsibilities for business, market, credit, equity and other investment, financial, operational, liquidity and reputational risk management and for the management of the Group's compliance obligations. The Risk Committee also assists the Board by providing an objective non-executive oversight of the implementation by management of ANZ's risk management framework and its related operation and by enabling an institution-wide view of ANZ's current and future risk position relative to its risk appetite and capital strength. The Committee meets at least four times annually.

#### Audit Committee

Assists the Board of Directors in reviewing: financial reporting principles and policies, controls and procedures; the effectiveness of ANZ's internal control and risk management framework; the work of Internal Audit which reports directly to the Board Audit Committee; the integrity of ANZ's financial statements and the independent audit thereof and compliance with related legal and regulatory requirements; due diligence procedures; prudential supervision procedures and other regulatory requirements to the extent relating to financial reporting and for reviewing reports from major subsidiary audit committees. It's also responsible for the appointment and evaluation of the external auditor. The committee meets at least four times annually.

#### Digital Business and Technology Committee

The purpose of the Digital Business and Technology Committee is to assist the Board of Directors in the effective discharge of its responsibilities in connection with the oversight of ANZ's information technology, digitalisation and technology-related innovation strategies. The Committee meets at least three times annually.

#### Human Resource Committee

The Committee is responsible for, among other matters, reviewing and making recommendations to the Board with regard to the remuneration of ANZ Board Appointees and ANZ Material Risk Takers, the design of executive remuneration structures and significant incentive plans and the Group's Remuneration Policy. It also approves the appointment and termination of ANZ Board Appointees (excluding the CEO, CRO and GGM-IA<sup>4</sup>), reviews senior executive succession plans and monitors the effectiveness of ANZ's culture, employee engagement and diversity and inclusion programs. The Committee meets at least four times annually.

#### Ethics, Environment, Social and Governance Committee

Amongst other matters, the Committee reviews the development of and approves all other corporate governance policies and principles applicable to ANZ and seeks to ensure an appropriate Board and Committee structure is in place. It seeks to ensure there is a robust and effective process for evaluating the performance of the Board, Board Committee and Non-Executive Directors. It also reviews, monitors and approves ANZ's corporate sustainability objectives and provides advice to management on sustainability issues within ANZ. The Committee meets at least twice annually.

The above Committees are exclusively comprised of Non-Executive directors. Members, including the Chair are appointed by the Board and serve at the discretion of the Board and for such term or terms as the Board determines.

Processes and procedures relating to the operation of each of the board committees are documented in the committee charters and in the Board Committees' Standing Rules.

<sup>4</sup> CRO: Chief Risk Officer; GGM-IA: Group General Manager-Internal Audit

Executive Management Committees are responsible for co-ordination of risk matters for each of the areas of risk management. The Executive Management Committees most relevant to the risks described above and overall capital management at ANZ are as follows:

**Group Asset and Liability Committee (GALCO)**

GALCO is responsible for the oversight and strategic management of the ANZ's balance sheet activities including balance sheet structure, liquidity, funding, capital management, non-traded interest rate risk, and non-traded FX risks and exposures. The Committee meets at least 4 times a year, or more frequently as required.

**Credit and Market Risk Committee (CMRC)**

CMRC is responsible for the oversight and control of credit, market, insurance and material financial risks across the ANZ Group. The Committee meets monthly, with additional meetings as required.

**Operational Risk Executive Committee (OREC)**

OREC is responsible for oversight of and monitoring Operational and Compliance Risk and the related Control Environment, setting policies and frameworks for the implementation across ANZ. The committee meets at least six times per year, with additional meetings as required.

**Ethics and Responsible Business Committee (ERBC)**

ERBC is a leadership and decision making body that exists to advance ANZ's purpose, namely to shape a world where people and communities thrive. The Committee meets at least 4 times a year, or more frequently as required.

**Credit Ratings System Oversight Committee (CRSOC)**

CRSOC is a sub-committee of CMRC responsible for the oversight and control of the Internal Ratings System for credit risk including credit model approvals and performance monitoring. The Committee meets at least 4 times a year, or more frequently as required.

**Capital and Stress Testing Oversight Committee (CSTOC)**

CSTOC is responsible for the oversight and control of the Group's stress testing framework, modelling and processes, economic profit methodology and framework, capital allocation framework and other capital management (apart from Group ICAAP) and portfolio measurement related recommendations. The Committee meets a minimum of three times per year, with additional meetings at the discretion of the Chair. CSTOC is a sub-committee of GALCO.

Processes and procedures relating to the operation of each of the Executive Management Committees are documented in the committee charters.

# Chapter 3 – Capital reporting and measurement

## Capital reporting and measurement

To ensure that an Authorised Deposit-taking Institution (ADI) is adequately capitalised on both a standalone and group basis, APRA adopts a tiered approach to the measurement of an ADI’s capital adequacy by assessing the ADI’s financial strength at three levels:

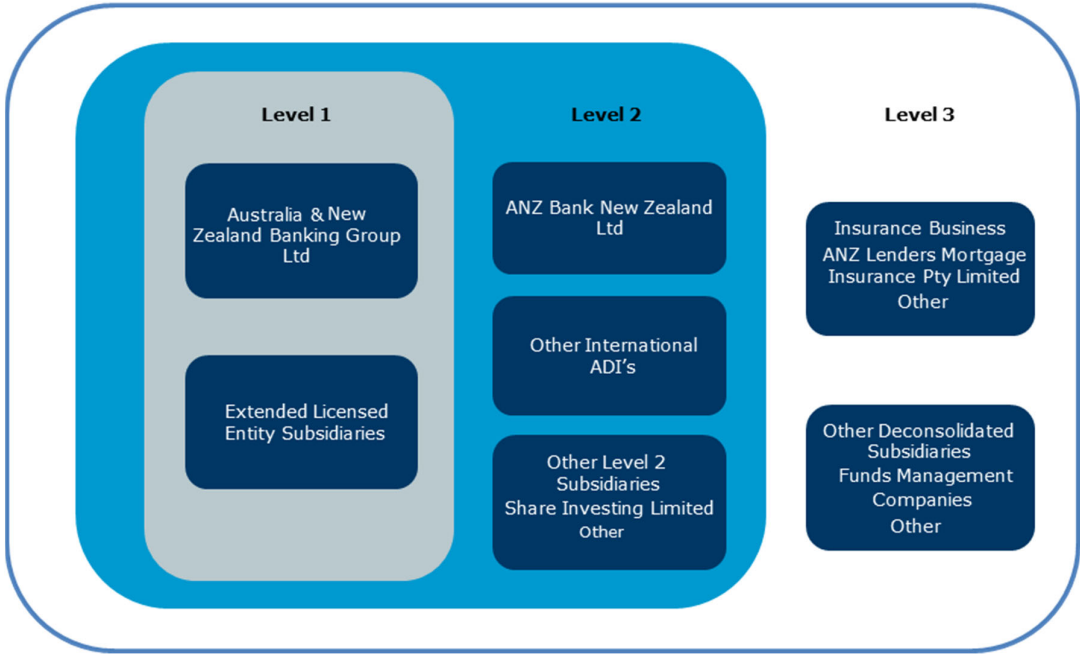
- Level 1 - being the ADI i.e. Australia and New Zealand Banking Group Limited, consolidated with APRA approved subsidiaries, to form the ADI’s Extended Licensed Entity (ELE).
- Level 2 - being the consolidated group for financial reporting purposes adjusted to exclude associates activities and certain subsidiaries referenced under APS 001: Definitions that undertake the following business activities:
  - Insurance businesses (including friendly societies and health funds).
  - Acting as manager, responsible entity, approved trustee, trustee or similar role in relation to funds management.
  - Non-financial (commercial) operations.
  - Securitisation special purpose vehicles to which assets have been transferred in accordance with APRA’s requirements as set out in APS 120: Securitisation.
- Level 3 – the consolidated group for financial reporting purposes.

APRA is extending its prudential supervision framework to Conglomerate Groups via the Level 3 framework which will regulate a bancassurance group such as ANZ as a single economic entity with minimum capital requirements and additional monitoring of risk exposure levels.

In August 2016, APRA confirmed the deferral of capital requirements for Conglomerate Groups to allow for the final capital requirements arising from FSI recommendations and from international initiatives to be determined.

The non-capital components of the Level 3 framework relating to group governance, risk exposures, intragroup transactions and other risk management and compliance requirements came into effect on 1 July 2017. These have had no material impact on the Group’s capital position

This Pillar 3 report is based on the Level 2 prudential structure.



Refer to Note 25 Controlled Entities of ANZ’s 2019 Annual Report for a list of all material subsidiaries and a brief description of their key activities.



## Chapter 4 – Capital and Capital Adequacy

### Table 1 Capital Disclosure template

The head of the Level 2 Group to which this prudential standard applies is Australia and New Zealand Banking Group Limited.

Table 1 of this chapter consists of a Capital Disclosure template that assists users in understanding the differences between the application of the Basel III reforms in Australia and those rules as detailed in the document Basel III: A global regulatory framework for more resilient banks and banking systems, issued by the Bank for International Settlements.

The information in the lines of the template has been mapped to ANZ's Level 2 balance sheet, which adjusts for non-consolidated subsidiaries as required under APS 001: Definitions. Where this information cannot be mapped on a one to one basis, it is provided in an explanatory table. ANZ's material non-consolidated subsidiaries are also listed in this chapter.

#### Restrictions on Transfers of Capital within ANZ

ANZ operates branches and locally incorporated subsidiaries in many countries. These operations are capitalised at an appropriate level to cover the risks in the business and to meet local prudential requirements. This level of capitalisation may be enhanced to meet local taxation and operational requirements. Any repatriation of capital from subsidiaries or branches is subject to meeting the requirements of the local prudential regulator and/or the local central bank. Apart from ANZ's operations in New Zealand, local country capital requirements do not impose any material call on ANZ's capital base.

ANZ undertakes banking activities in New Zealand principally through its wholly owned subsidiary, ANZ Bank New Zealand Limited, which is subject to minimum capital requirements as set by the Reserve Bank of New Zealand (RBNZ). The RBNZ adopted the Basel II framework, effective from 1 January 2008 and Basel III reforms from 1 January 2013. ANZ Bank New Zealand Limited has been accredited to use the advanced approach for the calculation of credit risk and standardised approach for operational risk. ANZ Bank New Zealand Limited maintains a buffer above the minimum capital base required by the RBNZ. This capital buffer has been calculated via the ICAAP undertaken for ANZ Bank New Zealand Limited, to ensure ANZ Bank New Zealand Limited is appropriately capitalised under stressed economic scenarios.

**Table 1 Capital disclosure template**

	Sep-19 \$M	Reconciliation Table Reference
<b>Common Equity Tier 1 Capital: instruments and reserves</b>		
1	26,187	Table A
2	32,856	Table B
3	1,759	Table C
4	n/a	
5	3	Table D
6	60,805	
<b>Common Equity Tier 1 capital : regulatory adjustments</b>		
7	-	
8	3,772	Table E
9	1,878	Table F
10	9	Table J
11	730	
12	1	Table G
13	-	
14	7	
15	204	Table H
16	-	
17	-	
18	-	
19	-	
20	-	
21	-	
22	-	
23	-	
24	-	
25	-	
26	6,849	
26a	-	
26b	-	
26c	(108)	
26d	4,353	Table I
26e	1,367	Table J
26f	1,178	Table K
26g	35	Table L
26h	-	
26i	-	
26j	24	
27	-	
28	13,450	
29	47,355	

**Table 1 Capital disclosure template**

	Sep-19 \$M	Reconciliation Table Reference
<b>Additional Tier 1 Capital: instruments</b>		
30	7,735	Table M
31	-	
32	7,735	Table M
33	-	Table M
34	309	Table M
35	n/a	
<b>36</b>	<b>8,044</b>	
<b>Additional Tier 1 Capital: regulatory adjustments</b>		
37	-	
38	-	
39	-	
40	155	Table M
41	23	
41a	-	
41b	22	Table M
41c	1	Table M
42	-	
43	<b>178</b>	
44	<b>7,866</b>	
45	<b>55,221</b>	
<b>Tier 2 Capital: instruments and provisions</b>		
46	7,884	
47	444	Table N
48	63	
49	-	
50	296	
51	<b>8,687</b>	
<b>Tier 2 Capital: regulatory adjustments</b>		
52	10	Table N
53	-	
54	-	
55	85	Table N
56	43	
56a	-	
56b	43	Table N
56c	-	
57	<b>138</b>	
58	<b>8,549</b>	
59	<b>63,770</b>	
60	<b>416,961</b>	

**Table 1 Capital disclosure template**

	Sep-19	Reconciliation Table Reference
<b>Capital ratios and buffers</b>		
61 Common Equity Tier 1 ( as a percentage of risk-weighted assets)	11.4%	
62 Tier 1 (as a percentage of risk-weighted assets)	13.2%	
63 Total capital (as a percentage of risk-weighted assets)	15.3%	
64 Institution specific buffer requirement (minimum CET1 requirement plus capital conservation buffer plus countercyclical buffer requirements plus G-SIBs buffer requirement, expressed as a percentage of risk-weighted assets)	8.049%	
65 of which: capital conservation buffer requirement <sup>5</sup>	3.5%	
66 of which: ADI-specific countercyclical buffer requirements	0.049%	
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)	6.9%	
<b>National minima (if different from Basel III)</b>		
69 National Common Equity Tier 1 minimum ratio (if different from Basel III minimum)	n/a	
70 National Tier 1 minimum ratio (if different from Basel III minimum)	n/a	
71 National total capital minimum ratio (if different from Basel III minimum)	n/a	
<b>Amount below thresholds for deductions (not risk-weighted)</b>		
72 Non-significant investments in the capital of other financial entities	147	
73 Significant investments in the ordinary shares of financial entities	4,270	Table I
74 Mortgage servicing rights (net of related tax liability)	n/a	
75 Deferred tax assets arising from temporary differences (net of related tax liability)	1,367	Table J
<b>Applicable caps on the inclusion of provisions in Tier 2</b>		
76 Provisions eligible for inclusion in Tier 2 in respect of exposures subject to standardised approach (prior to application of cap)	135	
77 Cap on inclusion of provisions in Tier 2 under standardised approach	281	
78 Provisions eligible for inclusion in Tier 2 in respect of exposures subject to internal ratings-based approach (prior to application of cap)	160	
79 Cap for inclusion of provisions in Tier 2 under internal ratings-based approach	2,014	
<b>Capital instruments subject to phase-out arrangements (only application between 1 January 2018 to 1 January 2022)</b>		
80 Current cap on CET1 instruments subject to phase out arrangements	n/a	
81 Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities)	n/a	
82 Current cap on AT1 instruments subject to phase out arrangements	n/a	
83 Amount excluded from AT1 instruments due to cap (excess over cap after redemptions and maturities)	-	
84 Current cap on T2 instruments subject to phase out arrangements	n/a	
85 Amount excluded from T2 due to cap (excess over cap after redemption and maturities)	-	

**Counter Cyclical Capital Buffer**

Geographic breakdown of Private Sector Credit Exposures	Hong Kong \$M	Sweden \$M	Norway \$M	United Kingdom \$M	France \$M	Other \$M	Total \$M
RWA for all private sector credit exposures	3,532	353	408	5,394	1,142	320,059	330,888
Jurisdictional buffer set by national authorities	2.500%	2.500%	2.000%	1.000%	0.250%	-	-
Countercyclical buffer requirement	0.027%	0.003%	0.002%	0.016%	0.001%	-	0.049%

<sup>5</sup> Includes 1.0% buffer applied by APRA to ADIs deemed as domestic systemically important.

The following table shows ANZ's consolidated balance sheet and the adjustments required to derive the Level 2 Balance Sheet. The adjustments remove the external assets and liabilities of the entities deconsolidated for prudential purposes and reinstate any intragroup assets and liabilities, treating them as external to the Level 2 Group.

<b>Assets</b>	<b>Balance Sheet as in published financial statements \$M</b>	<b>Adjustments \$M</b>	<b>Balance sheet under scope of regulatory consolidation \$M</b>	<b>Template and Reconciliation Table Reference</b>
Cash and Cash Equivalents	81,621	78	81,699	
Settlement Balances owed to ANZ	3,739	-	3,739	
Collateral Paid	15,006	-	15,006	
Trading securities	43,169	-	43,169	
of which: Financial Institutions capital instruments			85	Table N
Derivative financial instruments	120,667	-	120,667	
Investment Securities	83,709	(581)	83,128	
of which: significant investments in financial institutions equity instruments			1,105	Table I
of which: non-significant investment in financial institutions equity instruments			83	Table I
of which: Other entities equity investments			29	Table L
of which: collectively assessed provision			(13)	
Net loans and advances	615,258	(2,370)	612,888	
of which: deferred fee income			(108)	Row 26c
of which: collectively assessed provision			(2,718)	Table G
of which: individually assessed provisions			(814)	Table G
of which: capitalised brokerage			870	Table K
of which: CET1 margin lending adjustment			24	Row 26j
of which: AT1 margin lending adjustment			1	Table M
Regulatory deposits	879	-	879	
Assets held for sale	1,831	(1,831)	-	
Due from controlled entities	-	2,599	2,599	
of which: Significant investments in the Tier 2 "capital of banking, financial and insurance entities" that are outside the scope of regulatory consolidation			85	Table N
Shares in controlled entities	-	1,153	1,153	
of which: Investment in deconsolidated financial subsidiaries			996	Table I
of which: AT1 significant investment in banking, financial and insurance entities that are outside the scope of regulatory consolidation			155	Table M
Investment in associates	2,957	-	2,957	
of which: Financial Institutions			2,954	Table I
of which: Other Entities			3	Table L
Current tax assets	265	1	266	
Deferred tax assets	1,356	15	1,371	Table J
Goodwill and other intangible assets	4,861	5	4,866	
of which: Goodwill			3,543	Table E
of which: Software			1,322	Table F
Premises and equipment	1,924	1	1,925	
Other assets	3,895	59	3,954	
of which: Defined benefit superannuation fund net assets			255	Table H
of which: Capitalised Costs of disposal			248	Table K
<b>Total Assets</b>	<b>981,137</b>	<b>(871)</b>	<b>980,266</b>	

	Balance Sheet as in published financial statements \$M	Adjustments \$M	Balance sheet under scope of regulatory consolidation \$M	Template and Reconciliation Table Reference
<b>Liabilities</b>				
Settlement Balances owed by ANZ	10,867	-	10,867	
Collateral Received	7,929	-	7,929	
Deposits and other borrowings	637,677	346	638,023	
Derivative financial instruments	120,951	-	120,951	
Due to controlled entities	-	2,941	2,941	
Current tax liabilities	260	(39)	221	
Deferred tax liabilities	67	-	67	Table J
of which: related to intangible assets			1	Table F
of which: related to capitalised expenses			4	Table K
of which: related to defined benefit super assets			51	Table H
Liabilities held for sale	2,121	(2,121)	-	
Provisions	2,812	(28)	2,784	
of which: collectively assessed provision			645	
Payables and other liabilities	7,968	335	8,303	
Debt Issuances	129,691	(2,411)	127,280	
of which: Directly issued qualifying Additional Tier 1 instruments			7,709	
of which: Additional Tier 1 Instruments			463	Table M
of which: Directly issued capital instruments subject to phase out from Tier 2			444	Table N
of which: Directly issued qualifying Tier 2 instruments			7,971	Table N
<b>Total Liabilities</b>	<b>920,343</b>	<b>(977)</b>	<b>919,366</b>	
<b>Net Assets</b>	<b>60,794</b>	<b>106</b>	<b>60,900</b>	

	Balance Sheet as in published financial statements \$M	Adjustments \$M	Balance sheet under scope of regulatory consolidation \$M	Template and Reconciliation Table Reference
<b>Shareholders' equity</b>				
Ordinary Share Capital	26,490	(77)	26,413	Table A
of which: Share reserve			226	Tables A & C
Reserves	1,629	(9)	1,620	Table C
of which: Cash flow hedging reserves			731	Row 11
Retained earnings	32,664	192	32,856	Table B
<b>Share capital and reserves attributable to shareholders of the company</b>	<b>60,783</b>	<b>106</b>	<b>60,889</b>	
Non-controlling interests	11		11	Table D
<b>Total Shareholders' Equity</b>	<b>60,794</b>	<b>106</b>	<b>60,900</b>	

The following reconciliation tables provide additional information on the difference between Table 1 Capital Disclosure Template and the Level 2 Balance Sheet.

<b>Table A</b>		<b>Sep 19</b>	<b>Table 1</b>
		<b>\$M</b>	<b>Reference</b>
	Issued capital	26,413	
Less	Reclassification to Reserves	(226)	Table C
<b>Regulatory Directly Issued qualifying ordinary shares</b>		<b>26,187</b>	<b>Row 1</b>

<b>Table B</b>		<b>Sep 19</b>	<b>Table 1</b>
		<b>\$M</b>	<b>Reference</b>
	Retained earnings	32,856	
<b>Retained earnings</b>		<b>32,856</b>	<b>Row 2</b>

<b>Table C</b>		<b>Sep 19</b>	<b>Table 1</b>
		<b>\$M</b>	<b>Reference</b>
	Reserves	1,620	
Add	Reclassification from Issued Capital	226	Table A
Less	Non qualifying reserves	(87)	
<b>Reserves for Regulatory capital purposes (amount allowed in group CET1)</b>		<b>1,759</b>	<b>Row 3</b>

<b>Table D</b>		<b>Sep 19</b>	<b>Table 1</b>
		<b>\$M</b>	<b>Reference</b>
	Non-controlling interests	11	
Less	Surplus capital attributable to minority shareholders	(8)	
<b>Ordinary share capital issued by subsidiaries and held by third parties</b>		<b>3</b>	<b>Row 5</b>

<b>Table E</b>		<b>Sep 19</b>	<b>Table 1</b>
		<b>\$M</b>	<b>Reference</b>
	Goodwill	3,543	
Add	Goodwill component of investments in financial associates	229	Table I
<b>Goodwill (net of related tax liability)</b>		<b>3,772</b>	<b>Row 8</b>

<b>Table F</b>		<b>Sep 19</b>	<b>Table 1</b>
		<b>\$M</b>	<b>Reference</b>
	Software	1,322	
Add	Other intangible assets	1	
Less	Associated deferred tax liabilities	(1)	
Add	Regulatory reclassification from significant investments in the ordinary shares of banking, financial and insurance entities outside the scope of regulatory consolidation	556	Table I
<b>Other intangibles other than mortgage servicing rights (net of related tax liability)</b>		<b>1,878</b>	<b>Row 9</b>

<b>Table G</b>		<b>Sep 19</b>	<b>Table 1</b>
		<b>\$M</b>	<b>Reference</b>
<b>Qualifying collective provision</b>			
	Collectively assessed provision on Loans and advances	(2,718)	
	Collectively assessed provision on Investment Securities	(13)	
	Collectively assessed provision on Undrawn commitments	(645)	
less	Non-qualifying collectively assessed provision	435	
less	Standardised collectively assessed provision	135	
less	Non-defaulted expected loss	2,646	
Non-Defaulted: Expected Loss - Eligible Provision Shortfall		-	
<b>Qualifying individual provision</b>			
	Individually assessed provision	(814)	
add	Additional individually assessed provision for partial write offs	(313)	
less	Standardised individually assessed provision	66	
add	Collectively assessed provision on advanced defaulted	(408)	
less	Defaulted expected loss	1,470	
Defaulted: Expected Loss - Eligible Provision Shortfall		-	
<b>Gross deduction</b>		<b>1</b>	<b>Row 12</b>
<b>Table H</b>			
	Defined benefit superannuation fund net assets	255	
less	Associated deferred tax liabilities	(51)	
<b>Defined benefit superannuation fund net assets</b>		<b>204</b>	<b>Row 15</b>
<b>Table I</b>			
	Investment in deconsolidated financial subsidiaries	996	
Less	Regulatory reclassification to Other Intangible Assets	(556)	Table F
Add	Investment in financial associates	2,954	
Add	Investment in financial institutions Investment Securities	1,105	
Less	Goodwill component of investments in financial associates	(229)	Table E
Less	Amount below 10% threshold of CET1	(4,270)	
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)		-	
Add	Deduction amount below the 10% threshold of CET 1	4,270	Row 73
Add	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 – Investment Securities exposures	83	
Equity investment in financial institutions not reported in rows 18, 19 and 23		<b>4,353</b>	<b>Row 26d</b>
<b>Deduction for equity holdings in financial institutions - APRA regulations</b>		<b>4,353</b>	



<b>Table J</b>			<b>Table 1 Reference</b>
	Deferred tax assets	1,371	
Add	Deferred tax liabilities	(67)	
	Deferred tax asset less deferred tax liabilities	1,304	
Less	Deferred tax assets that rely on future profitability	(9)	Row 10
Add	Deferred tax liabilities on intangible assets, capitalised expenses and defined benefit super assets	56	
Add	Impact of calculating the deduction on a jurisdictional basis	16	
	<b>Deferred tax assets not reported in rows 10, 21 and 25 of the Common Disclosure Template</b>	<b>1,367</b>	<b>Row 26e</b>

<b>Table K</b>		<b>Sep 19 \$M</b>	<b>Table 1 Reference</b>
	Capitalised brokerage costs	870	
	Capitalised debt and capital issuance expenses	64	
	Capitalised costs of disposal	248	
Less	Associated deferred tax liabilities	(4)	
	<b>Capitalised expenses</b>	<b>1,178</b>	<b>Row 26f</b>

<b>Table L</b>		<b>Sep 19 \$M</b>	<b>Table 1 Reference</b>
	Investments in non financial Investment Securities equities	29	
	Investments in non financial associates	3	
	Non financial equity exposures (loans)	3	
	<b>Equity exposures to non financial entities</b>	<b>35</b>	<b>Row 26g</b>

<b>Table M</b>		<b>Sep 19 \$M</b>	<b>Table 1 Reference</b>
	Directly issued qualifying Additional Tier 1 Capital Instruments classified as liabilities	7,709	
Add	Issue costs	41	
Add	Fair value adjustment	(15)	
	Directly issued qualifying Additional Tier 1 Capital Instruments classified as liabilities	7,735	Row 30
	Additional Tier 1 instruments issued by subsidiaries held by third parties	463	
Add	Issue costs	-	
Less	Surplus capital attributable to third party holders	(154)	
Add	AT1 Instruments issued by subsidiaries and held by third parties (amounts allowed in Group AT1)	309	Row 34
	<b>Additional Tier 1 capital before regulatory adjustments</b>	<b>8,044</b>	<b>Row 36</b>
Less	Significant investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation	(155)	Row 40
	Investments in the capital of financial institutions that are outside the scope of regulatory consolidations not reported in rows 39 and 40	(22)	Row 41b
Less	Other national specific regulatory adjustments not reported	(1)	Row 41c
	<b>Additional Tier 1 capital</b>	<b>7,866</b>	<b>Row 44</b>

<b>Table N</b>		<b>Sep 19 \$M</b>	<b>Table 1 Reference</b>
	Directly issued capital instruments subject to phase out from Tier 2	444	
Less	Amortisation of Tier 2 Capital Instruments subject to Phase out	-	
Less	Fair value adjustment	-	
	Directly issued capital instruments subject to phase out from Tier 2	<b>444</b>	<b>Row 47</b>
Add	Surplus capital attributable to third party holders	63	
Add	Directly issued qualifying Tier 2 instruments	7,971	Row 46
Add	Issue costs	7	
Add	Fair value adjustment	(94)	
Add	Provisions	296	Table G
	Tier 2 capital before regulatory adjustments	8,687	Row 51
Less	Investments in own Tier 2 instruments (trading limit)	(10)	Row 52
Less	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	(85)	Row 55
Less	Investments in the capital of financial institutions that are outside the scope of regulatory consolidation not reported in rows 54 and 55	(43)	Row 56b
	<b>Tier 2 capital</b>	<b>8,549</b>	<b>Row 58</b>

The following table provides details of entities included within the accounting scope of consolidation but excluded from regulatory consolidation.

<b>Entity</b>	<b>Activity</b>	<b>Total Assets \$M</b>	<b>Total Liabilities \$M</b>
ACN 008 647 185 Pty Ltd	Holding Company	-	-
ANZ ILP Pty Ltd	Incorporated Legal Practice	2	-
ANZ Investment Services (New Zealand) Limited	Funds Management	27	9
ANZ Lenders Mortgage Insurance Pty Limited	Mortgage insurance	-	-
ANZ Pensions (UK) Limited	Trustee/Nominee	-	-
ANZ Life Assurance Company Pty Ltd	Insurance	-	-
ANZ New Zealand Investments Limited	Funds Management	119	29
ANZ New Zealand Investments Nominees Limited	Nominee	-	-
ANZ Self Managed Super Ltd	Investment	-	-
ANZ Wealth Alternative Investments Management Pty Ltd	Investment	916	912
ANZ Wealth Australia Limited	Holding Company / Corporate	229	36
ANZ Wealth New Zealand Limited	Holding Company	120	-
ANZcover Insurance Private Ltd	Captive-Insurance	197	98
AUT Administration Pty Ltd	Dormant	-	-
Financial Planning Hotline Pty Ltd	Advice	-	-
Kingfisher Trust 2016-1	Securitisation Trust	1,003	1,003
Kingfisher Trust 2019-1	Securitisation Trust	1,419	1,419
Looking Together Pty Ltd	Property Price Information	-	-
OASIS Asset Management Limited	Investment	16	2
OASIS Fund Management Limited	Superannuation	13	3
OnePath Administration Pty Ltd	Service Company	8	2
OnePath Custodians Pty Ltd	Superannuation	217	51
OnePath Funds Management Limited	Investment	32	7
OnePath Investment Holdings Pty Ltd	Investment	7	-
Shout for Good Pty Ltd	Corporate	1	1
Tandem Financial Advice Pty Limited	Advice	-	-
Union Investment Company Pty Limited	Advice	-	-

**Table 2 Main features of capital instruments**

As the main features of ANZ's capital instruments are updated on an ongoing basis, ANZ has provided this information separately in the Regulatory Disclosures section of its website.

**Table 3 Capital adequacy, Table 4 Credit risk, Table 5 Securitisation**

The above tables are produced at the quarters ending 30 June and 31 December.

**Table 6 Capital adequacy****Capital management**

ANZ pursues an active approach to capital management, which is designed to protect the interests of depositors, creditors and shareholders. This involves the on-going review and Board approval of the level and composition of ANZ's capital base, assessed against the following key policy objectives:

- Regulatory compliance such that capital levels exceed APRA's, ANZ's primary prudential supervisor, minimum Prudential Capital Ratios (PCRs) both at Level 1 (the Company and specified subsidiaries) and Level 2 (ANZ consolidated under Australian prudential standards), along with US Federal Reserve's minimum Level 2 requirements under ANZ's Foreign Holding Company Licence in the United States of America;
- Capital levels are aligned with the risks in the business and to meet strategic and business development; and
- An appropriate balance between maximising shareholder returns and prudent capital management principles.

ANZ achieves these objectives through an Internal Capital Adequacy Assessment Process (ICAAP) where by ANZ conducts detailed strategic and capital planning over a medium term time horizon. The Capital Plan is maintained and updated through a monthly review of forecast financial performance, economic conditions and development of business initiatives and strategies. The Board and senior management are provided with monthly updates of ANZ's capital position. Any actions required to ensure ongoing prudent capital management are submitted to the Board for approval. ANZ annually conducts a detailed strategic planning process over a three year time horizon, the outcomes of which are embodied in the Strategic Plan. This process involves forecasting key economic variables which Divisions use to determine key financial data for their existing business. New strategic initiatives to be undertaken over the planning period and their financial impact are then determined. These processes are used for the following:

- Review capital ratios, targets, and levels of different classes of capital against ANZ's risk profile and risk appetite outlined in the Strategic Plan. ANZ's capital targets reflect the key policy objectives above, and the desire to ensure that under specific stressed economic scenarios that capital levels are sufficient to remain above PCR requirements;
- Stress tests are performed under different economic conditions to provide a comprehensive review of ANZ's capital position both before and after mitigating actions. The stress tests determine the level of additional capital (i.e. the 'stress capital buffer') needed to absorb losses that may be experienced during an economic downturn; and
- Stress testing is integral to strengthening the predictive approach to risk management and is a key component in managing risks, asset writing strategies and business strategies. It creates greater understanding of the impacts on financial performance through modelling relationships and sensitivities between geographic, industry and Divisional exposures under a range of macro-economic scenarios. ANZ has a dedicated stress testing team within Risk Management that models and reports to management and the Board's Risk Committee on a range of scenarios and stress tests.

Results are subsequently used to:

- Recalibrate ANZ's management targets for minimum and operating ranges for its respective classes of capital such that ANZ will have sufficient capital to remain above regulatory requirements; and
- Identify the level of organic capital generation and hence determine current and future capital issuance requirements for Level 1 and Level 2.

From these processes, a Capital Plan is developed and approved by the Board which identifies the capital issuance requirements, capital securities maturity profile, and options around capital products, timing and markets to execute the Capital Plan under differing market and economic conditions.

The Capital Plan is maintained and updated through a monthly review of forecast financial performance, economic conditions and development of business initiatives and strategies. The Board and senior management are provided with monthly updates of ANZ's capital position. Any actions required to ensure ongoing prudent capital management are submitted to the Board for approval.

### Regulatory environment

ANZ's regulatory capital calculation is governed by APRA's Prudential Standards which adopt a risk-based capital assessment framework based on the Basel III capital measurement standards. This risk-based approach requires eligible capital to be divided by total risk weighted assets (RWA), with the resultant ratio being used as a measure of an Authorised Deposit-taking Institution's (ADIs) capital adequacy. APRA determines PCRs for Common Equity Tier 1 (CET1), Tier 1 and Total Capital, with capital as the numerator and RWAs as the denominator.

Regulatory capital is divided into Tier 1, carrying the highest capital elements, and Tier 2, which has lower capital elements, but still adds to the overall strength of the ADI.

Tier 1 capital is comprised of Common Equity Tier 1 capital less deductions and Additional Tier 1 capital instruments. Common Equity Tier 1 capital comprises shareholders' equity adjusted for items which APRA does not allow as regulatory capital or classifies as lower forms of regulatory capital. Common Equity Tier 1 capital includes the following significant adjustments:

- Reserves exclude the hedging reserve and reserves of insurance and funds management subsidiaries;
- Retained and current year earnings excluding those of insurance and funds management subsidiaries, but includes capitalised deferred fees forming part of loan yields that meet the criteria set out in the prudential standard;
- Inclusion of qualifying treasury shares.

Additional Tier 1 capital instruments are high quality components of capital that provide a permanent and unrestricted commitment of funds, are available to absorb losses, are subordinated to the claims of depositors and senior creditors in the event of the winding up of the issuer and provide for fully discretionary capital distributions.

Deductions from the capital base comprise mainly deductions to the Common Equity Tier 1 component. These deductions are largely intangible assets, investments in insurance and funds management entities and associates, capitalised expenses (including loan and origination fees), and net deferred tax assets.

Tier 2 capital mainly comprises perpetual subordinated debt instruments and dated subordinated debt instruments which have a minimum term of five years at issue date.

Total Capital is the sum of Tier 1 capital and Tier 2 capital.

In addition to the prudential capital oversight that APRA conducts over the Company and the Group, the Company's branch operations and major banking subsidiary operations are overseen by local regulators such as the Reserve Bank of New Zealand, the US Federal Reserve, the UK Prudential Regulation Authority, the Monetary Authority of Singapore, the Hong Kong Monetary Authority and the China Banking Regulatory Commission who may impose minimum capitalisation rates on those operations.

Throughout the financial year, the Company and the Group maintained compliance with the minimum Common Equity Tier 1, Tier 1 and Total Capital ratios set by APRA and the US Federal Reserve (as applicable) as well as applicable capitalisation rates set by regulators in countries where the Company operates branches and subsidiaries.

### Regulatory development

There are a number of matters currently outstanding that may have an impact on ANZ's regulatory capital in the future. Details of these matters are available in ANZ's 2019 Full Year Results Announcement Group Results section, pages 50-51, available on ANZ's website: [shareholder.anz.com/pages/results-announcement-archive](http://shareholder.anz.com/pages/results-announcement-archive).

**Table 6 Capital adequacy - Capital Ratio and Risk Weighted Assets**

The following table provides the composition of capital used for regulatory purposes and capital adequacy ratios.

	Sep 19 \$M	Mar 19 \$M	Sep 18 \$M
<b>Risk weighted assets</b>			
<b>Subject to Advanced Internal Rating Based (IRB) approach</b>			
Corporate	136,885	127,989	121,891
Sovereign	6,199	7,016	6,955
Bank	15,968	15,511	15,908
Residential Mortgage	105,491	101,469	97,764
Qualifying Revolving Retail	5,255	5,795	6,314
Other Retail	26,258	28,029	29,373
<b>Credit risk weighted assets subject to Advanced IRB approach</b>	<b>296,056</b>	<b>285,809</b>	<b>278,205</b>
<b>Credit risk Specialised Lending exposures subject to slotting approach<sup>6</sup></b>	<b>36,318</b>	<b>35,696</b>	<b>33,110</b>
<b>Subject to Standardised approach</b>			
Corporate	11,645	12,252	13,760
Residential Mortgage	216	331	327
Other Retail	50	81	88
<b>Credit risk weighted assets subject to Standardised approach</b>	<b>11,911</b>	<b>12,664</b>	<b>14,175</b>
<b>Credit Valuation Adjustment and Qualifying Central Counterparties</b>	<b>8,682</b>	<b>6,217</b>	<b>7,344</b>
Credit risk weighted assets relating to securitisation exposures	1,859	1,558	1,600
Other assets	3,280	3,579	3,146
<b>Total credit risk weighted assets</b>	<b>358,106</b>	<b>345,523</b>	<b>337,580</b>
Market risk weighted assets	5,307	5,790	6,808
Operational risk weighted assets	46,626	37,733	37,618
Interest rate risk in the banking book (IRRBB) risk weighted assets	6,922	7,245	8,814
<b>Total risk weighted assets</b>	<b>416,961</b>	<b>396,291</b>	<b>390,820</b>
<b>Capital ratios (%)<sup>7</sup></b>			
Level 2 Common Equity Tier 1 capital ratio	<b>11.4%</b>	<b>11.5%</b>	<b>11.4%</b>
Level 2 Tier 1 capital ratio	<b>13.2%</b>	<b>13.4%</b>	<b>13.4%</b>
Level 2 Total capital ratio	<b>15.3%</b>	<b>15.3%</b>	<b>15.2%</b>
Level 1: Extended licensed Common Equity Tier 1 capital ratio <sup>8</sup>	<b>11.3%</b>	<b>11.2%</b>	<b>11.6%</b>
Level 1: Extended licensed entity Tier 1 capital ratio <sup>8</sup>	<b>13.3%</b>	<b>13.2%</b>	<b>13.6%</b>
Level 1: Extended licensed entity Total capital ratio <sup>8</sup>	<b>15.6%</b>	<b>15.3%</b>	<b>15.6%</b>
Other significant Authorised Deposit-taking Institution (ADI) or overseas bank subsidiary:			
ANZ Bank New Zealand Limited – Common Equity Tier 1 capital ratio	<b>10.8%</b>	<b>11.4%</b>	<b>11.1%</b>
ANZ Bank New Zealand Limited - Tier 1 capital ratio	<b>13.6%</b>	<b>14.6%</b>	<b>14.4%</b>
ANZ Bank New Zealand Limited - Total capital ratio	<b>13.6%</b>	<b>14.6%</b>	<b>14.4%</b>

<sup>6</sup> Specialised Lending exposures subject to slotting approach are those where the main servicing and repayment is from the asset being financed, and includes specified commercial property development/investment lending, project finance and object finance.

<sup>7</sup> ANZ Bank New Zealand Limited's capital ratios have been calculated in accordance with Reserve Bank of New Zealand prudential standards.

<sup>8</sup> On 9<sup>th</sup> October 2024, ANZ adjusted the following values for the period 30 September 2019 to 31 March 2024 to reflect the application of the \$500 million Operational Risk capital overlay to both Level 1 and Level 2 regulatory consolidations.

- Basel III APRA Level 1 Capital Ratios with reporting period impacts of : CET1 (6 bps) and other Capital Ratios (between 8 and 9 bps).

**Credit Risk Weighted Assets (CRWA)**

Total CRWA increased \$12.6 billion (3.6%) from March 2019 to \$358.1 billion at September 2019. The increase was mainly attributable to Methodology Review changes with the implementation of the regulatory standard impacting derivative exposures, Standardised Approach to Counterparty Credit Risk (SA-CCR), and an increase from APRA risk weight floors on New Zealand residential mortgages and farm lending exposures.

**Market Risk, Operational Risk and IRRBB RWA**

IRRBB RWA decreased \$0.3 billion (4.5%) due to an improvement in embedded gains, partially offset by an increase in Repricing and Yield Curve risk.

The Operational Risk RWA has increased \$8.9 billion (23.6%) compared to March 2019 due to the update of Operational risk capital model parameters (\$2.6 billion), and implementation of a regulatory capital overlay (\$6.3 billion).

Traded Market Risk RWA decreased \$0.5 billion (8.3%) over the half year due to reduction in Stress VaR.

## Chapter 5 – Credit risk

### Table 7 Credit risk – General disclosures

#### Definition of credit risk

Credit Risk is the risk of financial loss resulting from a counterparty failing to fulfil its credit obligations, or from a decrease in credit quality of a counterparty resulting in a loss in value.

#### Regulatory approval to use the Advanced Internal Ratings-based approach

ANZ has been given approval by APRA to use the Advanced Internal Ratings (AIRB) based approach to credit risk, under APS 113 Capital Adequacy: Internal Ratings-based Approach to Credit Risk. As an AIRB bank, ANZ's internal models generate the inputs into regulatory capital adequacy to determine the risk weighted exposure calculations for both on and off-balance sheet exposures, including undrawn portions of credit facilities, committed and contingent exposures and expected loss (EL) calculations.

ANZ's internal models are used to generate three key risk components that serve as inputs to the IRB approach to credit risk:

- Probability of Default (PD) is an estimate of the level of the risk of borrower default
- Exposure at Default (EAD) is defined as the expected facility exposure at the date of default
- Loss Given Default (LGD) is an estimate of the potential economic loss on a credit exposure, incurred as a consequence of obligor default.

There are however several small portfolios (mainly retail and local corporates in Pacific, and local corporates in Asia) where ANZ applies the Standardised approach to credit risk, under APS 112 Capital Adequacy: Standardised Approach to Credit Risk.

#### Credit risk management framework and policies

ANZ has a comprehensive framework to manage Wholesale Credit Risk. The framework is top down, being defined by credit principles and policies. Credit policies, requirements and procedures cover all aspects of the credit life cycle such as transaction structuring, risk grading, initial approval, ongoing management and problem debt management, as well as specialist policy topics.

The effectiveness of the credit risk management framework is assessed through various compliance and monitoring processes. These, together with portfolio selection and risk appetite setting, define and guide the credit process, organisation and staff.

#### Organisation

The Credit and Market Risk Committee (CMRC) is a senior executive level committee responsible for the oversight and control of credit, market, insurance and material financial risks across the ANZ Group. The Credit Rating System Oversight Committee (CRSOC) supports the CMRC, by providing oversight and control of the internal ratings system for credit risk in the wholesale and retail sectors, including credit model approvals and performance monitoring.

The primary responsibility for prudent and profitable management of credit risk assets and customer relationships rests with the business units. An independent credit risk management function is staffed by risk specialists. Independence is achieved by having all credit risk staff ultimately report to the Chief Risk Officer (CRO), even where they are embedded in business units. Risk performs key roles in portfolio management such as development and validation of credit risk measurement systems, loan asset quality reporting, and development of credit policies and requirements. In ANZ's wholesale businesses, Risk also provides independent credit assessment and approval on lending decisions.

The authority to make credit decisions is delegated by the Board to the CEO who in turn delegates authority to the CRO. The CRO in turn delegates some of their credit discretion to individuals as part of a 'cascade' of authority from senior to the most junior credit officers. Within ANZ, credit approval for material wholesale lending is judgementally made on a 'dual approval' basis, jointly by the business writer in the business unit and the respective independent credit risk officer. Individuals must be suitably skilled and accredited in order to be granted and retain credit discretion. Credit discretions are reviewed on an annual basis, and may be varied based on the holder's performance.

Programmed credit assessment typically covers retail and some small business lending, and refers to the automated assessment of credit applications using a combination of scoring (application and behavioural), policy rules and external credit reporting information. Where an application does not meet the automated assessment criteria it will be referred out for manual assessment, with assessors considering the decision tool recommendation.



**Portfolio direction and performance**

The credit risk management framework contains several portfolio direction and performance tools which enable Risk to play a fundamental role in monitoring the direction and performance of the portfolio. These include:

- Group and divisional level risk appetite strategies, business writing strategies and segment transaction guidelines are prepared by the businesses and set out appetite, planned portfolio growth, capital usage and risk/return profile, and also identify areas that may require attention to mitigate and improve risk management;
- Regular portfolio reviews; and
- Exposure concentration limits, covering single customers, industries and cross border risk, to ensure a diversified portfolio.

ANZ uses portfolio monitoring and analysis tools, technologies and techniques to assist with portfolio risk assessment and management. These assist in:

- Monitoring, analysing and reporting ANZ's credit risk profile and progress in meeting portfolio objectives;
- Calculating and reporting ANZ's collectively assessed provision, economic capital, expected loss, regulatory risk weighted assets (RWA) and regulatory expected loss;
- Assessing impact of emerging issues, and conducting ad-hoc investigations and analysis;
- Validating rating/scoring tools and credit estimates; and
- Ongoing review and refinement of ANZ's credit risk measurement and policy framework.

**Credit Risk Reporting**

Credit risk management information systems, reporting and analysis are managed centrally and at the divisional and business unit level.

Periodic reporting assists in analysing the effectiveness of strategies and processes identifying emerging issues and monitoring of portfolio trends by all levels of management and the Board.

Examples of reports include EAD, portfolio mix, risk grade profiles and migrations, RWAs, large exposure reporting, credit watch and control lists, impaired assets and provisions.

**Exposure at default**

EAD is defined as the expected facility exposure at the date of default. Unless otherwise stated, throughout this disclosure EAD represents credit exposure net of offsets for credit risk mitigation such as guarantees, credit derivatives, netting and financial collateral.

**Past due facilities**

Facilities where a contractual payment has not been met or the customer is outside of contractual arrangements for a material length of time are deemed past due. Past due facilities include those operating in excess of approved arrangements or where scheduled repayments are outstanding, but do not include impaired assets.

**Impaired assets<sup>9</sup>**

A facility for which there is doubt about timely payment of principal, interest and fees being achieved and / or a material credit obligation is 90 days or more past due and is not well secured. It includes all problem assets, off-balance sheet exposures (including derivatives) and assets brought to ANZ's balance sheet through the enforcement of security. Impaired derivatives have a credit valuation adjustment, which is a market assessment of the credit risk of the relevant counterparties.

**Restructured items**

Restructured items comprise facilities in which the original contractual terms have been modified for reasons related to the financial difficulties of the customer. Restructuring may consist of reduction of interest, principal or other payments legally due, or an extension in maturity materially beyond those typically offered to new facilities with similar risk.

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<sup>9</sup> The definition of Impaired Assets for accounting purposes is a default occurs when there are indicators that a debtor is unlikely to fully satisfy contractual credit obligations to the Group, or the exposure is 90 days past due. Financial assets, including those that are well secured, are considered credit impaired for financial reporting purposes when they are in default.

### Collectively Assessed Provisions for Credit Impairment

Collectively assessed provisions for credit impairment represent the Expected Credit Loss (ECL) calculated in accordance with AASB 9 Financial Instruments (AASB 9) which commenced 1 October 2018. These incorporate forward looking information and do not require an actual loss event to have occurred for an impairment provision to be recognised.

Under AASB 9, ECL is either measured over 12 months or the expected lifetime of the financial asset, depending on the credit deterioration since origination, according to the following three-stage approach:

- Stage 1: At the origination of a financial asset, and where there has not been a significant increase in credit risk since origination, a provision equivalent to 12 months ECL is recognised. For instruments with a remaining maturity of less than 12 months, a provision calculated on the remaining term of the maturity is recognised.
- Stage 2: Where there has been a significant increase in credit risk (SICR) since origination, a provision equivalent to lifetime ECL is recognised.
- Stage 3: Where there is objective evidence of impairment, a provision equivalent to lifetime ECL is recognised.

In determining what constitutes a SICR, ANZ considers both qualitative and quantitative information, including CCR at origination and at the reporting date.

ECL is calculated as the product of PD, LGD and EAD at a facility level, discounted for incorporating the effect of time value of money. These credit risk factors are adjusted for current and forward looking information through the use of macro-economic variables in the model.

### Individually Assessed Provisions for Credit Impairment

Individually assessed provisions for credit impairment are calculated in accordance with AASB 9. They are assessed on a case-by-case basis for all individually managed impaired assets taking into consideration factors such as the realisable value of security (or other credit mitigants), the likely return available upon liquidation or bankruptcy, legal uncertainties, estimated costs involved in recovery, the market price of the exposure in secondary markets and the amount and timing of expected receipts and recoveries.

### Write-offs

Facilities are written off against the related provision for impairment when they are assessed as partially or fully uncollectable, and after proceeds from the realisation of any collateral have been received. Where individually assessed provisions recognised in previous periods have subsequently decreased or are no longer required, such impairment losses are reversed in the current period income statement.

### Definition of default

ANZ uses the following definition of default:

- ANZ considers that the customer is unlikely to pay its credit obligations in full, without recourse to actions such as realising security, or
- the customer is at least 90 days past due on a credit obligation, or
- the customer's overdraft or other revolving facility(ies) have been continuously outside approved limits for 90 or more consecutive days.

### Specific Provision and General Reserve for Credit Losses

Due to definitional differences, there is a difference in the split between ANZ's individually assessed provision and collectively assessed provision for accounting purposes and the specific provision and general reserve for credit losses (GRCL) for regulatory purposes. This does not impact total provisions, and essentially relates to the classification of collectively assessed provisions on defaulted accounts. The disclosures in this document are based on individually assessed provision and collectively assessed provision, for ease of comparison with other published results.

APRA has flagged that the adoption of the forward looking ECL approach means that a GRCL will no longer be required. This is likely to take effect at the commencement of the revised APS 220 prudential standard expected in mid 2020.

Exposure at Default in Table 7 represents credit exposure net of offsets for credit risk mitigation such as guarantees, credit derivatives, netting and financial collateral. It includes Advanced IRB, Specialised Lending and Standardised exposures, and excludes Securitisation, Equities or Other Assets exposures.

Table 7(b) part (i): Period end and average Exposure at Default <sup>10</sup>

Advanced IRB approach	Sep 19				
	Risk Weighted Assets \$M	Exposure at Default \$M	Average Exposure at Default for half year \$M	Individual provision charge for half year \$M	Write-offs for half year \$M
Corporate	136,885	276,599	267,302	75	89
Sovereign	6,199	152,940	151,300	-	-
Bank	15,968	55,145	55,087	-	-
Residential Mortgage	105,491	373,376	376,444	37	67
Qualifying Revolving Retail	5,255	16,647	17,118	87	126
Other Retail	26,258	36,322	37,432	187	264
<b>Total Advanced IRB approach</b>	<b>296,056</b>	<b>911,029</b>	<b>904,683</b>	<b>386</b>	<b>546</b>
<b>Specialised Lending</b>	<b>36,318</b>	<b>43,348</b>	<b>43,005</b>	<b>(2)</b>	<b>1</b>
<b>Standardised approach</b>					
Corporate	11,645	12,998	13,258	11	26
Residential Mortgage	216	445	581	3	1
Other Retail	50	49	65	-	4
<b>Total Standardised approach</b>	<b>11,911</b>	<b>13,492</b>	<b>13,904</b>	<b>14</b>	<b>31</b>
<b>Credit Valuation Adjustment and Qualifying Central Counterparties</b>	<b>8,682</b>	<b>9,348</b>	<b>10,939</b>	<b>-</b>	<b>-</b>
<b>Total</b>	<b>352,967</b>	<b>977,217</b>	<b>972,531</b>	<b>398</b>	<b>578</b>

<sup>10</sup> Average Exposure at Default for half year is calculated as the simple average of the balances at the start and the end of each six month period.

Table 7(b) part (i): Period end and average Exposure at Default (continued)

Advanced IRB approach	Mar 19				
	Risk Weighted Assets \$M	Exposure at Default \$M	Average Exposure at Default for half year \$M	Individual provision charge for half year \$M	Write-offs for half year \$M
Corporate	127,989	258,005	251,815	51	68
Sovereign	7,016	149,660	147,615	-	-
Bank	15,511	55,029	53,196	-	-
Residential Mortgage	101,469	379,512	378,043	45	50
Qualifying Revolving Retail	5,795	17,589	18,018	85	123
Other Retail	28,029	38,542	39,181	197	232
<b>Total Advanced IRB approach</b>	<b>285,809</b>	<b>898,337</b>	<b>887,868</b>	<b>378</b>	<b>473</b>
<b>Specialised Lending</b>	<b>35,696</b>	<b>42,661</b>	<b>41,062</b>	<b>1</b>	<b>2</b>
<b>Standardised approach</b>					
Corporate	12,252	13,519	14,291	1	19
Residential Mortgage	331	716	710	(1)	1
Other Retail	81	80	84	1	3
<b>Total Standardised approach</b>	<b>12,664</b>	<b>14,315</b>	<b>15,085</b>	<b>1</b>	<b>23</b>
<b>Credit Valuation Adjustment and Qualifying Central Counterparties</b>	<b>6,217</b>	<b>12,530</b>	<b>11,966</b>	<b>-</b>	<b>-</b>
<b>Total</b>	<b>340,386</b>	<b>967,843</b>	<b>955,981</b>	<b>380</b>	<b>498</b>
<b>Sep 18</b>					
Advanced IRB approach	Risk Weighted Assets \$M	Exposure at Default \$M	Average Exposure at Default for half year \$M	Individual provision charge for half year \$M	Write-offs for half year \$M
Corporate	121,891	245,625	241,708	1	90
Sovereign	6,955	145,569	143,426	(3)	-
Bank	15,908	51,363	50,016	-	-
Residential Mortgage	97,764	376,573	376,328	56	41
Qualifying Revolving Retail	6,314	18,447	18,889	93	140
Other Retail	29,373	39,819	40,700	211	277
<b>Total Advanced IRB approach</b>	<b>278,205</b>	<b>877,396</b>	<b>871,067</b>	<b>358</b>	<b>548</b>
<b>Specialised Lending</b>	<b>33,110</b>	<b>39,462</b>	<b>38,661</b>	<b>2</b>	<b>4</b>
<b>Standardised approach</b>					
Corporate	13,760	15,064	15,646	(19)	15
Residential Mortgage	327	704	693	1	3
Other Retail	88	87	94	1	3
<b>Total Standardised approach</b>	<b>14,175</b>	<b>15,855</b>	<b>16,433</b>	<b>(17)</b>	<b>21</b>
<b>Credit Valuation Adjustment and Qualifying Central Counterparties</b>	<b>7,344</b>	<b>11,402</b>	<b>10,997</b>	<b>-</b>	<b>-</b>
<b>Total</b>	<b>332,834</b>	<b>944,115</b>	<b>937,158</b>	<b>343</b>	<b>573</b>

Table 7(b) part (ii): Exposure at Default by portfolio type<sup>11</sup>

Portfolio Type	Sep 19 \$M	Mar 19 \$M	Sep 18 \$M	Average for half year Sep 19 \$M
Cash	55,083	61,314	57,604	58,199
Contingents liabilities, commitments, and other off-balance sheet exposures	160,293	157,005	153,021	158,649
Derivatives	53,716	43,924	42,752	48,820
Settlement Balances	26	8	16	17
Investment Securities	82,289	77,158	73,296	79,724
Net Loans, Advances & Acceptances	597,084	600,846	592,967	598,964
Other assets	4,627	5,348	4,387	4,988
Trading Securities	24,099	22,240	20,072	23,170
<b>Total exposures</b>	<b>977,217</b>	<b>967,843</b>	<b>944,115</b>	<b>972,531</b>

<sup>11</sup> Average for half year is calculated as the simple average of the balances at the start and the end of each six month period.

Table 7(c): Geographic distribution of Exposure at Default

Portfolio Type	Sep 19			Total \$M
	Australia \$M	New Zealand \$M	Asia Pacific, Europe and Americas \$M	
Corporate	148,488	47,747	93,362	289,597
Sovereign	53,287	12,984	86,669	152,940
Bank	23,630	4,108	27,407	55,145
Residential Mortgage	290,239	83,137	445	373,821
Qualifying Revolving Retail	16,647	-	-	16,647
Other Retail	24,734	11,588	49	36,371
Qualifying Central Counterparties	4,717	1,735	2,896	9,348
Specialised Lending	31,328	11,907	113	43,348
<b>Total exposures</b>	<b>593,070</b>	<b>173,206</b>	<b>210,941</b>	<b>977,217</b>

Portfolio Type	Mar 19			Total \$M
	Australia \$M	New Zealand \$M	Asia Pacific, Europe and Americas \$M	
Corporate	137,863	47,503	86,158	271,524
Sovereign	50,526	12,732	86,402	149,660
Bank	27,287	4,124	23,618	55,029
Residential Mortgage	295,444	84,068	716	380,228
Qualifying Revolving Retail	17,589	-	-	17,589
Other Retail	26,335	12,207	80	38,622
Qualifying Central Counterparties	8,826	1,222	2,482	12,530
Specialised Lending	30,225	12,294	142	42,661
<b>Total exposures</b>	<b>594,095</b>	<b>174,150</b>	<b>199,598</b>	<b>967,843</b>

Portfolio Type	Sep 18			Total \$M
	Australia \$M	New Zealand \$M	Asia Pacific, Europe and Americas \$M	
Corporate	134,113	44,608	81,968	260,689
Sovereign	48,311	12,402	84,856	145,569
Bank	22,215	4,041	25,107	51,363
Residential Mortgage	298,367	78,206	704	377,277
Qualifying Revolving Retail	18,447	-	-	18,447
Other Retail	27,956	11,863	87	39,906
Qualifying Central Counterparties	7,763	1,293	2,346	11,402
Specialised Lending	27,993	11,321	148	39,462
<b>Total exposures</b>	<b>585,165</b>	<b>163,734</b>	<b>195,216</b>	<b>944,115</b>

Table 7(d): Industry distribution of Exposure at Default<sup>12 13</sup>

Portfolio Type	Sep 19														
	Agriculture, Forestry, Fishing & Mining \$M	Business Services \$M	Construction \$M	Electricity, Gas & Water Supply \$M	Entertainment, Leisure & Tourism \$M	Financial, Investment & Insurance \$M	Government and Official Institutions \$M	Manufacturing \$M	Personal \$M	Property Services \$M	Wholesale Trade \$M	Retail Trade \$M	Transport & Storage \$M	Other \$M	Total \$M
Corporate	45,938	10,400	5,666	10,530	14,010	50,918	4,189	45,441	607	21,864	26,581	14,466	18,243	20,744	<b>289,597</b>
Sovereign	999	1	18	467	1	79,870	67,603	1,248	-	2,025	58	-	231	419	<b>152,940</b>
Bank	115	4	-	4	-	54,906	-	2	-	2	-	45	29	38	<b>55,145</b>
Residential Mortgage	-	-	-	-	-	-	-	-	373,821	-	-	-	-	-	<b>373,821</b>
Qualifying Revolving Retail	-	-	-	-	-	-	-	-	16,647	-	-	-	-	-	<b>16,647</b>
Other Retail	2,754	2,643	3,740	96	2,045	600	15	1,534	11,986	1,092	1,122	3,617	1,253	3,874	<b>36,371</b>
Qualifying Central Counterparties	-	-	-	-	-	9,348	-	-	-	-	-	-	-	-	<b>9,348</b>
Specialised Lending	1,394	3	372	1,835	366	1	-	-	-	37,769	22	-	1,161	425	<b>43,348</b>
<b>Total exposures</b>	<b>51,200</b>	<b>13,051</b>	<b>9,796</b>	<b>12,932</b>	<b>16,422</b>	<b>195,643</b>	<b>71,807</b>	<b>48,225</b>	<b>403,061</b>	<b>62,752</b>	<b>27,783</b>	<b>18,128</b>	<b>20,917</b>	<b>25,500</b>	<b>977,217</b>
% of Total	5.2%	1.3%	1.0%	1.3%	1.7%	20.1%	7.4%	4.9%	41.3%	6.4%	2.8%	1.9%	2.1%	2.6%	100.0%

<sup>12</sup> Property Services includes Commercial property operators, Residential property operators, Retirement village operators/developers, Real estate agents, Non-financial asset investors and Machinery and equipment hiring and leasing.

<sup>13</sup> Other industry includes Health & Community Services, Education, Communication Services and Personal & Other Services.

Table 7(d): Industry distribution of Exposure at Default (continued)

Mar 19															
Portfolio Type	Agriculture, Forestry, Fishing & Mining \$M	Business Services \$M	Construction \$M	Electricity, Gas & Water Supply \$M	Entertainment, Leisure & Tourism \$M	Financial, Investment & Insurance \$M	Government and Official Institutions \$M	Manufacturing \$M	Personal \$M	Property Services \$M	Wholesale Trade \$M	Retail Trade \$M	Transport & Storage \$M	Other \$M	Total \$M
Corporate	45,087	10,230	5,777	9,385	13,754	44,455	3,178	40,719	680	21,220	26,539	14,321	16,360	19,819	271,524
Sovereign	1,015	2	17	495	-	81,015	62,735	1,415	-	2,035	64	-	254	613	149,660
Bank	1	1	-	-	-	54,921	-	2	-	2	6	42	54	-	55,029
Residential Mortgage	-	-	-	-	-	-	-	-	380,228	-	-	-	-	-	380,228
Qualifying Revolving Retail	-	-	-	-	-	-	-	-	17,589	-	-	-	-	-	17,589
Other Retail	2,954	2,764	3,891	99	2,156	631	15	1,590	13,109	1,163	1,179	3,824	1,312	3,935	38,622
Qualifying Central Counterparties	-	-	-	-	-	12,530	-	-	-	-	-	-	-	-	12,530
Specialised Lending	1,329	4	373	1,524	164	1	-	2	-	37,511	19	16	1,310	408	42,661
<b>Total exposures</b>	<b>50,386</b>	<b>13,001</b>	<b>10,058</b>	<b>11,503</b>	<b>16,074</b>	<b>193,553</b>	<b>65,928</b>	<b>43,728</b>	<b>411,606</b>	<b>61,931</b>	<b>27,807</b>	<b>18,203</b>	<b>19,290</b>	<b>24,775</b>	<b>967,843</b>
% of Total	5.2%	1.3%	1.0%	1.2%	1.7%	20.0%	6.8%	4.5%	42.5%	6.4%	2.9%	1.9%	2.0%	2.6%	100.0%
Sep 18															
Portfolio Type	Agriculture, Forestry, Fishing & Mining \$M	Business Services \$M	Construction \$M	Electricity, Gas & Water Supply \$M	Entertainment, Leisure & Tourism \$M	Financial, Investment & Insurance \$M	Government and Official Institutions \$M	Manufacturing \$M	Personal \$M	Property Services \$M	Wholesale Trade \$M	Retail Trade \$M	Transport & Storage \$M	Other \$M	Total \$M
Corporate	43,262	9,676	5,621	9,390	13,119	41,966	2,989	39,260	710	21,199	25,351	13,988	15,171	18,987	260,689
Sovereign	1,095	1	16	604	-	77,790	62,555	1,018	-	1,600	11	-	445	434	145,569
Bank	14	9	35	57	27	50,956	-	17	-	83	31	30	78	26	51,363
Residential Mortgage	-	-	-	-	-	-	-	-	377,277	-	-	-	-	-	377,277
Qualifying Revolving Retail	-	-	-	-	-	-	-	-	18,447	-	-	-	-	-	18,447
Other Retail	3,046	2,887	4,000	104	2,239	663	16	1,634	13,567	1,212	1,213	4,013	1,353	3,959	39,906
Qualifying Central Counterparties	-	-	-	-	-	11,402	-	-	-	-	-	-	-	-	11,402
Specialised Lending	1,283	5	367	1,212	77	1	-	3	-	34,868	14	16	1,054	562	39,462
<b>Total exposures</b>	<b>48,700</b>	<b>12,578</b>	<b>10,039</b>	<b>11,367</b>	<b>15,462</b>	<b>182,778</b>	<b>65,560</b>	<b>41,932</b>	<b>410,001</b>	<b>58,962</b>	<b>26,620</b>	<b>18,047</b>	<b>18,101</b>	<b>23,968</b>	<b>944,115</b>
% of Total	5.2%	1.3%	1.1%	1.2%	1.6%	19.5%	6.9%	4.4%	43.5%	6.2%	2.8%	1.9%	1.9%	2.5%	100.0%



Table 7(e): Residual contractual maturity of Exposure at Default<sup>14</sup>

<b>Sep 19</b>					
<b>Portfolio Type</b>	<b>&lt; 12 mths \$M</b>	<b>1 - 5 years \$M</b>	<b>&gt; 5 years \$M</b>	<b>No Maturity Specified \$M</b>	<b>Total \$M</b>
Corporate	130,830	140,947	17,694	126	<b>289,597</b>
Sovereign	87,943	46,864	18,133	-	<b>152,940</b>
Bank	39,751	15,026	368	-	<b>55,145</b>
Residential Mortgage	278	832	345,496	27,215	<b>373,821</b>
Qualifying Revolving Retail	-	-	-	16,647	<b>16,647</b>
Other Retail	13,208	5,975	17,188	-	<b>36,371</b>
Qualifying Central Counterparties	6,522	1,584	808	434	<b>9,348</b>
Specialised Lending	17,866	23,243	2,197	42	<b>43,348</b>
<b>Total exposures</b>	<b>296,398</b>	<b>234,471</b>	<b>401,884</b>	<b>44,464</b>	<b>977,217</b>
<b>Mar 19</b>					
<b>Portfolio Type</b>	<b>&lt; 12 mths \$M</b>	<b>1 - 5 years \$M</b>	<b>&gt; 5 years \$M</b>	<b>No Maturity Specified \$M</b>	<b>Total \$M</b>
Corporate	113,793	142,076	15,517	138	<b>271,524</b>
Sovereign	86,706	44,577	18,377	-	<b>149,660</b>
Bank	37,777	16,757	495	-	<b>55,029</b>
Residential Mortgage	340	1,038	350,139	28,711	<b>380,228</b>
Qualifying Revolving Retail	-	-	-	17,589	<b>17,589</b>
Other Retail	13,926	6,552	18,144	-	<b>38,622</b>
Qualifying Central Counterparties	4,685	4,665	2,819	361	<b>12,530</b>
Specialised Lending	17,997	22,795	1,821	48	<b>42,661</b>
<b>Total exposures</b>	<b>275,224</b>	<b>238,460</b>	<b>407,312</b>	<b>46,847</b>	<b>967,843</b>
<b>Sep 18</b>					
<b>Portfolio Type</b>	<b>&lt; 12 mths \$M</b>	<b>1 - 5 years \$M</b>	<b>&gt; 5 years \$M</b>	<b>No Maturity Specified \$M</b>	<b>Total \$M</b>
Corporate	113,477	132,355	14,711	146	<b>260,689</b>
Sovereign	82,871	44,102	18,596	-	<b>145,569</b>
Bank	35,539	15,424	400	-	<b>51,363</b>
Residential Mortgage	329	993	346,915	29,040	<b>377,277</b>
Qualifying Revolving Retail	-	-	-	18,447	<b>18,447</b>
Other Retail	13,933	7,142	18,831	-	<b>39,906</b>
Qualifying Central Counterparties	3,881	4,427	2,736	358	<b>11,402</b>
Specialised Lending	16,627	21,023	1,766	46	<b>39,462</b>
<b>Total exposures</b>	<b>266,657</b>	<b>225,466</b>	<b>403,955</b>	<b>48,037</b>	<b>944,115</b>

<sup>14</sup> No Maturity Specified predominately includes credit cards and residential mortgage equity manager accounts.

**Table 7(f) part (i): Impaired assets<sup>15 16</sup>, Past due loans<sup>17</sup>, Provisions and Write-offs by Industry sector**

Industry Sector	Sep 19					
	Impaired derivatives	Impaired loans/facilities	Past due loans ≥ 90 days	Individual provision balance	Individual provision charge for half year	Write-offs for half year
	\$M	\$M	\$M	\$M	\$M	\$M
Agriculture, Forestry, Fishing & Mining	-	538	133	107	23	18
Business Services	-	104	42	58	24	11
Construction	-	117	77	58	17	25
Electricity, gas and water supply	-	13	1	13	-	1
Entertainment Leisure & Tourism	-	101	59	42	22	24
Financial, Investment & Insurance	-	59	16	40	-	17
Government & Official Institutions	-	-	-	-	-	-
Manufacturing	-	71	44	37	8	36
Personal	-	712	2,974	265	219	358
Property Services	-	53	52	30	7	4
Retail Trade	-	112	98	58	26	24
Transport & Storage	-	71	22	28	10	10
Wholesale Trade	-	111	33	34	11	10
Other	-	87	73	44	31	40
<b>Total</b>	<b>-</b>	<b>2,149</b>	<b>3,624</b>	<b>814</b>	<b>398</b>	<b>578</b>

<sup>15</sup> Impaired derivatives are net of credit value adjustment (CVA) of \$7 million, being a market value based assessment of the credit risk of the relevant counterparties (March 2019: \$20 million; September 2018: \$27 million).

<sup>16</sup> Impaired loans / facilities include restructured items of \$267 million for customer facilities in which the original contractual terms have been modified for reasons related to the financial difficulties of the customer. Restructuring may consist of reduction of interest, principal or other payments legally due, or an extension in maturity materially beyond those typically offered to new facilities with similar risk (March 2019: \$264 million; September 2017: \$269 million).

<sup>17</sup> For regulatory reporting, not well secured portfolio managed retail exposures have been reclassified from past due loans ≥ 90 days to impaired loans / facilities.

**Table 7(f) part (i): Impaired assets, Past due loans, Provisions and Write-offs by Industry sector (continued)<sup>18</sup>**

Industry Sector	Mar 19					
	Impaired derivatives	Impaired loans/facilities	Past due loans ≥ 90 days	Individual provision balance	Individual provision charge for half year	Write-offs for half year
	\$M	\$M	\$M	\$M	\$M	\$M
Agriculture, Forestry, Fishing & Mining	-	551	122	117	-	21
Business Services	-	100	39	45	23	14
Construction	-	130	61	59	21	18
Electricity, gas and water supply	-	2	1	2	-	-
Entertainment Leisure & Tourism	-	114	62	47	22	20
Financial, Investment & Insurance	-	102	14	60	14	5
Government & Official Institutions	-	-	-	-	-	-
Manufacturing	-	105	27	65	1	36
Personal	-	778	2,591	320	235	301
Property Services	-	73	75	24	5	6
Retail Trade	-	116	75	60	28	44
Transport & Storage	-	70	16	25	10	8
Wholesale Trade	-	48	25	29	4	9
Other	-	77	82	38	17	16
<b>Total</b>	<b>-</b>	<b>2,266</b>	<b>3,190</b>	<b>891</b>	<b>380</b>	<b>498</b>

Industry Sector	Sep 18					
	Impaired derivatives	Impaired loans/facilities	Past due loans ≥ 90 days	Individual provision balance	Individual provision charge for half year	Write-offs for half year
	\$M	\$M	\$M	\$M	\$M	\$M
Agriculture, Forestry, Fishing & Mining	-	567	90	136	(12)	31
Business Services	-	72	39	32	3	14
Construction	-	118	62	53	6	26
Electricity, gas and water supply	-	2	1	1	-	-
Entertainment Leisure & Tourism	-	102	54	42	17	25
Financial, Investment & Insurance	-	86	19	48	2	22
Government & Official Institutions	-	-	-	-	-	-
Manufacturing	-	140	23	102	(13)	23
Personal	-	763	2,272	311	271	351
Property Services	-	75	36	21	(3)	7
Retail Trade	-	136	73	74	36	31
Transport & Storage	-	72	20	22	12	10
Wholesale Trade	-	65	20	33	2	16
Other	-	77	66	45	22	17
<b>Total</b>	<b>-</b>	<b>2,275</b>	<b>2,775</b>	<b>920</b>	<b>343</b>	<b>573</b>

<sup>18</sup> In the September 2019 half, ANZ implemented a revised process for the identification of impaired assets, and a more market responsive collateral valuation methodology for the home loan portfolio in Australia which increased the number of home loans being classified as impaired rather than past due. Comparative information has not been restated for the change in methodology. Additional refinement to underlying processes and associated data resulted in the transfer of loans from past due and sub-standard categories into impaired assets. Comparative information has been restated with a transfer of \$106 million at March 2019 and \$126 million at September 2018.

Table 7(f) part (ii): Impaired asset, Past due loans, Provisions and Write-offs

	Sep 19					
	Impaired derivatives \$M	Impaired loans/ facilities \$M	Past due loans ≥ 90 days \$M	Individual provision balance \$M	Individual provision charge for half year \$M	Write- offs for half year \$M
<b>Portfolios subject to Advanced IRB approach</b>						
Corporate	-	1,038	248	369	75	89
Sovereign	-	-	-	-	-	-
Bank	-	-	-	-	-	-
Residential Mortgage	-	438	2,943	137	37	67
Qualifying Revolving Retail	-	69	-	-	87	126
Other Retail	-	442	379	221	187	264
<b>Total Advanced IRB approach</b>	<b>-</b>	<b>1,987</b>	<b>3,570</b>	<b>727</b>	<b>386</b>	<b>546</b>
<b>Specialised Lending</b>	<b>-</b>	<b>31</b>	<b>33</b>	<b>5</b>	<b>(2)</b>	<b>1</b>
<b>Portfolios subject to Standardised approach</b>						
Corporate	-	106	14	75	11	26
Residential Mortgage	-	10	6	7	3	1
Other Retail	-	15	1	-	-	4
<b>Total Standardised approach</b>	<b>-</b>	<b>131</b>	<b>21</b>	<b>82</b>	<b>14</b>	<b>31</b>
<b>Qualifying Central Counterparties</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total</b>	<b>-</b>	<b>2,149</b>	<b>3,624</b>	<b>814</b>	<b>398</b>	<b>578</b>

Table 7(f) part (ii): Impaired asset, Past due loans, Provisions and Write-offs (continued)<sup>19</sup>

	Mar 19					
	Impaired derivatives \$M	Impaired loans/ facilities \$M	Past due loans ≥ 90 days \$M	Individual provision balance \$M	Individual provision charge for half year \$M	Write-offs for half year \$M
<b>Portfolios subject to Advanced IRB approach</b>						
Corporate	-	1,050	167	375	51	68
Sovereign	-	-	-	-	-	-
Bank	-	-	-	-	-	-
Residential Mortgage	-	441	2,587	156	45	50
Qualifying Revolving Retail	-	76	-	-	85	123
Other Retail	-	491	369	256	197	232
<b>Total Advanced IRB approach</b>	<b>-</b>	<b>2,058</b>	<b>3,123</b>	<b>787</b>	<b>378</b>	<b>473</b>
<b>Specialised Lending</b>	<b>-</b>	<b>38</b>	<b>32</b>	<b>6</b>	<b>1</b>	<b>2</b>
<b>Portfolios subject to Standardised approach</b>						
Corporate	-	138	14	87	1	19
Residential Mortgage	-	19	13	9	(1)	1
Other Retail	-	13	8	2	1	3
<b>Total Standardised approach</b>	<b>-</b>	<b>170</b>	<b>35</b>	<b>98</b>	<b>1</b>	<b>23</b>
<b>Qualifying Central Counterparties</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total</b>	<b>-</b>	<b>2,266</b>	<b>3,190</b>	<b>891</b>	<b>380</b>	<b>498</b>
	Sep 18					
	Impaired derivatives \$M	Impaired loans/ facilities \$M	Past due loans ≥ 90 days \$M	Individual provision balance \$M	Individual provision charge for half year \$M	Write-offs for half year \$M
<b>Portfolios subject to Advanced IRB approach</b>						
Corporate	-	1,051	161	394	1	90
Sovereign	-	-	-	-	(3)	-
Bank	-	-	-	-	-	-
Residential Mortgage	-	430	2,204	160	56	41
Qualifying Revolving Retail	-	76	-	-	93	140
Other Retail	-	490	353	247	211	277
<b>Total Advanced IRB approach</b>	<b>-</b>	<b>2,047</b>	<b>2,718</b>	<b>801</b>	<b>358</b>	<b>548</b>
<b>Specialised Lending</b>	<b>-</b>	<b>43</b>	<b>22</b>	<b>7</b>	<b>2</b>	<b>4</b>
<b>Portfolios subject to Standardised approach</b>						
Corporate	-	150	17	101	(19)	15
Residential Mortgage	-	20	12	9	1	3
Other Retail	-	15	6	2	1	3
<b>Total Standardised approach</b>	<b>-</b>	<b>185</b>	<b>35</b>	<b>112</b>	<b>(17)</b>	<b>21</b>
<b>Qualifying Central Counterparties</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total</b>	<b>-</b>	<b>2,275</b>	<b>2,775</b>	<b>920</b>	<b>343</b>	<b>573</b>

<sup>19</sup> In the September 2019 half, ANZ implemented a revised process for the identification of impaired assets, and a more market responsive collateral valuation methodology for the home loan portfolio in Australia which increased the number of home loans being classified as impaired rather than past due. Comparative information has not been restated for the change in methodology. Additional refinement to underlying processes and associated data resulted in the transfer of loans from past due and sub-standard categories into impaired assets. Comparative information has been restated with a transfer of \$106 million at March 2019 and \$126 million at September 2018.

**Table 7(g): Impaired assets<sup>20 21 22</sup>, Past due loans<sup>23</sup> and Provisions<sup>24</sup> by Geography**

Geographic region	Sep 19				
	Impaired derivatives	Impaired loans/facilities	Past due loans	Individual provision balance	Collective provision balance
	\$M	\$M	≥ 90 days \$M	\$M	\$M
Australia	-	1,678	3,312	598	2,470
New Zealand	-	301	292	101	451
Asia Pacific, Europe and America	-	170	20	115	455
<b>Total</b>	<b>-</b>	<b>2,149</b>	<b>3,624</b>	<b>814</b>	<b>3,376</b>

Geographic region	Mar 19				
	Impaired derivatives	Impaired loans/facilities	Past due loans	Individual provision balance	Collective provision balance
	\$M	\$M	≥ 90 days \$M	\$M	\$M
Australia	-	1,743	2,898	656	2,484
New Zealand	-	313	256	108	437
Asia Pacific, Europe and America	-	210	36	127	457
<b>Total</b>	<b>-</b>	<b>2,266</b>	<b>3,190</b>	<b>891</b>	<b>3,378</b>

Geographic region	Sep 18				
	Impaired derivatives	Impaired loans/facilities	Past due loans	Individual provision balance	Collective provision balance
	\$M	\$M	≥ 90 days \$M	\$M	\$M
Australia	-	1,716	2,557	650	1,796
New Zealand	-	328	183	121	352
Asia Pacific, Europe and America	-	231	35	149	375
<b>Total</b>	<b>-</b>	<b>2,275</b>	<b>2,775</b>	<b>920</b>	<b>2,523</b>

<sup>20</sup> Impaired derivatives are net of credit value adjustment (CVA) of \$7 million, being a market value based assessment of the credit risk of the relevant counterparties (March 2019: \$20 million; September 2018: \$27 million).

<sup>21</sup> Impaired loans / facilities include restructured items of \$267 million for customer facilities in which the original contractual terms have been modified for reasons related to the financial difficulties of the customer. Restructuring may consist of reduction of interest, principal or other payments legally due, or an extension in maturity materially beyond those typically offered to new facilities with similar risk (March 2019: \$264 million; September 2017: \$269 million).

<sup>22</sup> In the September 2019 half, ANZ implemented a revised process for the identification of impaired assets, and a more market responsive collateral valuation methodology for the home loan portfolio in Australia which increased the number of home loans being classified as impaired rather than past due. Comparative information has not been restated for the change in methodology. Additional refinement to underlying processes and associated data resulted in the transfer of loans from past due and sub-standard categories into impaired assets. Comparative information has been restated with a transfer of \$106 million at March 2019 and \$126 million at September 2018.

<sup>23</sup> For regulatory reporting, not well secured portfolio managed retail exposures have been reclassified from past due loans ≥ 90 days to impaired loans / facilities.

<sup>24</sup> Due to definitional differences, there is a variation in the split between ANZ's Individual Provision and Collective Provision for accounting purposes and the Specific Provision and General Reserve for Credit Losses (GRCL) for regulatory purposes. This does not impact total provisions, and essentially relates to the classification of collectively assessed provisions on defaulted accounts. The disclosures in this document are based on Individual Provision and Collective Provision, for ease of comparison with other published results.

Table 7(h): Provision for Credit Impairment

	Half year Sep 19 \$M	Half year Mar 19 \$M	Half year Sep 18 \$M
<b>Collectively Assessed Provision</b>			
Balance at start of period	3,378	3,336	2,579
Charge/(Release) to Income Statement	4	12	(63)
Adjustment for exchange rate fluctuations and transfers	6	30	7
Asia divestment <sup>25</sup>	(11)	-	-
<b>less: Investment securities at FVOCI<sup>26</sup></b>	<b>1</b>	<b>-</b>	<b>-</b>
<b>Total Collectively Assessed Provision</b>	<b>3,376</b>	<b>3,378</b>	<b>2,523</b>
<b>1 October Transition to AASB 9</b>			<b>813</b>
<b>Total Collectively Assessed Provision</b>			<b>3,336</b>
<b>Individually Assessed Provision</b>			
Balance at start of period	891	920	1,016
New and increased provisions	750	625	716
Write-backs	(233)	(152)	(234)
Adjustment for exchange rate fluctuations and transfers	2	7	5
Discount unwind	(12)	(11)	(10)
Bad debts written off	(578)	(498)	(573)
Asia divestment <sup>24</sup>	(6)	-	-
<b>Total Individually Assessed Provision</b>	<b>814</b>	<b>891</b>	<b>920</b>
<b>Total Provisions for Credit Impairment</b>	<b>4,190</b>	<b>4,269</b>	<b>3,443</b>
<b>1 October Transition to AASB 9 Total Provisions for Credit Impairment</b>			<b>4,256</b>

<sup>25</sup> Sale of ANZ Royal Bank (Cambodia) Ltd and Papua New Guinea Retail, Commercial and Small-Medium Sized Enterprise businesses.

<sup>26</sup> The allowance for ECL on Investment Securities at FVOCI is recognised in the FVOCI reserve in equity with a corresponding charge to profit or loss.

Table 7(j): Specific Provision Balance and General Reserve for Credit Losses<sup>27</sup>

	Sep 19		
	Specific Provision Balance \$M	General Reserve for Credit Losses \$M	Total \$M
Collectively Assessed Provision	435	2,941	3,376
Individually Assessed Provision	814	-	814
<b>Total Provision for Credit Impairment</b>	<b>1,249</b>	<b>2,941</b>	<b>4,190</b>

	Mar 19		
	Specific Provision Balance \$M	General Reserve for Credit Losses \$M	Total \$M
Collectively Assessed Provision	395	2,983	3,378
Individually Assessed Provision	891	-	891
<b>Total Provision for Credit Impairment</b>	<b>1,286</b>	<b>2,983</b>	<b>4,269</b>

	Sep 18		
	Specific Provision Balance \$M	General Reserve for Credit Losses \$M	Total \$M
Collectively Assessed Provision	307	2,216	2,523
Individually Assessed Provision	920	-	920
<b>Total Provision for Credit Impairment</b>	<b>1,227</b>	<b>2,216</b>	<b>3,443</b>

<sup>27</sup> Due to definitional differences, there is a variation in the split between ANZ's Individual Provision and Collective Provision for accounting purposes and the Specific Provision and General Reserve for Credit Losses (GRCL) for regulatory purposes. This does not impact total provisions, and essentially relates to the classification of collectively assessed provisions on defaulted accounts. The disclosures in this document are based on Individual Provision and Collective Provision, for ease of comparison with other published results.



**Table 8 Credit risk – Disclosures for portfolios subject to the Standardised approach and supervisory risk weights in the IRB approach****Table 8(b): Exposure at Default by risk bucket<sup>28</sup>**

	Sep 19 \$M	Mar 19 \$M	Sep 18 \$M
<b>Standardised approach exposures</b>			
0%	1	-	-
20%	277	383	487
35%	195	362	359
50%	2,680	2,589	2,351
75%	-	-	-
100%	10,152	10,658	12,467
150%	184	320	188
>150%	3	3	3
Capital deductions	-	-	-
<b>Total</b>	<b>13,492</b>	<b>14,315</b>	<b>15,855</b>
<b>Other Asset exposures</b>			
0%	-	-	-
20%	767	818	865
35%	-	-	-
50%	-	-	-
75%	-	-	-
100%	3,127	3,415	2,974
150%	-	-	-
>150%	-	-	-
Capital deductions	-	-	-
<b>Total</b>	<b>3,894</b>	<b>4,233</b>	<b>3,839</b>
<b>Specialised Lending exposures</b>			
0%	181	201	193
70%	20,691	20,389	18,225
90%	19,869	19,369	18,402
115%	1,900	2,046	2,084
250%	707	656	558
<b>Total</b>	<b>43,348</b>	<b>42,661</b>	<b>39,462</b>

<sup>28</sup> Table 8(b) shows exposure at default after credit risk mitigation in each risk category.

**Table 9 Credit risk – Disclosures for portfolios subject to Advanced IRB approaches****Portfolios subject to the Advanced IRB (AIRB) approach**

The following table summarises the types of borrowers and the rating approach adopted within each of ANZ's AIRB portfolios:

IRB Asset Class	Borrower Type	Rating Approach
Corporate	Corporations, partnerships or proprietorships that do not fit into any other asset class	AIRB
Sovereign	Central governments Central banks Certain multilateral development banks	AIRB
Bank	Banks <sup>29</sup> In Australia only, other authorised deposit taking institutions (ADI) incorporated in Australia	AIRB
Residential Mortgages	Exposures secured by residential property	AIRB
Qualifying Revolving Retail	Consumer credit cards <\$100,000 limit	AIRB
Other Retail	Small business lending Other lending to consumers	AIRB
Specialised Lending	Income Producing Real Estate <sup>30</sup> Project finance Object finance	AIRB – Supervisory Slotting <sup>31</sup>
Other Assets	All other assets not falling into the above classes e.g. margin lending, fixed assets	AIRB – fixed risk weights

In addition, ANZ has applied the Standardised approach to some portfolio segments (mainly retail and local corporates in Pacific, and local corporates in Asia) where currently available data does not enable development of advanced internal models for PD, LGD and EAD estimates. Under the Standardised approach, exposures are mapped to several regulatory risk weights, mainly based on the type of counterparty and its external rating. For these counterparties, external ratings by Standard & Poor's and Moody's Investors Service are used as inputs into the RWA calculation. As described in the section on the ANZ rating system, ANZ has mapped its master scale to the grading of these two External Credit Assessment Institutions (ECAIs).

ANZ applies its full normal risk measurement and management framework to these segments for internal management purposes, such as for economic capital. Standardised segments will be migrated to AIRB if they reach a volume that generates sufficient data for development of advanced internal models.

ANZ has not applied the Foundation IRB approach to any portfolios.

**The ANZ rating system**

As an AIRB bank, ANZ's internal models generate the inputs into regulatory capital adequacy to determine the risk weighted exposure calculations for both on and off-balance sheet exposures, including undrawn portions of credit facilities, committed and contingent exposures and EL calculations. ANZ's internal models are used to generate the three key risk components that serve as inputs to the IRB approach to credit risk:

- PD is an estimate of the level of the risk of borrower default. Borrower ratings are derived by way of rating models used both at loan origination and for ongoing monitoring.
- EAD is defined as the expected facility exposure at the date of default.
- LGD is an estimate of the potential economic loss on a credit exposure, incurred as a consequence of obligor default and expressed as a percentage of the facility's EAD. ANZ's LGD also includes recognition of the different legal and insolvency regimes in different countries, where this has been shown to influence recovery outcomes.

<sup>29</sup> The IRB asset classification of investment banks is Corporate, rather than Bank.

<sup>30</sup> Since 2009, APRA has agreed that some large, well-diversified commercial property exposures may be treated as corporate exposures, in line with the original Basel Committee's definition of Specialised Lending.

<sup>31</sup> ANZ uses an internal assessment which is mapped to the appropriate Supervisory Slot.

Effective maturity is also calculated as an input to the risk weighted exposure calculation for bank, sovereign and corporate IRB asset classes.

ANZ's rating system has two separate and distinct dimensions that:

- Measure the PD, which is expressed by the Customer Credit Rating (CCR), reflecting the ability to service and repay debt.
- Measure the LGD as expressed by the Security Indicator (SI) ranging from A to G. The SI is calculated by reference to the percentage of a loan covered by security which can be realised in the event of default. This calculation uses standard ratios to adjust the current market value of collateral items to allow for historical realisation outcomes. The security-related SIs are supplemented with a range of other SIs which cover such factors as cash cover, mezzanine finance, intra-group guarantees and sovereign backing as ANZ's LGD research indicates that these transaction characteristics have different recovery outcomes. ANZ's LGD also includes recognition of the different legal and insolvency regimes in different countries, where this has been shown to influence recovery outcomes.

ANZ's corporate PD master scale is APRA approved, and is made up of 27 rating grades. Each level/grade is separately defined and has a range of default probabilities attached to it. The PD master scale enables ANZ's rating system to be mapped to the grading's of external rating agencies, using the PD as a common element after ensuring that default definitions and other key attributes are aligned.

The following table demonstrates this alignment (for one year PDs):

ANZ CCR	Moody's	Standard & Poor's	PD Range
0+ to 1-	Aaa to Aa3	AAA to AA-	0.0000 - 0.0346%
2+ to 3+	A1 to Baa1	A+ to BBB+	0.0347 - 0.1636%
3= to 4+	Baa2 to > Baa3	BBB to > BB+	0.1637 - 0.4004%
4= to 6=	Ba1 to B1	BB+ to B+	0.4005 - 2.7550%
6- to 7=	B2 to B3	B to B-	2.7551 - 9.7980%
7- to 8+	Caa	CCC	9.7981 - 27.1109%
8=	Ca, C	CC, C	27.1110 - 99.9999%
8-, 9 and 10	Default	Default	100%

In the retail asset classes, most facilities utilise credit rating scores. The scores are calibrated to PDs, and used to allocate exposures to homogenous pools, along with LGD and EAD.

#### Use of internal estimates other than for regulatory capital purposes

ANZ's rating system is a fundamental part of credit management and plays a key role in:

- Lending discretions,
- Minimum origination standards,
- Concentration limits,
- Portfolio reporting,
- Customer profitability measurement,
- Collectively assessed provision measurement,
- Management of deteriorating customers (where certain CCR/SI combinations trigger increasing scrutiny), and
- Pricing decisions.

PD, LGD and EAD are used in the calculation of capital and in the collectively assessed provisioning process. Regulatory and economic capital are calculated from the same data sources and starting from the same basis, however there are some differences between the factors used because several aspects of ANZ's rating system are adjusted in accordance with APRA requirements for regulatory capital purposes. The most significant of these adjustments are the use for regulatory capital purposes of downturn LGDs; the imposition of a 20% LGD floor for exposures secured by Australian residential real estate and the mandatory use of the supervisory slotting approach for project finance and most commercial real estate exposures.

### **Controls surrounding the ratings system**

ANZ's rating system and credit risk estimates are governed by the Board Risk Committee and several executive management committees, and are underpinned by a comprehensive framework of controls that operate throughout ANZ. All policies, methodologies, model designs, model reviews, validations, responsibilities, systems and processes supporting the ratings systems are documented, and subject to review by Global Internal Audit.

The design, build and implementation of credit rating models resides with a specialist Group-level team. Credit rating models are owned by central Risk teams. The use (including overrides) and performance of credit rating models is monitored by the relevant business and their counterparts in Risk, and validated regularly by a separate specialist Group-level function. This cycle of design, build, implementation, monitoring and validation is overseen by the CRSOC, and informs the need for new models or recalibration of existing models.

Group Credit Assurance (within Global Internal Audit) provides third line independent credit related assurance activities, including providing an independent assessment of both the asset quality in the portfolio and the quality of credit decision making. It also assesses management controls from a "top down" portfolio oversight perspective as well as credit risk processes from a "bottom up" perspective based on individual customer file reviews.

Risk grades are an integral part of reporting to the Board and executives.

In addition, the use of the rating system's outputs in key business unit performance measures in processes such as provisioning and the allocation of capital ensure that the rating system receives robust input from the business units, not just the specialist modelling teams.

### **Rating process by asset class**

Building reliable and accurate rating tools requires balancing of many factors including data availability (external data may be used in some circumstances, where it is relevant), the size of the segment (the more customers within the segment, the more likely that statistically reliable models can be built), and the need to be able to validate the model. Rating tool approaches include:

- Statistical models producing a PD or a LGD, which are developed from internal or external data on defaults.
- Statistical models producing an internal rating, which involve calibrating ANZ's models to external rating data where data on defaults is insufficient for statistical purposes (such as banks).
- Hybrid statistical and expert models producing an internal rating, which use a mixture of default data and expert input.
- Expert models/processes that produce an internal rating, including external rating agency replication models.

Ongoing data collection and testing processes ensure enhanced or new models are introduced as required to maintain and improve the accuracy and reliability of rating processes.

Regardless of what credit risk rating tool is used, lending staff rating a customer are required to review the model-generated PD (or CCR) and take into account any out-of-model factors or policy overlays to decide whether or not to override the model rating. Overrides of a rating model to a better rating require approval from the independent credit risk function. The significance of the model for risk grading varies with the customer segment: models will dominate risk grading of homogenous, simple and data-rich segments such as in Retail, however for complex, specialised business segments expert knowledge and the highly customised nature of transactions will influence the rating outcome.

The following table summarises the types of internal rating approaches used in ANZ:

IRB Asset Class	Borrower type	Rating Approach
Corporate	Corporations, partnerships or proprietorships that do not fit into any other asset class	Mainly statistical models Some use of expert models and policy processes
Sovereign	Central governments Central banks Certain multilateral development banks Australian state governments	External rating and expert judgement
Bank	Banks In Australia only, other ADIs incorporated in Australia	Statistically-based models Review of all relevant and material information including external ratings
Residential Mortgages	Exposures secured by residential property	Statistical models
Qualifying Revolving Retail	Consumer credit cards <\$100,000 limit	Statistical models
Other Retail	Small business lending Other lending to consumers	Statistical models
Specialised Lending	Income Producing Real Estate Project finance Object finance	Expert models/Supervisory Slotting <sup>32</sup>

For the Retail Basel asset class (Residential Mortgages, Qualifying Revolving Retail and Other Retail Exposures) the large number of relatively homogenous exposures enable the development of statistically robust application scoring models for use at origination and behavioural scoring for ongoing management. As noted above, the scores are calibrated to PD, and used to allocate exposures to homogenous pools, along with LGD and EAD.

#### Estimation of LGD and EAD

ANZ's LGD modelling takes into account data on secured recovery, unsecured recovery rates and debt seniority, geography and internal management costs from several major data sources. Internal data is used as the basis for LGD estimation in the retail asset class, and is supplemented by external data for the corporate asset class. Given the scarcity of internal data for Bank and Sovereign Basel asset classes, LGD modelling for these classes is primarily based on external data.

EAD represents the expected facility exposure at the date of default, including an estimate of additional drawings prior to default, as well as post-default drawings that were legally committed to prior to default.

<sup>32</sup> Specialised Lending exposures are rated with internal rating tools to produce a PD and LGD. These are used in internal processes, but not for regulatory capital purposes where the exposures are mapped to Supervisory Slots.

**Table 9(d): Non Retail Exposure at Default subject to Advanced Internal Ratings Based (IRB) approach<sup>33 34</sup>**

	Sep 19							
	AAA < A+ \$M	A+ < BBB \$M	BBB < BB+ \$M	BB+ < B+ \$M	B+ < CCC \$M	CCC \$M	Default \$M	Total \$M
<b>Exposure at Default</b>								
Corporate	28,676	83,292	88,656	56,847	14,923	2,151	2,054	<b>276,599</b>
Sovereign	121,380	26,556	2,315	898	1,768	22	1	<b>152,940</b>
Bank	17,972	31,295	4,321	1,529	24	4	-	<b>55,145</b>
<b>Total</b>	<b>168,028</b>	<b>141,143</b>	<b>95,292</b>	<b>59,274</b>	<b>16,715</b>	<b>2,177</b>	<b>2,055</b>	<b>484,684</b>
% of Total	34.8%	29.1%	19.7%	12.2%	3.4%	0.4%	0.4%	100.0%
<b>Undrawn commitments (included in above)</b>								
Corporate	7,689	32,168	22,657	8,018	1,620	205	58	<b>72,415</b>
Sovereign	1,194	54	1	10	4	-	-	<b>1,263</b>
Bank	47	442	28	-	2	-	-	<b>519</b>
<b>Total</b>	<b>8,930</b>	<b>32,664</b>	<b>22,686</b>	<b>8,028</b>	<b>1,626</b>	<b>205</b>	<b>58</b>	<b>74,197</b>
<b>Average Exposure at Default</b>								
Corporate	12.281	10.124	1.790	0.698	0.133	0.217	0.730	<b>1.039</b>
Sovereign	166.960	491.771	38.586	11.662	21.047	5.615	0.204	<b>151.426</b>
Bank	6.600	6.072	4.163	4.444	0.654	0.240	-	<b>5.922</b>
<b>Exposure-weighted average Loss Given Default (%)</b>								
Corporate	54.6%	56.5%	46.8%	36.8%	33.8%	39.2%	41.2%	<b>47.7%</b>
Sovereign	5.1%	12.9%	40.8%	42.5%	51.4%	58.3%	5.6%	<b>7.7%</b>
Bank	63.9%	61.7%	64.3%	68.5%	67.7%	72.5%	-	<b>62.8%</b>
<b>Exposure-weighted average risk weight (%)</b>								
Corporate	17.1%	32.9%	52.9%	62.6%	88.3%	190.5%	108.0%	<b>48.5%</b>
Sovereign	0.9%	3.3%	42.0%	80.8%	138.1%	318.9%	-	<b>4.1%</b>
Bank	19.5%	25.3%	63.7%	113.7%	183.3%	391.1%	-	<b>29.0%</b>

<sup>33</sup> In accordance with APS 330, EAD in Table 9(d) includes Advanced IRB exposures and excludes Specialised Lending, Standardised, Securitisation, Equities or Other Assets exposures. Specialised Lending is excluded from Table 9(d) as it follows the Supervisory Slotting treatment, and a breakdown of risk weightings is provided in Table 8(b).

<sup>34</sup> Average EAD is calculated as total EAD post risk mitigants divided by the total number of credit risk generating exposures.

<sup>35</sup> Exposure-weighted average risk weight (%) is calculated as CRWA divided by EAD.

Table 9(d): Non Retail Exposure at Default subject to Advanced Internal Ratings Based (IRB) approach (continued)

	Mar 19							
	AAA < A+ \$M	A+ < BBB \$M	BBB < BB+ \$M	BB+ < B+ \$M	B+ < CCC \$M	CCC \$M	Default \$M	Total \$M
<b>Exposure at Default</b>								
Corporate	24,071	75,429	82,915	57,029	14,719	2,105	1,737	<b>258,005</b>
Sovereign	121,841	22,498	2,180	649	2,458	33	1	<b>149,660</b>
Bank	22,421	27,875	3,677	916	136	4	-	<b>55,029</b>
<b>Total</b>	<b>168,333</b>	<b>125,802</b>	<b>88,772</b>	<b>58,594</b>	<b>17,313</b>	<b>2,142</b>	<b>1,738</b>	<b>462,694</b>
% of Total	36.3%	27.2%	19.2%	12.7%	3.7%	0.5%	0.4%	100.0%
<b>Undrawn commitments (included in above)</b>								
Corporate	7,415	29,225	21,602	8,829	1,573	231	42	<b>68,917</b>
Sovereign	1,305	47	111	12	2	-	-	<b>1,477</b>
Bank	1	587	28	-	-	-	-	<b>616</b>
<b>Total</b>	<b>8,721</b>	<b>29,859</b>	<b>21,741</b>	<b>8,841</b>	<b>1,575</b>	<b>231</b>	<b>42</b>	<b>71,010</b>
<b>Average Exposure at Default</b>								
Corporate	10.996	8.165	1.639	0.688	0.131	0.217	0.628	<b>0.958</b>
Sovereign	168.289	368.813	31.597	9.136	30.727	11.051	0.277	<b>148.032</b>
Bank	10.800	5.413	8.755	3.878	4.401	0.158	-	<b>6.931</b>
<b>Exposure-weighted average Loss Given Default (%)</b>								
Corporate	54.5%	56.2%	45.8%	37.1%	34.1%	39.8%	46.1%	<b>47.0%</b>
Sovereign	5.3%	11.8%	35.7%	45.8%	54.1%	60.0%	5.0%	<b>7.7%</b>
Bank	63.8%	61.6%	64.3%	68.7%	66.1%	71.1%	-	<b>62.8%</b>
<b>Exposure-weighted average risk weight (%)</b>								
Corporate	17.7%	32.4%	51.3%	63.5%	89.6%	187.6%	116.7%	<b>49.1%</b>
Sovereign	1.0%	3.1%	38.1%	91.4%	147.0%	310.0%	-	<b>4.7%</b>
Bank	19.6%	27.2%	64.7%	115.2%	193.9%	376.2%	-	<b>28.5%</b>
<b>Sep 18</b>								
	AAA < A+ \$M	A+ < BBB \$M	BBB < BB+ \$M	BB+ < B+ \$M	B+ < CCC \$M	CCC \$M	Default \$M	Total \$M
<b>Exposure at Default</b>								
Corporate	24,269	68,253	79,833	54,934	14,790	1,636	1,910	<b>245,625</b>
Sovereign	120,919	19,532	1,822	903	2,375	17	1	<b>145,569</b>
Bank	17,177	27,971	4,183	1,917	109	6	-	<b>51,363</b>
<b>Total</b>	<b>162,365</b>	<b>115,756</b>	<b>85,838</b>	<b>57,754</b>	<b>17,274</b>	<b>1,659</b>	<b>1,911</b>	<b>442,557</b>
% of Total	36.7%	26.2%	19.4%	13.1%	3.9%	0.4%	0.4%	100.0%
<b>Undrawn commitments (included in above)</b>								
Corporate	8,015	24,703	22,462	7,943	1,631	245	33	<b>65,032</b>
Sovereign	952	68	-	11	2	-	-	<b>1,033</b>
Bank	6	450	28	131	3	-	-	<b>618</b>
<b>Total</b>	<b>8,973</b>	<b>25,221</b>	<b>22,490</b>	<b>8,085</b>	<b>1,636</b>	<b>245</b>	<b>33</b>	<b>66,683</b>
<b>Average Exposure at Default</b>								
Corporate	11.109	8.117	1.603	0.651	0.130	0.172	0.714	<b>0.911</b>
Sovereign	161.225	542.567	31.972	9.219	30.444	5.712	0.653	<b>142.296</b>
Bank	12.013	7.359	11.951	6.223	0.998	0.209	-	<b>8.514</b>
<b>Exposure-weighted average Loss Given Default (%)</b>								
Corporate	55.7%	55.8%	46.5%	37.0%	33.8%	38.7%	43.6%	<b>47.0%</b>
Sovereign	5.3%	11.5%	39.9%	46.7%	53.9%	60.0%	5.0%	<b>7.6%</b>
Bank	63.5%	62.5%	65.0%	65.0%	34.8%	42.7%	-	<b>63.0%</b>
<b>Exposure-weighted average risk weight (%)</b>								
Corporate	18.5%	32.3%	52.2%	63.2%	88.0%	180.6%	109.6%	<b>49.2%</b>
Sovereign	1.0%	3.0%	43.0%	94.7%	146.5%	267.3%	-	<b>4.8%</b>
Bank	20.3%	26.4%	65.1%	113.1%	114.2%	251.7%	-	<b>31.0%</b>

**Table 9(d): Retail Exposure at Default subject to Advanced Internal Ratings Based (IRB) approach by risk grade**

	Sep 19							Total \$M
	0.00% <0.11% \$M	0.11% <0.30% \$M	0.30% <0.51% \$M	0.51% <3.49% \$M	3.49% <10.09% \$M	10.09% <100.00% \$M	Default \$M	
<b>Exposure at Default</b>								
Residential Mortgage	71,738	98,315	59,839	129,754	6,916	3,383	3,431	<b>373,376</b>
Qualifying Revolving Retail	5,635	3,681	1,317	3,996	1,334	617	67	<b>16,647</b>
Other Retail	1,050	5,289	2,307	20,070	4,672	1,969	965	<b>36,322</b>
<b>Total</b>	<b>78,423</b>	<b>107,285</b>	<b>63,463</b>	<b>153,820</b>	<b>12,922</b>	<b>5,969</b>	<b>4,463</b>	<b>426,345</b>
% of Total	18.4%	25.2%	14.9%	36.1%	3.0%	1.4%	1.0%	100.0%
<b>Undrawn commitments (included in above)</b>								
Residential Mortgage	15,322	7,393	2,870	7,233	33	32	-	<b>32,883</b>
Qualifying Revolving Retail	4,106	2,757	819	1,463	290	53	2	<b>9,490</b>
Other Retail	803	3,354	1,488	2,666	488	76	9	<b>8,884</b>
<b>Total</b>	<b>20,231</b>	<b>13,504</b>	<b>5,177</b>	<b>11,362</b>	<b>811</b>	<b>161</b>	<b>11</b>	<b>51,257</b>
<b>Average Exposure at Default</b>								
Residential Mortgage	0.253	0.228	0.255	0.262	0.343	0.326	0.274	<b>0.251</b>
Qualifying Revolving Retail	0.009	0.008	0.008	0.010	0.010	0.006	0.009	<b>0.009</b>
Other Retail	0.008	0.016	0.011	0.024	0.009	0.011	0.027	<b>0.016</b>
<b>Exposure-weighted average Loss Given Default (%)</b>								
Residential Mortgage	19.7%	18.3%	19.2%	20.8%	20.3%	20.0%	19.9%	<b>19.6%</b>
Qualifying Revolving Retail	75.6%	80.1%	77.7%	81.3%	84.9%	82.6%	83.5%	<b>79.2%</b>
Other Retail	55.9%	54.0%	73.6%	45.4%	67.3%	54.8%	45.6%	<b>52.1%</b>
<b>Exposure-weighted average risk weight (%)</b>								
Residential Mortgage	5.9%	11.3%	19.0%	39.6%	93.9%	127.1%	197.0%	<b>25.6%</b>
Qualifying Revolving Retail	3.5%	8.1%	16.2%	45.0%	105.5%	203.0%	230.7%	<b>32.0%</b>
Other Retail	14.4%	22.7%	51.4%	59.1%	116.5%	170.9%	236.9%	<b>70.2%</b>



**Table 9(d): Retail Exposure at Default subject to Advanced Internal Ratings Based (IRB) approach by risk grade**

	Mar 19							
	0.00% <0.11%	0.11% <0.30%	0.30% <0.51%	0.51% <3.49%	3.49% <10.09%	10.09% <100.00%	Default	Total
	\$M	\$M	\$M	\$M	\$M	\$M	\$M	\$M
<b>Exposure at Default</b>								
Residential Mortgage	72,179	101,882	62,220	129,353	7,357	3,477	3,044	<b>379,512</b>
Qualifying Revolving Retail	5,700	3,914	1,358	4,262	1,638	644	73	<b>17,589</b>
Other Retail	1,101	5,542	2,448	21,259	5,052	2,142	998	<b>38,542</b>
<b>Total</b>	<b>78,980</b>	<b>111,338</b>	<b>66,026</b>	<b>154,874</b>	<b>14,047</b>	<b>6,263</b>	<b>4,115</b>	<b>435,643</b>
% of Total	18.1%	25.6%	15.2%	35.6%	3.2%	1.4%	0.9%	100.0%
<b>Undrawn commitments (included in above)</b>								
Residential Mortgage	15,461	7,497	2,782	7,197	31	22	1	<b>32,991</b>
Qualifying Revolving Retail	4,178	2,943	828	1,587	446	60	2	<b>10,044</b>
Other Retail	833	3,575	1,577	2,809	513	77	8	<b>9,392</b>
<b>Total</b>	<b>20,472</b>	<b>14,015</b>	<b>5,187</b>	<b>11,593</b>	<b>990</b>	<b>159</b>	<b>11</b>	<b>52,427</b>
<b>Average Exposure at Default</b>								
Residential Mortgage	0.250	0.232	0.258	0.259	0.340	0.326	0.275	<b>0.251</b>
Qualifying Revolving Retail	0.009	0.008	0.008	0.011	0.010	0.006	0.009	<b>0.009</b>
Other Retail	0.008	0.016	0.013	0.024	0.009	0.012	0.026	<b>0.017</b>
<b>Exposure-weighted average Loss Given Default (%)</b>								
Residential Mortgage	19.7%	18.4%	19.2%	20.7%	20.3%	20.0%	19.9%	<b>19.6%</b>
Qualifying Revolving Retail	75.6%	80.5%	77.6%	81.4%	84.6%	82.7%	83.6%	<b>79.4%</b>
Other Retail	55.3%	54.7%	73.2%	45.6%	66.4%	56.6%	47.1%	<b>52.3%</b>
<b>Exposure-weighted average risk weight (%)</b>								
Residential Mortgage	5.9%	11.5%	19.1%	39.8%	94.1%	127.6%	188.2%	<b>25.5%</b>
Qualifying Revolving Retail	3.5%	8.1%	16.2%	45.4%	105.0%	201.7%	230.3%	<b>33.3%</b>
Other Retail	29.7%	37.0%	55.6%	59.5%	115.7%	170.2%	221.7%	<b>72.7%</b>
<b>Sep 18</b>								
	0.00% <0.11%	0.11% <0.30%	0.30% <0.51%	0.51% <3.49%	3.49% <10.09%	10.09% <100.00%	Default	Total
	\$M	\$M	\$M	\$M	\$M	\$M	\$M	\$M
<b>Exposure at Default</b>								
Residential Mortgage	72,571	100,911	61,451	127,212	7,944	3,830	2,654	<b>376,573</b>
Qualifying Revolving Retail	5,776	3,911	1,521	4,695	1,767	703	74	<b>18,447</b>
Other Retail	1,056	5,353	2,384	22,156	5,780	2,125	965	<b>39,819</b>
<b>Total</b>	<b>79,403</b>	<b>110,175</b>	<b>65,356</b>	<b>154,063</b>	<b>15,491</b>	<b>6,658</b>	<b>3,693</b>	<b>434,839</b>
% of Total	18.3%	25.3%	15.0%	35.4%	3.6%	1.5%	0.8%	100.0%
<b>Undrawn commitments (included in above)</b>								
Residential Mortgage	15,368	7,284	2,689	7,431	37	27	1	<b>32,837</b>
Qualifying Revolving Retail	4,225	2,957	982	1,948	507	79	1	<b>10,699</b>
Other Retail	811	3,418	1,544	2,945	546	81	8	<b>9,353</b>
<b>Total</b>	<b>20,404</b>	<b>13,659</b>	<b>5,215</b>	<b>12,324</b>	<b>1,090</b>	<b>187</b>	<b>10</b>	<b>52,889</b>
<b>Average Exposure at Default</b>								
Residential Mortgage	0.251	0.231	0.252	0.248	0.332	0.324	0.272	<b>0.246</b>
Qualifying Revolving Retail	0.009	0.008	0.009	0.011	0.010	0.006	0.009	<b>0.009</b>
Other Retail	0.008	0.015	0.012	0.025	0.010	0.011	0.027	<b>0.017</b>
<b>Exposure-weighted average Loss Given Default (%)</b>								
Residential Mortgage	19.7%	18.5%	19.2%	20.7%	20.3%	20.0%	19.9%	<b>19.7%</b>
Qualifying Revolving Retail	75.5%	80.2%	77.5%	81.3%	84.7%	82.8%	83.5%	<b>79.3%</b>
Other Retail	56.6%	54.5%	73.6%	45.2%	65.1%	57.7%	46.8%	<b>52.0%</b>
<b>Exposure-weighted average risk weight (%)</b>								
Residential Mortgage	5.9%	11.6%	19.3%	40.0%	94.1%	127.7%	190.5%	<b>25.6%</b>
Qualifying Revolving Retail	3.5%	8.1%	16.3%	44.8%	105.1%	201.4%	232.6%	<b>34.2%</b>
Other Retail	30.5%	36.9%	55.8%	59.1%	112.7%	172.4%	255.0%	<b>73.8%</b>

Table 9(e): Actual Losses by portfolio type

Basel Asset Class	Half year Sep 19	
	Individual provision charge \$M	Write-offs \$M
Corporate	75	89
Sovereign	-	-
Bank	-	-
Residential Mortgage	37	67
Qualifying Revolving Retail	87	126
Other Retail	187	264
<b>Total Advanced IRB</b>	<b>386</b>	<b>546</b>
Specialised Lending	(2)	1
Standardised approach	14	31
<b>Total</b>	<b>398</b>	<b>578</b>

Basel Asset Class	Half year Mar 19	
	Individual provision charge \$M	Write-offs \$M
Corporate	51	68
Sovereign	-	-
Bank	-	-
Residential Mortgage	45	50
Qualifying Revolving Retail	85	123
Other Retail	197	232
<b>Total Advanced IRB</b>	<b>378</b>	<b>473</b>
Specialised Lending	1	2
Standardised approach	1	23
<b>Total</b>	<b>380</b>	<b>498</b>

Basel Asset Class	Half year Sep 18	
	Individual provision charge \$M	Write-offs \$M
Corporate	1	90
Sovereign	(3)	-
Bank	-	-
Residential Mortgage	56	41
Qualifying Revolving Retail	93	140
Other Retail	211	277
<b>Total Advanced IRB</b>	<b>358</b>	<b>548</b>
Specialised Lending	2	4
Standardised approach	(17)	21
<b>Total</b>	<b>343</b>	<b>573</b>

#### Factors impacting the loss experience

The individually assessed credit impairment charge increased by \$18 million (+5%) driven by increased provisions in AIRB Corporate asset class.

Write-offs increased \$80 million over the half predominantly driven by AIRB Corporate and Standardised asset class.

**Table 9(f): Average estimated vs. actual PD, EAD and LGD – Advanced IRB**

Portfolio Type	Sep 19				
	Average Estimated PD %	Average Actual PD %	Average estimated to actual EAD ratio	Average Estimated LGD %	Average Actual LGD %
Corporate	1.95	1.74	1.14	42.22	34.47
Sovereign	0.38	0.00	n/a	n/a	n/a
Bank	0.67	0.07	1.02	46.00	58.30
Specialised Lending	n/a	2.01	1.06	n/a	25.60
Residential Mortgage	0.73	0.82	1.01	20.55	1.78
Qualifying Revolving Retail	2.29	1.80	1.08	76.28	70.13
Other Retail	4.04	3.17	1.05	53.31	43.01

APS 330 Table 9(f) compares internal credit risk estimates used in calculating regulatory capital with realised outcomes by portfolio types. It covers the PD, EAD and LGD estimates for the IRB portfolios.

Estimated PD and LGD for Specialised Lending exposures have not been provided, since APRA requires the use of supervisory slotting for Regulatory EL calculations. Actual PD, EAD ratio, Estimated LGD and Actual LGD for Sovereign exposures have not been provided, since there were no Sovereign defaults observed in ANZ Sovereign exposures for the observation period.

#### Wholesale Portfolios

The estimated PD is based on the average of the internally estimated long-run PD's for obligors that are not in default at the beginning of each financial year over the period of observation being 2009 to 2018. The actual PD is based on the number of defaulted obligors up to August 2019 compared to the total number of obligors measured.

The EAD ratio compares internally estimated EAD prior to default to realised EAD for defaulted obligors over the 10 years of observation being 2009 to August 2019. A ratio greater than 1.0 signifies that on average, the actual defaulted exposures are lower than the estimated exposures at the time of default.

The estimated LGD is the downturn LGD for accounts that defaulted at the beginning of each year during the observation period being 2009 to September 2017. The actual LGD is based on the average realised losses over the period for the accounts observed at the beginning and defaulted during the observation period. For non-retail portfolios, the estimated and actual LGDs are based on accounts that defaulted up to September 2017. Defaults occurring after September 2017 have been excluded from the analysis to allow sufficient time for workout period. Actual LGD for defaults where workouts were not finalised have been estimated to approximate the final actual loss.

#### Retail Portfolios

The estimated PD is based on the average of the internally estimated long-run PD's for obligors that are not in default at the beginning of each financial year over the period of observation being 2014 to 2018. The actual PD is based on the number of defaulted obligors up to March 2019 compared to the total number of obligors measured.

The EAD ratio compares internally estimated EAD prior to default to realised EAD for defaulted obligors over the period of observation being 2014 to 2018. A ratio greater than 1.0 signifies that on average, the actual defaulted exposures are lower than the estimated exposures at the time of default.

The estimated LGD is the downturn LGD for accounts that defaulted at the beginning of each year during the observation period being 2013 to 2017. The actual LGD is based on the average realised losses over the period for the accounts observed at the beginning and defaulted during the observation period. Defaults occurring after March 2017 have been excluded from the analysis to allow sufficient time for workout period.

## Table 10 Credit risk mitigation disclosures

### Main types of collateral taken by ANZ

Collateral is used to mitigate credit risk, as the secondary source of repayment in case the counterparty cannot meet its contractual repayment obligations.<sup>36</sup> Types of collateral typically taken by ANZ include:

- Charges over residential, commercial, industrial or rural property,
- Charges over business assets,
- Charges over specific plant and equipment,
- Charges over listed shares, bonds or securities,
- Charges over cash deposits, and
- Guarantees and pledges.

In some cases, such as where the customer risk profile is considered very sound or by the nature of the product, a transaction may not be supported by collateral.

Our credit policy, requirements and processes set out the acceptable types of collateral, as well as a process by which additional instruments and/or asset types can be considered for approval. ANZ's credit risk modelling teams use historical internal loss data and other relevant external data to assist in determining the discount that each type would be expected to incur in a forced sale. The discounted value is used in the determination of the SI.

### Policies and processes for collateral valuation and management

ANZ has well established policies, requirements and processes around collateral valuation and management, that are reviewed regularly. The concepts of legal enforceability, certainty and current valuation are central to collateral management.

In order to achieve legal enforceability and certainty, ANZ uses standard collateral instruments or has specific documentation drawn up by external legal advisers, and where applicable, security interests are registered. The use of collateral management systems also provides certainty that the collateral has been properly taken, registered and stored.

In order to rely on the valuation of collateral assets, ANZ has developed comprehensive rules around acceptable types of valuations (including who may value an asset), the frequency of revaluations and standard extension ratios for typical asset types. Upon receipt of a new valuation in wholesale lending, the information is used to recalculate the SI (or to reassess the adequacy of the provision, in the case of an impaired asset), thereby ensuring that the exposure has an updated LGD attached to it for risk quantification purposes.

### Guarantee support

Within wholesale lending, guarantee support for lending proposals are an integral component in transaction structuring for ANZ. The guarantee of a financially stronger party can help improve the PD of a transaction through its explicit support of the weaker rated borrower.

Guarantees that are recognised for risk rating purposes may be provided by parties that include associated entities, banks, sovereigns or individuals. Credit requirements provide threshold parameters to determine acceptable counterparties in achieving risk grade enhancement of the transaction.

The suitability of the guarantor is determined by risk rating that guarantor. Not all guarantees or guarantors are recognised for risk grading purposes.

### Use of credit derivatives for risk mitigation

ANZ uses purchased credit derivatives to mitigate credit risk by lowering exposures to reference entities that generate high concentration risk exposures or to improve risk return performance. Only certain credit derivatives such as credit default swaps (CDS) are recognised for risk mitigation purposes in the determination of regulatory capital. Standard, legally enforceable documentation applies.

For regulatory capital purposes, ANZ only recognises protection using credit derivatives where they meet several policy and regulatory requirements around the strength of the protection offered such as being irrevocable.

<sup>36</sup> For some products, the collateral provided is fundamental to its structuring so is not strictly the secondary source of repayment. For example, lending secured by trade receivables is typically repaid by the collection of those receivables.

A CDS may only be transacted with banks and non-bank financial institutions that have been credit assessed and approved by a designated specialist credit officer. All parties must meet minimum credit standards and be allocated a related credit limit. In the event that the creditworthiness of a credit protection provider falls below the minimum required to provide effective protection, the protection is no longer recognised as an effective risk mitigant for regulatory purposes.

**The use of netting**

Netting is a form of credit risk mitigation in that it reduces EAD, by offsetting a customer's positive and negative balances with ANZ.

In order to apply on-balance sheet netting, the arrangement must be specifically documented with the customer and meet a number of legally enforceable requirements.

Netting is also used where the credit exposure arises from off-balance sheet market related transactions. For close-out netting to be utilised with counterparties, a legally enforceable eligible netting agreement in an acceptable jurisdiction must be in place. This means that each transaction is aggregated into a single net amount and transactions are netted to arrive at a single overall sum.

**Transaction structuring to mitigate credit risk**

Besides collateral, guarantee support and derivatives described above, credit risk mitigation can also be furthered by prudent transaction structuring. For example, the risk in project finance lending can be mitigated by lending covenants, loan syndication and political risk insurance.

**Concentrations of credit risk mitigation**

Taking collateral raises the possibility that ANZ may inadvertently increase its risk by becoming exposed to collateral concentrations. For example, in the same way that an over-exposure to a particular industry may mean that a bank is more sensitive to the fortunes of that industry, an over-exposure to a particular collateral asset type may make ANZ more sensitive to the performance of that asset type.

ANZ does not believe that it has any material concentrations of collateral types, given the well diversified nature of its portfolio and conservative asset extension ratios.

**Table 10(b): Credit risk mitigation on Standardised approach portfolios – collateral <sup>37</sup>**

<b>Sep 19</b>				
	<b>Exposure \$M</b>	<b>Eligible Financial Collateral \$M</b>	<b>Other Eligible Collateral \$M</b>	<b>% Coverage</b>
<b>Standardised approach</b>				
Corporate	12,998	7,389	-	56.8%
Residential Mortgage	445	-	-	0.0%
Other Retail	49	-	-	0.0%
<b>Total</b>	<b>13,492</b>	<b>7,389</b>	<b>-</b>	<b>54.8%</b>
<b>Mar 19</b>				
	<b>Exposure \$M</b>	<b>Eligible Financial Collateral \$M</b>	<b>Other Eligible Collateral \$M</b>	<b>% Coverage</b>
<b>Standardised approach</b>				
Corporate	13,519	7,119	2,254	69.3%
Residential Mortgage	716	-	-	0.0%
Other Retail	80	-	-	0.0%
<b>Total</b>	<b>14,315</b>	<b>7,119</b>	<b>2,254</b>	<b>65.5%</b>
<b>Sep 18</b>				
	<b>Exposure \$M</b>	<b>Eligible Financial Collateral \$M</b>	<b>Other Eligible Collateral \$M</b>	<b>% Coverage</b>
<b>Standardised approach</b>				
Corporate	15,064	5,486	2,585	53.6%
Residential Mortgage	704	-	-	0.0%
Other Retail	87	-	-	0.0%
<b>Total</b>	<b>15,855</b>	<b>5,486</b>	<b>2,585</b>	<b>50.9%</b>

<sup>37</sup> Eligible Collateral could include cash collateral (cash, certificates deposits and bank bills issued by the lending ADI), gold bullion and highly rated debt securities.

Table 10(c): Credit risk mitigation – guarantees and credit derivatives

	Sep 19			
	Exposure \$M	Exposures covered by Guarantees \$M	Exposures covered by Credit Derivatives \$M	% Coverage
<b>Advanced IRB</b>				
Corporate (incl. Specialised Lending)	319,947	4,217	1,029	1.6%
Sovereign	152,940	5,957	-	3.9%
Bank	55,145	-	-	0.0%
Residential Mortgage	373,376	-	-	0.0%
Qualifying Revolving Retail	16,647	-	-	0.0%
Other Retail	36,322	-	-	0.0%
<b>Total</b>	<b>954,377</b>	<b>10,174</b>	<b>1,029</b>	<b>1.2%</b>
<b>Standardised approach</b>				
Corporate	12,998	23	-	0.2%
Residential Mortgage	445	-	-	0.0%
Other Retail	49	-	-	0.0%
<b>Total</b>	<b>13,492</b>	<b>23</b>	<b>-</b>	<b>0.2%</b>
<b>Qualifying Central Counterparties</b>	<b>9,348</b>	<b>-</b>	<b>-</b>	<b>0.0%</b>
	Mar 19			
	Exposure \$M	Exposures covered by Guarantees \$M	Exposures covered by Credit Derivatives \$M	% Coverage
<b>Advanced IRB</b>				
Corporate (incl. Specialised Lending)	300,666	5,979	1,051	2.3%
Sovereign	149,660	6,171	-	4.1%
Bank	55,029	11	-	0.0%
Residential Mortgage	379,512	-	-	0.0%
Qualifying Revolving Retail	17,589	-	-	0.0%
Other Retail	38,542	-	-	0.0%
<b>Total</b>	<b>940,998</b>	<b>12,161</b>	<b>1,051</b>	<b>1.4%</b>
<b>Standardised approach</b>				
Corporate	13,519	43	-	0.3%
Residential Mortgage	716	-	-	0.0%
Other Retail	80	-	-	0.0%
<b>Total</b>	<b>14,315</b>	<b>43</b>	<b>-</b>	<b>0.3%</b>
<b>Qualifying Central Counterparties</b>	<b>12,530</b>	<b>-</b>	<b>-</b>	<b>0.0%</b>

Table 10(c): Credit risk mitigation – guarantees and credit derivatives (continued)

	Sep 18		Exposures covered by Credit Derivatives \$M	% Coverage
	Exposure \$M	Exposures covered by Guarantees \$M		
<b>Advanced IRB</b>				
Corporate (incl. Specialised Lending)	285,087	7,460	856	2.9%
Sovereign	145,569	5,386	-	3.7%
Bank	51,363	11	-	0.0%
Residential Mortgage	376,573	-	-	0.0%
Qualifying Revolving Retail	18,447	-	-	0.0%
Other Retail	39,819	-	-	0.0%
<b>Total</b>	<b>916,858</b>	<b>12,857</b>	<b>856</b>	<b>1.5%</b>
<b>Standardised approach</b>				
Corporate	15,064	58	-	0.4%
Residential Mortgage	704	-	-	0.0%
Other Retail	87	-	-	0.0%
<b>Total</b>	<b>15,855</b>	<b>58</b>	<b>-</b>	<b>0.4%</b>
<b>Qualifying Central Counterparties</b>	<b>11,402</b>	<b>-</b>	<b>-</b>	<b>0.0%</b>



**Table 11 General disclosures for derivatives and counterparty credit risk****Definition of Counterparty Credit Risk**

Counterparty credit risk in derivative transactions arises from the risk of counterparty default before settlement date of derivative contracts and the counterparty is unable to fulfil present and future contractual payment obligations. The amount at risk may change over time as a function of the underlying market parameters up to the positive value of the contract in favour of ANZ.

Counterparty credit risk is present in market instruments (derivatives and forward contracts), and comprises:

- Settlement risk, which arises where one party makes payment or delivers value in the expectation but without certainty that the counterparty will perform the corresponding obligation in a bilateral contract at settlement date.
- Market replacement risk (pre-settlement risk), which is the risk that a counterparty will default during the life of a derivative contract and that a loss will be incurred in covering the position.

ANZ transacts market instruments with the following counterparties:

- End users – would typically use Over the Counter (OTC) derivative instruments provided by ANZ to manage price movement risk associated with their core business activity.
- Professional counterparties – ANZ may hedge price movement risks by entering into transactions with professional counterparties that conduct two way (buy and sell) business.

Counterparty credit risk requires a different method to calculate exposure at default because actual and potential market movements impact ANZ's exposure or replacement cost over the life of derivative contracts. The markets covered by this treatment include the derivative activities associated with interest rate, foreign exchange, CDS, equity, commodity and repurchase agreement (repo) products.

**Counterparty credit risk governance**

ANZ's counterparty credit risk management is governed by its credit principles, policies and procedures. The Markets Risk function is responsible for determining the counterparty credit risk exposure methodology applied to market instruments, in the framework for counterparty credit limit management, measurement and reporting.

The counterparty credit risk associated with derivative transactions is governed by credit limit setting consistent with all credit exposures to the ANZ Group. Counterparty credit limits are approved by the appropriate credit delegation holders.

**Counterparty credit risk measurement and reporting**

The approach to measure counterparty credit risk exposure is based on internal models. These measures are referred to as potential credit risk exposure (PCRE) and potential future exposure (PFE) and measure the maximum credit exposure of derivative transactions at future time points to ANZ. PFE is measured at the 97.5th percentile at future pre-described time points, and PCRE is a 97.5th percentile averaged over time points.

PCRE factors recognise that prices may change over the remaining period to maturity, and that risk decreases as the contract's remaining term to maturity decreases. In general terms PCRE is calculated by applying a risk weighting or volatility factor to the face value of the notional principal of individual trades.

PFE simulates relevant risk factors in a portfolio by taking into account the relevant volatilities and correlations calibrated to historical market data.

**Credit valuation adjustment (CVA)**

Over the life of a derivative instrument, ANZ uses a CVA model to adjust fair value to take into account the impact of counterparty credit quality. The methodology calculates the present value of expected losses over the life of the financial instrument as a function of PD, LGD, and expected credit risk exposure.

APRA requires banks, including ANZ, to hold additional risk based capital to cover the risk of CVA mark to market losses associated with deterioration in counterparty credit worthiness when entering into derivatives transactions.

**Wrong way risk**

ANZ's management of counterparty credit risk also considers the possibility of wrong way risk, which emerges when PD is adversely correlated with counterparty credit risk exposures.

**Counterparty credit risk mitigation and credit enhancements**

ANZ's primary tools to mitigate counterparty credit risk include:

- A bilateral netting master agreement (e.g. by International Swaps and Derivatives Association – (ISDA)) allowing close-out netting of exposures in a portfolio with offsetting contracts, with a single net payment with the same legal counterparty.
- Use of collateral agreements in some transactions based on standard market documentation (i.e. ISDA master agreement with credit support annex or CSA) that governs the amount of collateral required to be posted or received by ANZ throughout the life of the contract. Reasons for requiring collateral include:
  - Variation Margin – reflects the current mark-to-market exposure.
  - Initial Margin – covers the future potential exposure that could arise from future changes in market value
  - Since March 2017, APRA's CPS 226 "Margining and risk mitigation for non-centrally cleared derivatives" has mandated Variation Margin and Initial Margin arrangements between covered entities, subject to trading volume thresholds. The operation of collateral agreements falls under a policy which establishes the control framework designed to ensure a robust and globally consistent approach to the management of collateralised exposures, as well as compliance with CPS 226 obligations.
  - APRA's CPS 226 also requires ADI's to apply risk mitigation practices for un-cleared derivatives between covered counterparties in the areas of trading relationship documentation, trade confirmation, portfolio reconciliation, portfolio compression, valuation processes and dispute resolution processes.
- Use of right to break clauses in master agreements or in trade confirmation to reduce term of long dated derivative trades.
- Independent limit setting, credit exposure control, monitoring and reporting of excesses against approved credit limits.
- Additional termination triggers (close out of exposure) such as credit rating downgrade clauses and change in ownership clauses included in documentation.
- Linking covenants and events of default in existing loan facility agreements to master agreements.
- Settlement through Continuous Linked Settlement (CLS) to eliminate settlement risk for foreign exchange transactions with CLS members.
- Clearing certain derivative transactions through central counterparties clearing houses.
- A specific risk appetite for Credit Valuation Adjustment (CVA) exposures, approved by the Board.
- Design and implementation of limit framework and monitoring of CVA exposures, to ensure CVA exposure is within Risk appetite.
- Use of credit derivatives and market instruments to hedge CVA.

In the event of a downgrading of ANZ's rating by one notch from AA- to A+, as at 30 September 2019, ANZ would not be required to lodge additional collateral with its counterparties.

**Table 11(b): Counterparty credit risk – net derivative credit exposure**

	<b>Sep 19</b>	<b>Mar 19</b>	<b>Sep 18</b>
	<b>\$M</b>	<b>\$M</b>	<b>\$M</b>
Gross positive fair value of contracts <sup>38</sup>	120,667	79,376	68,426
Netting benefits	(106,003)	(66,767)	(54,251)
Netted current credit exposure	14,664	12,609	14,175
Collateral held	(6,277)	(4,566)	(5,507)
<b>Net derivatives credit exposure</b>	<b>8,387</b>	<b>8,043</b>	<b>8,668</b>

**Counterparty credit risk exposure - by portfolio type**

	<b>Sep 19</b>	<b>Sep 19</b>	<b>Mar 19</b>
<b>Portfolio Type</b>	<b>\$M</b>	<b>\$M</b>	<b>\$M</b>
Corporate	23,276	14,096	14,286
Sovereign	2,863	1,816	1,478
Bank	16,733	14,853	15,199
Qualifying Central Counterparties	9,348	12,530	11,402
Specialised Lending	1,496	629	387
<b>Total exposures</b>	<b>53,716</b>	<b>43,924</b>	<b>42,752</b>

**Notional Value of Credit Derivative Hedges**

	<b>Sep 19</b>	<b>Mar 19</b>	<b>Sep 18</b>
<b>Product Type</b>	<b>\$M</b>	<b>\$M</b>	<b>\$M</b>
Credit Default Swaps	344	349	342
Interest Rate Swaps	-	-	-
Currency Swaps	-	-	-
Other	-	-	-
<b>Total exposures</b>	<b>344</b>	<b>349</b>	<b>342</b>

<sup>38</sup> The half on half increase is driven by the mark to market position, interest rate and foreign exchange market movements over the period.

Table 11(c): Counterparty credit risk exposure – credit derivative transactions

	Sep 19		Total \$M
	Protection Bought \$M	Protection Sold \$M	
<b>Credit derivative products used for own credit portfolio</b>			
Credit default swaps	7,091	4,940	12,031
<b>Total notional value</b>	<b>7,091</b>	<b>4,940</b>	<b>12,031</b>
<b>Credit derivative products used for intermediation</b>			
Credit default swaps	344	344	688
Total return swaps	-	-	-
<b>Total notional value</b>	<b>344</b>	<b>344</b>	<b>688</b>
<b>Total credit derivative notional value</b>	<b>7,435</b>	<b>5,284</b>	<b>12,719</b>
	Mar 19		Total \$M
	Protection Bought \$M	Protection Sold \$M	
<b>Credit derivative products used for own credit portfolio</b>			
Credit default swaps	4,451	2,702	7,153
<b>Total notional value</b>	<b>4,451</b>	<b>2,702</b>	<b>7,153</b>
<b>Credit derivative products used for intermediation</b>			
Credit default swaps	349	349	698
Total return swaps	-	-	-
<b>Total notional value</b>	<b>349</b>	<b>349</b>	<b>698</b>
<b>Total credit derivative notional value</b>	<b>4,800</b>	<b>3,051</b>	<b>7,851</b>
	Sep 18		Total \$M
	Protection Bought \$M	Protection Sold \$M	
<b>Credit derivative products used for own credit portfolio</b>			
Credit default swaps	2,347	1,794	4,141
<b>Total notional value</b>	<b>2,347</b>	<b>1,794</b>	<b>4,141</b>
<b>Credit derivative products used for intermediation</b>			
Credit default swaps	342	342	684
Total return swaps	-	-	-
<b>Total notional value</b>	<b>342</b>	<b>342</b>	<b>684</b>
<b>Total credit derivative notional value</b>	<b>2,689</b>	<b>2,136</b>	<b>4,825</b>

## Chapter 6 – Securitisation

### Table 12 Securitisation disclosures

#### Definition of securitisation

A securitisation is a financial 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. This stratification of credit risk means that one class of creditors is entitled to receive payments from the pool before another class.

#### Securitisation of ANZ originated assets

Securitisations may be categorised as:

- Traditional securitisations, where legal ownership of the underlying asset pool is transferred to investors, with principal and interest paid from realisation of or regular cash flows from the assets. The Special Purpose Vehicle (SPV) assets are insulated from bankruptcy of the seller or servicer.
- Synthetic securitisations, where credit risk is transferred to a third party but legal ownership of the underlying assets remain with the originator e.g. by using credit derivatives or guarantees.

Covered bond transactions, whereby bonds issued by ANZ are secured by assets held in a special purpose vehicle, are not securitisation exposures.

ANZ adopts securitisation as a funding, capital and liquidity management tool using assets it has originated. This may involve the transfer of credit risk i.e. may provide regulatory capital relief. ANZ also operates a self-securitisation program, backed by a pool of residential mortgages, which forms part of the Bank's contingent liquidity arrangements.

For these securitisation programs, ANZ will undertake roles including as the originator, sponsor, servicer and trust manager. ANZ may retain an exposure to these securitisation programs (including as facility provider and swap provider), consistent with the roles described below in 'Third Party Securitisation Activities' and facilities provided as described below in 'Risk Management'.

#### Third Party Securitisation Activities

ANZ's involvement with securitisation of third-party originated assets, including residential mortgages, auto and equipment loans and trade receivables, comprises of:

- Provision of facilities – this may include providing facilities to securitisation vehicles in the form of funding facility provider and interest rate swap provider. Funding may be provided via an ANZ-sponsored securitisation vehicle which is consolidated onto the Bank's financial statements, to certain clients wishing to access securitisation.
- Services to securitisation programs may include structuring and arranging services and acting as bond manager.
- Investment in securities – ANZ may purchase notes issued by securitisation programs.

For any assets ANZ has securitised or for SPVs that ANZ sponsors, any role provided by ANZ or its subsidiaries is subject to market based terms and conditions, and ANZ's normal approval and review processes. Further, any securitisation exposures retained by ANZ or its affiliated entities are subject to ANZ's normal approval and review processes as well as satisfying the requirements under APS 120: Securitisation.

#### Governance and Risk Management

Similar to other exposures, securitisation exposures are subject to credit, market, operational liquidity and compliance risks. Governance of securitisation activities is managed in accordance with ANZ's established risk management framework, including the credit risk and market risk frameworks described in Chapters 5 and 7. Roles and responsibilities are clearly outlined in the Bank's policies and procedures, including:

- Appropriate risk management systems to identify, measure, monitor and manage the risks arising from its involvement in securitisation exposures;
- Impact of ANZ's involvement in securitisation exposures on its risk profile; and

- How ANZ ensures that it does not provide any implicit support to securitisations with ANZ originated assets.

Funding third party originated exposures and investment in securities are via balance sheet funded arrangements where such arrangements satisfy ANZ's credit, due diligence and other business requirements.

Many functions within ANZ are involved in securitisation activities given the range of activities undertaken and risks that need to be managed. For origination and structuring of securitisation transactions, ANZ has a specialist securitisation team with independent Risk personnel overseeing operations. Credit decisions require joint approval by Risk business unit and respective independent credit risk officer. The securitisation team must be involved in all non-trading securitisation transactions across ANZ, which ensures consistent expert treatment. Where ANZ invests in instruments issued by securitisation programs, the relevant business unit manages these exposures until the securitisation exposures are repaid in full or sold.

All facilities provided to our investments in securitisation programs (across both the banking and trading books) undergo initial and ongoing due diligence requirements as outlined by APRA. This includes analysing the structure of the transaction and monitoring performance of the underlying assets of the transaction. In addition, such securitisation exposures are formally reviewed at least annually with credit discretions being exercised.

#### **Risk reporting of securitisation exposures**

Credit risk management information systems, reporting and analysis are managed centrally for all securitisation exposures. In addition to the formal credit review process for ANZ's securitisation exposures, internal reporting to the appropriate Risk and management functions provides oversight at the portfolio level. These reports include securitisation program performance, EAD, portfolio mix, and RWA.

The use and treatment of Credit Risk Mitigation (CRM) techniques with respect to securitisation exposures is assessed on a case-by-case basis in a manner consistent with the bank-wide CRM methodology<sup>39</sup>.

#### **Regulatory capital approaches**

For securitisation exposures held in ANZ's banking book<sup>40</sup>, ANZ adopts a Standardised approach (as outlined in APS 120: Securitisation) to determine the credit risk regulatory capital charge via a hierarchy of approaches.

The primary rating approach is the External Ratings Based Approach (ERBA). For externally rated securitisation exposures that satisfy the operational requirements for external credit assessments, ANZ calculates credit risk regulatory capital based upon the ratings assigned by Standard & Poor's, Moody's Investor Services and/or Fitch Ratings as appropriate, seniority of the securitisation exposure and the tenor of the securitisation exposure.

If ERBA is not applicable, ANZ adopts the Supervisory Formula Approach (SFA) for securitisation exposures. In this case, the credit risk regulatory capital calculation takes into account the type and performance of the underlying assets of the securitisation and the credit support provided to the securitisation exposure.

In relation to securitisation of ANZ originated assets, where:

- the significant credit risk transfer requirements have been satisfied under APS 120, ANZ is not required to hold credit risk regulatory capital for the underlying assets of the securitisation, however credit risk regulatory capital is calculated for the facilities provided to the securitisation;
- in absence of significant credit risk transfer being satisfied under APS 120, ANZ holds credit risk regulatory capital for the underlying assets of the securitisation however the credit risk regulatory capital for facilities provided to the securitisation is not calculated.

Chapter 6 outlines regulatory capital treatment for securitisation exposures held in ANZ's trading book. In addition, the operational requirements for the recognition of external credit assessments outlined in APS 120 also apply to these exposures.

<sup>39</sup> For example, various types of analysis including quantitative analysis of credit enhancements are performed for non-externally rated transactions. Factors such as geography, facility/transaction type and ANZ's role will determine the applicable CRM techniques to apply.

<sup>40</sup> Exposures are classified into either the trading book or the banking book. In general terms, the trading book consists of positions in financial instruments and commodities held with trading intent or in order to hedge other elements of the trading book, and the banking book contains all other exposures. Banking book exposures are typically held to maturity, in contrast to the shorter term, trading nature of the trading book.

**Accounting policies**

A key consideration in determining the treatment of transactions involving ANZ assets is whether the securitisation special purpose vehicles (SPVs) should be consolidated under AASB 10: Consolidated Financial Statements. If these SPVs meet the criteria for consolidation, the assets remain on ANZ's balance sheet and are classified and valued in accordance with AASB 9: Financial Instruments. Currently, transactions with all of ANZ's securitisation SPVs are treated as financing transactions. Securitisation services based on customer's generated assets include warehouse and term fund facilities which are treated as loans.

For synthetic securitisations of ANZ originated assets, any transferred credit exposure is recognised through the fair value measurement of the credit derivative established within the structure.

For full details of the principal accounting policies governing ANZ's securitisation activities are outlined in ANZ's 2019 Annual Report, Notes to the Financial Statements. These include the valuation, derecognition, consolidation and income recognition principles outlined in the accounting policies and key judgements and estimates disclosures in each relevant note. Note 27 – Structured Entities and Note 28 – Transfers of Financial Assets also provides details about the nature of ANZ's securitisation activities and certain accounting policies as they specifically apply to these activities. The impact of the application of these policies to securitisation activities have not changed since the prior year, notwithstanding the introduction of AASB 9: Financial Instruments which replaces AASB 139: Financial Recognition and Measurement from 1 October 2018.

To the extent that ANZ has exposures intended to be securitised, they could reside in either the banking or trading book.

To the extent that ANZ has entered into contractual arrangements that could require it to provide financial support for securitised assets e.g. liquidity facilities, these are recognised in accordance with the accounting policies set out in ANZ's 2019 Annual Report.

**Significant changes in quantitative information since the last reporting period**

During the year, ANZ executed a \$1.5 billion residential mortgage-backed securitisation which settled on 19 June 2019.

**Banking Book****Table 12(g): Banking Book: Traditional and synthetic securitisation exposures**

	Sep 19		
<b>Traditional securitisations</b>			
<b>Underlying asset</b>	<b>ANZ Originated \$M</b>	<b>ANZ Self Securitised \$M</b>	<b>ANZ Sponsored \$M</b>
Residential mortgage	2,369	70,863	-
Credit cards and other personal loans	-	-	-
Auto and equipment finance	-	-	-
Commercial loans	-	-	-
Other	-	-	-
<b>Total</b>	<b>2,369</b>	<b>70,863</b>	<b>-</b>
<b>Synthetic securitisations</b>			
<b>Underlying asset</b>	<b>ANZ Originated \$M</b>	<b>ANZ Self Securitised \$M</b>	<b>ANZ Sponsored \$M</b>
Residential mortgage	-	-	-
Credit cards and other personal loans	-	-	-
Auto and equipment finance	-	-	-
Commercial loans	-	-	-
Other	-	-	-
<b>Total</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Aggregate of traditional and synthetic securitisations</b>			
<b>Underlying asset</b>	<b>ANZ Originated \$M</b>	<b>ANZ Self Securitised \$M</b>	<b>ANZ Sponsored \$M</b>
Residential mortgage	2,369	70,863	-
Credit cards and other personal loans	-	-	-
Auto and equipment finance	-	-	-
Commercial loans	-	-	-
Other	-	-	-
<b>Total</b>	<b>2,369</b>	<b>70,863</b>	<b>-</b>



Table 12(g): Banking Book: Traditional and synthetic securitisation exposures (continued)

				Mar 19
<b>Traditional securitisations</b>				
<b>Underlying asset</b>	<b>ANZ Originated</b>	<b>ANZ Self Securitised</b>	<b>ANZ Sponsored</b>	
	<b>\$M</b>	<b>\$M</b>	<b>\$M</b>	
Residential mortgage	1,092	71,454	-	
Credit cards and other personal loans	-	-	-	
Auto and equipment finance	-	-	-	
Commercial loans	-	-	-	
Other	-	-	-	
<b>Total</b>	<b>1,092</b>	<b>71,454</b>	<b>-</b>	
<b>Synthetic securitisations</b>				
<b>Underlying asset</b>	<b>ANZ Originated</b>	<b>ANZ Self Securitised</b>	<b>ANZ Sponsored</b>	
	<b>\$M</b>	<b>\$M</b>	<b>\$M</b>	
Residential mortgage	-	-	-	
Credit cards and other personal loans	-	-	-	
Auto and equipment finance	-	-	-	
Commercial loans	-	-	-	
Other	-	-	-	
<b>Total</b>	<b>-</b>	<b>-</b>	<b>-</b>	
<b>Aggregate of traditional and synthetic securitisations</b>				
<b>Underlying asset</b>	<b>ANZ Originated</b>	<b>ANZ Self Securitised</b>	<b>ANZ Sponsored</b>	
	<b>\$M</b>	<b>\$M</b>	<b>\$M</b>	
Residential mortgage	1,092	71,454	-	
Credit cards and other personal loans	-	-	-	
Auto and equipment finance	-	-	-	
Commercial loans	-	-	-	
Other	-	-	-	
<b>Total</b>	<b>1,092</b>	<b>71,454</b>	<b>-</b>	
				Sep 18
<b>Traditional securitisations</b>				
<b>Underlying asset</b>	<b>ANZ Originated</b>	<b>ANZ Self Securitised</b>	<b>ANZ Sponsored</b>	
	<b>\$M</b>	<b>\$M</b>	<b>\$M</b>	
Residential mortgage	1,211	70,615	-	
Credit cards and other personal loans	-	-	-	
Auto and equipment finance	-	-	-	
Commercial loans	-	-	-	
Other	-	-	-	
<b>Total</b>	<b>1,211</b>	<b>70,615</b>	<b>-</b>	
<b>Synthetic securitisations</b>				
<b>Underlying asset</b>	<b>ANZ Originated</b>	<b>ANZ Self Securitised</b>	<b>ANZ Sponsored</b>	
	<b>\$M</b>	<b>\$M</b>	<b>\$M</b>	
Residential mortgage	-	-	-	
Credit cards and other personal loans	-	-	-	
Auto and equipment finance	-	-	-	
Commercial loans	-	-	-	
Other	-	-	-	
<b>Total</b>	<b>-</b>	<b>-</b>	<b>-</b>	
<b>Aggregate of traditional and synthetic securitisations</b>				
<b>Underlying asset</b>	<b>ANZ Originated</b>	<b>ANZ Self Securitised</b>	<b>ANZ Sponsored</b>	
	<b>\$M</b>	<b>\$M</b>	<b>\$M</b>	
Residential mortgage	1,211	70,615	-	
Credit cards and other personal loans	-	-	-	
Auto and equipment finance	-	-	-	
Commercial loans	-	-	-	
Other	-	-	-	
<b>Total</b>	<b>1,211</b>	<b>70,615</b>	<b>-</b>	

**Table 12(h): Banking Book: Impaired and Past due loans relating to ANZ originated securitisations**

Underlying asset	Sep 19				
	ANZ originated \$M	ANZ Self Securitised \$M	Impaired \$M	Past due \$M	Losses recognised for the six month ended \$M
Residential mortgage	2,369	70,863	-	71	-
Credit cards and other personal loans	-	-	-	-	-
Auto and equipment finance	-	-	-	-	-
Commercial loans	-	-	-	-	-
Other	-	-	-	-	-
<b>Total</b>	<b>2,369</b>	<b>70,863</b>	<b>-</b>	<b>71</b>	<b>-</b>

Underlying asset	Mar 19				
	ANZ originated \$M	ANZ Self Securitised \$M	Impaired \$M	Past due \$M	Losses recognised for the six month ended \$M
Residential mortgage	1,092	71,454	-	54	-
Credit cards and other personal loans	-	-	-	-	-
Auto and equipment finance	-	-	-	-	-
Commercial loans	-	-	-	-	-
Other	-	-	-	-	-
<b>Total</b>	<b>1,092</b>	<b>71,454</b>	<b>-</b>	<b>54</b>	<b>-</b>

Underlying asset	Sep 18				
	ANZ originated \$M	ANZ Self Securitised \$M	Impaired \$M	Past due \$M	Losses recognised for the six month ended \$M
Residential mortgage	1,211	70,615	-	52	-
Credit cards and other personal loans	-	-	-	-	-
Auto and equipment finance	-	-	-	-	-
Commercial loans	-	-	-	-	-
Other	-	-	-	-	-
<b>Total</b>	<b>1,211</b>	<b>70,615</b>	<b>-</b>	<b>52</b>	<b>-</b>

**Table 12(i): Banking Book: Total amount of outstanding exposures intended to be securitised**

No assets from ANZ's Banking Book were intended to be securitised as at the reporting date.

**Table 12(j): Banking Book: Securitisation - Summary of current period's activity by underlying asset type and facility** <sup>41</sup>

Sep 19				
Securitisation activity by underlying asset type	Original value securitised			Recognised gain or loss on sale \$M
	ANZ Originated	ANZ Self Securitised	ANZ Sponsored	
	\$M	\$M	\$M	
Residential mortgage	1,277	(591)	-	-
Credit cards and other personal loans	-	-	-	-
Auto and equipment finance	-	-	-	-
Commercial loans	-	-	-	-
Other	-	-	-	-
<b>Total</b>	<b>1,277</b>	<b>(591)</b>	<b>-</b>	<b>-</b>
Securitisation activity by facility provided				Notional amount \$M
Liquidity facilities				15
Funding facilities				1,135
Underwriting facilities				-
Lending facilities				-
Credit enhancements				-
Holdings of securities (excluding trading book)				163
Other				153
<b>Total</b>				<b>1,466</b>
Mar 19				
Securitisation activity by underlying asset type	Original value securitised			Recognised gain or loss on sale \$M
	ANZ Originated	ANZ Self Securitised	ANZ Sponsored	
	\$M	\$M	\$M	
Residential mortgage	(119)	839	-	-
Credit cards and other personal loans	-	-	-	-
Auto and equipment finance	-	-	-	-
Commercial loans	-	-	-	-
Other	-	-	-	-
<b>Total</b>	<b>(119)</b>	<b>839</b>	<b>-</b>	<b>-</b>
Securitisation activity by facility provided				Notional amount \$M
Liquidity facilities				-
Funding facilities				(650)
Underwriting facilities				-
Lending facilities				-
Credit enhancements				-
Holdings of securities (excluding trading book)				39
Other				-
<b>Total</b>				<b>(611)</b>

<sup>41</sup> Activity represents net movement in outstandings.

**Table 12(j): Banking Book: Securitisation - Summary of current period's activity by underlying asset type and facility (continued)**

Securitisation activity by underlying asset type	Sep 18			Recognised gain or loss on sale \$M
	Original value securitised			
	ANZ Originated \$M	ANZ Self Securitised \$M	ANZ Sponsored \$M	
Residential mortgage	(138)	(94)	-	-
Credit cards and other personal loans	-	-	-	-
Auto and equipment finance	-	-	-	-
Commercial loans	-	-	-	-
Other	-	-	-	-
<b>Total</b>	<b>(138)</b>	<b>(94)</b>	<b>-</b>	<b>-</b>
Securitisation activity by facility provided				Notional amount \$M
Liquidity facilities				(3)
Funding facilities				600
Underwriting facilities				-
Lending facilities				-
Credit enhancements				-
Holdings of securities (excluding trading book)				(444)
Other				5
<b>Total</b>				<b>158</b>

Table 12(k): Banking Book: Securitisation - Regulatory credit exposures by exposure type

<b>Securitisation exposure type - On balance sheet</b>	<b>Sep 19 \$M</b>	<b>Mar 19 \$M</b>	<b>Sep 18 \$M</b>
Liquidity facilities	-	-	-
Funding facilities	7,679	6,574	6,924
Underwriting facilities	-	-	-
Lending facilities	-	-	-
Credit enhancements	-	-	-
Holdings of securities (excluding trading book)	1,923	1,760	1,721
Protection provided	-	-	-
Other	437	141	104
<b>Total</b>	<b>10,039</b>	<b>8,475</b>	<b>8,749</b>

<b>Securitisation exposure type - Off Balance Sheet</b>	<b>Sep 19 \$M</b>	<b>Mar 19 \$M</b>	<b>Sep 18 \$M</b>
Liquidity facilities	25	12	13
Funding facilities	1,598	1,320	1,362
Underwriting facilities	-	-	-
Lending facilities	-	-	-
Credit enhancements	-	-	-
Holdings of securities (excluding trading book)	-	-	-
Protection provided	-	-	-
Other	-	-	-
<b>Total</b>	<b>1,623</b>	<b>1,332</b>	<b>1,375</b>

<b>Total Securitisation exposure type</b>	<b>Sep 19 \$M</b>	<b>Mar 19 \$M</b>	<b>Sep 18 \$M</b>
Liquidity facilities	25	12	13
Funding facilities	9,277	7,894	8,286
Underwriting facilities	-	-	-
Lending facilities	-	-	-
Credit enhancements	-	-	-
Holdings of securities (excluding trading book)	1,923	1,760	1,721
Protection provided	-	-	-
Other	437	141	104
<b>Total</b>	<b>11,662</b>	<b>9,807</b>	<b>10,124</b>

Table 12(I) part (i): Banking Book: Securitisation - Regulatory credit exposures by risk weight band

Securitisation risk weights	Sep 19		Mar 19		Sep 18	
	Regulatory credit exposure \$M	Risk weighted assets \$M	Regulatory credit exposure \$M	Risk weighted assets \$M	Regulatory credit exposure \$M	Risk weighted assets \$M
≤ 25%	11,662	1,859	9,807	1,558	10,124	1,600
>25 ≤ 35%	-	-	-	-	-	-
>35 ≤ 50%	-	-	-	-	-	-
>50 ≤ 75%	-	-	-	-	-	-
>75 ≤ 100%	-	-	-	-	-	-
>100 ≤ 650%	-	-	-	-	-	-
1250% (Deduction)	-	-	-	-	-	-
<b>Total</b>	<b>11,662</b>	<b>1,859</b>	<b>9,807</b>	<b>1,558</b>	<b>10,124</b>	<b>1,600</b>

Resecuritisation risk weights	Sep 19		Mar 19		Sep 18	
	Regulatory credit exposure \$M	Risk weighted assets \$M	Regulatory credit exposure \$M	Risk weighted assets \$M	Regulatory credit exposure \$M	Risk weighted assets \$M
≤ 25%	-	-	-	-	-	-
>25 ≤ 35%	-	-	-	-	-	-
>35 ≤ 50%	-	-	-	-	-	-
>50 ≤ 75%	-	-	-	-	-	-
>75 ≤ 100%	-	-	-	-	-	-
>100 ≤ 650%	-	-	-	-	-	-
1250% (Deduction)	-	-	-	-	-	-
<b>Total</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

Total Securitisation risk weights	Sep 19		Mar 19		Sep 18	
	Regulatory credit exposure \$M	Risk weighted assets \$M	Regulatory credit exposure \$M	Risk weighted assets \$M	Regulatory credit exposure \$M	Risk weighted assets \$M
≤ 25%	11,662	1,859	9,807	1,558	10,124	1,600
>25 ≤ 35%	-	-	-	-	-	-
>35 ≤ 50%	-	-	-	-	-	-
>50 ≤ 75%	-	-	-	-	-	-
>75 ≤ 100%	-	-	-	-	-	-
>100 ≤ 650%	-	-	-	-	-	-
1250% (Deduction)	-	-	-	-	-	-
<b>Total</b>	<b>11,662</b>	<b>1,859</b>	<b>9,807</b>	<b>1,558</b>	<b>10,124</b>	<b>1,600</b>

**Table 12(l) part (ii): Banking Book: Securitisation - Aggregate securitisation exposures deducted from Capital**

No longer required under Basel III; defaulted exposures are given a risk weight of 1250% and no longer deducted from Capital.

**Table 12(m): Banking Book: Securitisations subject to early amortisation treatment**

ANZ does not have any Securitisations subject to early amortisation treatment or using Standardised approach.

**Table 12(n): Banking Book: Resecuritisation - Aggregate amount of resecuritisation exposures retained or purchased**

ANZ does not have any retained or purchased Resecuritisation exposures.

## Trading Book

### **Table 12(o): Trading Book: Traditional and synthetic securitisation exposures**

No assets from ANZ's Trading Book were securitised during the reporting period.

### **Table 12(p): Trading Book: Total amount of outstanding exposures intended to be securitised**

No assets from ANZ's Trading Book were intended to be securitised as at the reporting date.

### **Table 12(q): Trading Book: Securitisation - Summary of current year's activity by underlying asset type and facility**

No assets from ANZ's Trading Book were securitised during the reporting period.

### **Table 12(r): Trading Book: Traditional and synthetic securitisation exposures**

No assets from ANZ's Trading Book were securitised during the reporting period.

### **Table 12(s): Trading Book: Securitisation – Regulatory credit exposures by exposure type**

ANZ does not have any Regulatory credit exposures by exposure type.

### **Table 12(t)(i) & Table 12(u)(i): Trading Book: Aggregate securitisation exposures subject to Internal Models Approach (IMA) and the associated Capital requirements**

ANZ does not have any Securitisation exposures subject to Internal Models Approach.

### **Table 12(t)(ii) & Table 12(u)(ii): Trading Book: Aggregate securitisation exposures subject to APS 120 and the associated Capital requirements**

ANZ does not have any aggregate Securitisation exposures subject to APS120 and the associated Capital requirements.

### **Table 12(u)(iii): Trading Book: Securitisation - Aggregate securitisation exposures deducted from Capital**

ANZ does not have any Securitisation exposures deducted from Capital.

### **Table 12(v): Trading Book: Securitisations subject to early amortisation treatment**

ANZ does not have any Securitisation exposures subject to early amortisation or using Standardised approach.

### **Table 12(w): Trading Book: Resecuritisation - Aggregate amount of resecuritisation exposures retained or purchased**

ANZ does not have any retained or purchased Resecuritisation exposures.



## Chapter 7 – Market risk

### Table 13 Market risk – Standard approach

ANZ uses the standard model approach to measure market risk capital for specific risk<sup>42</sup> (APRA does not currently permit Australian banks to use an internal model approach for this).

**Table 13(b): Market risk – Standard approach** <sup>43</sup>

	Sep 19 \$M	Mar 19 \$M	Sep 18 \$M
Interest rate risk	142	109	76
Equity position risk	-	-	-
Foreign exchange risk	-	-	-
Commodity risk	-	-	-
<b>Total</b>	<b>142</b>	<b>109</b>	<b>76</b>
<b>Risk Weighted Assets equivalent</b>	<b>1,775</b>	<b>1,363</b>	<b>950</b>

<sup>42</sup> Specific risk is the risk that the value of a security will change due to issuer-specific factors. It applies to interest rate and equity positions related to a specific issuer.

<sup>43</sup> RWA equivalent is the capital requirement multiplied by 12.5 in accordance with APS 110.

## Table 14 Market risk – Internal models approach

### Definition and scope of market risk

Market Risk stems from ANZ's trading and balance sheet activities and is the risk to ANZ's earnings arising from changes in interest rates, foreign exchange rates, credit spreads, volatility, correlations or from fluctuations in bond, commodity or equity prices.

Market risk management of IRRBB is described in Chapter 10 and is excluded from this Chapter.

### Regulatory approval to use the Internal Models Approach

ANZ has been approved by APRA to use the Internal Models Approach (IMA) under APS 116 Capital Adequacy: Market Risk for general market risk and under APS 117 Capital Adequacy: Interest Rate Risk in the Banking Book (Advanced ADIs) for interest rate risk in the banking book (IRRBB).

### Governance of market risk

The Board Risk Committee supervision of market risk is supported by the Credit and Market Risk Committee (CMRC). CMRC is responsible for the oversight and control of credit, market, insurance and material financial risks across the ANZ Group and meets at least monthly.

The Market Risk function is a specialist risk management unit independent of the business that is responsible for:

- Designing and implementing policies and procedures to ensure market risk exposures are managed within the appetite and limit framework set by the Board.
- Measuring and monitoring market risk exposures, and approving counterparty and associated risks.
- The ongoing effectiveness and appropriateness of the risk management framework.

### Traded Market Risk

Traded Market Risk is the risk of loss from changes in the value of financial instruments due to movements in price factors for both physical and derivative trading positions. Trading positions arise from transactions where ANZ acts as principal with customers, financial exchanges or inter-bank counterparties.

The Traded, Foreign Exchange and Commodity Market Risk Policy and accompanying procedures (together the "TFC Framework") governs the management of traded market risk and its key components include:

- A clear definition of the trading book.
- A comprehensive set of requirements that promote the proactive identification and communication of risk.
- A robust Value at Risk (VaR) quantification approach supplemented by comprehensive stress testing.
- A comprehensive limit framework that controls all material market risks.
- An independent Market Risk function with specific responsibilities.
- Regular and effective reporting of market risk to executive management and the Board.

### Non-Traded Market Risk

Non-Traded Market Risk is the market risk associated with the management of non-traded interest rate risk, liquidity risk and foreign exchange exposures from the Group's foreign currency capital and earnings.

Included in Non-Traded Market risk is Interest Rate Risk in the Banking Book (IRRBB). This is the risk of loss arising from adverse changes in the overall and relative level of interest rates for different tenors, differences in the actual versus expected net interest margin, and the potential valuation risk associated with embedded options in financial instruments and bank products.

In quantifying risk, all material market risk factors need to be identified and reflected within the risk measurement approach. Non-traded market risk (or balance sheet risk) comprises the management of non-traded interest rate risk, liquidity risk, and foreign exchange exposures from the Group's foreign currency capital and earnings.

ANZ has a detailed market risk management and control framework, to support its trading and balance sheet activities, which incorporates an independent risk measurement approach to quantify the magnitude of market risk within the trading and balance sheet portfolios. This approach, along with related analysis, identifies the range of possible outcomes that can be expected over a given period of time, and establishes the likelihood of those outcomes and allocates an appropriate amount of capital to support these activities.

Markets Risk is a specialist risk management unit independent of the business that is responsible for measuring and monitoring market risk. Markets Risk has implemented policies and procedures to keep ANZ's market risk exposures managed within the appetite and limit framework set by the Board.

#### **Measurement of Traded Market Risk**

ANZ's traded market risk management framework incorporates a risk measurement approach to quantify the magnitude of market risk within trading books. This approach and related analysis identifies the range of possible outcomes that can be expected over a given period of time and establishes the relative likelihood of those outcomes.

ANZ's key tools to measure and manage traded market risk on a daily basis are VaR, sensitivity measures and stress tests. VaR is calculated using a historical simulation with a 500 day observation period for standard VaR, and a one-year stressed period for stressed VaR. Traded VaR is calculated at a 99% confidence level for both standard VaR and Stressed VaR. Standard VaR is calculated over both a one-day and a ten-day holding period, while Stressed VaR is calculated over a ten-day holding period.

ANZ also undertakes a wide range of stress tests on the Group trading portfolio and to individual trading portfolios. Standard stress tests are applied daily measuring the potential loss that could arise from the largest market movements observed since 2008 over specific holding periods. Holding periods used to calculate stress parameters differ and reflect the relative liquidity of each product type. Results from stress testing on plausible severe scenarios are also calculated daily.

VaR and stress tests are supplemented by loss limits and detailed control limits. Loss limits are designed to ensure that in the event of continued losses from a trading activity, the trading activity is stopped and senior management reviews before trading resumed. Where necessary, detailed control limits such as sensitivity or position limits are also in place to ensure appropriate control is exercised over a specific risk or product.

#### **Comparison of VaR estimates to gains/losses**

Back testing involves comparing VaR calculations with corresponding profit and loss to identify how often trading losses exceed the calculated VaR. For APRA back testing purposes, VaR is calculated at the 99% confidence interval with a one-day holding period.

Back testing is conducted daily, and outliers are analysed to determine whether they are the result of trading decisions, systemic changes in market conditions or issues related to the VaR model (historical data or model calibration).

ANZ uses actual and hypothetical profit and loss data. Hypothetical data is designed to remove the impacts of intraday trading and sales margins. It is calculated as the difference between the value of the prior day portfolio at prior day closing rates and the value at current day closing rates. Markets Finance calculates actual profit and loss while Market Risk calculates hypothetical profit and loss.

Table 14(f): Value at Risk (VaR) and stressed VaR over the reporting period <sup>44</sup>

Six months ended Sep 19				
99% 1 Day Value at Risk (VaR)	Mean \$M	Maximum \$M	Minimum \$M	Period end \$M
Foreign Exchange	3.4	8.1	1.2	1.4
Interest Rate	5.0	7.0	3.7	3.8
Credit	3.8	5.4	2.3	5.1
Commodity	2.2	2.9	1.5	1.6
Equity	-	-	-	-

Six months ended Mar 19				
99% 1 Day Value at Risk (VaR)	Mean \$M	Maximum \$M	Minimum \$M	Period end \$M
Foreign Exchange	4.8	9.5	2.0	3.6
Interest Rate	6.6	10.3	4.6	5.0
Credit	2.4	4.4	1.2	4.1
Commodity	2.1	3.9	1.4	2.3
Equity	-	-	-	-

Six months ended Sep 18				
99% 1 Day Value at Risk (VaR)	Mean \$M	Maximum \$M	Minimum \$M	Period end \$M
Foreign Exchange	3.3	6.4	1.7	3.7
Interest Rate	13.6	18.7	6.0	8.3
Credit	2.9	3.5	2.3	2.5
Commodity	3.8	4.5	3.3	3.7
Equity	-	-	-	-

Six months ended Sep 19				
99% 10 Day Stressed VaR	Mean \$M	Maximum \$M	Minimum \$M	Period end \$M
Foreign Exchange	70.7	133.5	24.0	24.0
Interest Rate	42.3	65.5	26.1	54.9
Credit	48.0	59.6	37.6	53.7
Commodity	11.0	16.4	7.3	11.1
Equity	-	-	-	-

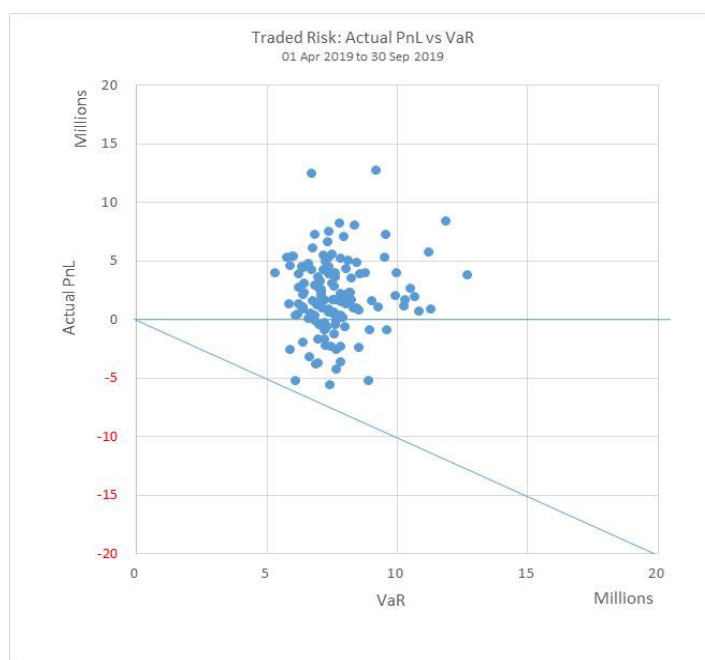
Six months ended Mar 19				
99% 10 Day Stressed VaR	Mean \$M	Maximum \$M	Minimum \$M	Period end \$M
Foreign Exchange	61.8	105.3	25.7	63.0
Interest Rate	58.0	86.7	33.6	43.8
Credit	34.5	58.1	18.9	46.9
Commodity	9.0	14.9	4.6	11.9
Equity	-	-	-	-

Six months ended Sep 18				
99% 10 Day Stressed VaR	Mean \$M	Maximum \$M	Minimum \$M	Period end \$M
Foreign Exchange	42.1	80.7	15.4	71.0
Interest Rate	81.3	198.5	49.3	49.3
Credit	30.9	36.1	21.8	32.1
Commodity	17.0	26.0	7.5	10.4
Equity	-	0.1	-	-

<sup>44</sup> The Foreign exchange VaR excludes foreign exchange translation exposures outside of the trading book.

### Comparison of VaR estimates with actual gains/losses experienced



#### Reporting of Traded Market Risk

Market Risk reports daily VaR and stress testing results to senior management in Market Risk and the Markets business. Market Risk expediently escalates details of any limit breach to the appropriate discretion holder within Market Risk and to Group Risk, and reports to the CMRC each month.

Market Risk monitors and analyses back testing results daily and reports results to the CMRC quarterly.

Total traded market risks back testing exceptions were within the APS 116 green zone for the period.

#### Mitigation of market risk

The Market Risk team's responsibilities, including the reporting and escalation processes described above, are fundamental to how market risk is managed. Market Risk has a presence in all the major dealing operations centres in Australia, New Zealand, Asia, Europe and America.

#### Commodities risk

Commodity price risk arises as a result of movement in prices or the implied volatilities of various commodities. All direct commodity price exposures are managed in the trading book by the Markets business and monitored by Market Risk in accordance with the TFC framework.

#### Foreign exchange risk

Foreign exchange risk arises as a result of movements in values or the implied volatilities of exchange rates.

Exposures from ANZ's normal operating business and trading activities are recorded in core multi-currency systems and managed within the trading book in accordance with the TFC framework.

Structural exposures from foreign investments and capital management activities are managed in accordance with policies approved by the Board Risk Committee, with the main objective of ensuring that ANZ's capital ratio is largely protected from changes in foreign exchange. As at 30 September 2019, ANZ's investment in ANZ Bank New Zealand Limited is the main source of the structural foreign exchange exposure.

## Chapter 8 – Operational risk

### Table 15 Operational risk

#### Definition of operational risk

Operational Risk is defined as the risk of loss and/or non-compliance with laws resulting from inadequate or failed internal processes, people and systems, and/or from external events. This definition includes legal risk, and the risk of reputation loss, or damage arising from inadequate or failed internal processes, people and systems, but excludes strategic risk.

ANZ's I.AM (Identify, Act, Monitor) - Operational Risk and Compliance Framework, taking into consideration the internal and external environment in which ANZ operates at any point in time, allows for more targeted focus on particular areas of operational risk. Currently, ANZ has identified the following types of operational risk as separate Key Material Risks:

- **Compliance Risk:** ANZ uses the same policies, governance, management and systems for Operational Risk and Compliance Risk. These are described below.
- **Reputation Risk:** ANZ uses some additional policies, governance, management and systems for managing Reputation Risk. These are described below.
- **Technology Risk:** ANZ uses some additional policies, governance, management and systems for managing Technology Risk.

ANZ has been authorised by APRA to use the advanced measurement approach (AMA) for calculation of Operational Risk capital requirements under APS 115 Capital Adequacy: Advanced Measurement Approaches to Operational Risk. This methodology applies across all of ANZ. For the purposes of RBNZ capital adequacy, ANZ Bank New Zealand Ltd uses Reserve Bank of New Zealand standardised approach to Operational risk capital calculation.

#### Operational risk governance and structure

The primary responsibilities for operational risk are vested by the Operational Risk Approach in the Board Risk Committee and Operational Risk Executive Committee.

The Board Risk Committee:

- approve the Operational Risk Approach
- identify, act on and monitor Operational Risk, at a group level
- promote a culture that supports the organisation to identify, act on and monitor Operational Risk

Operational Risk Executive Committee:

- endorse the Operational Risk Approach
- monitor the implementation of the Operational Risk Approach, at a group level
- assist the Board Risk Committee to identify, act on and monitor Operational Risk, at a group level
- promote a culture that supports the organisation to identify, act on and monitor Operational Risk

#### Risk management framework

ANZ operates three lines of defence model for the management of Operational Risk. Each line of defence has defined roles, responsibilities and escalation paths to support effective two way communication and management of Operational Risk at ANZ. There are also on-going review mechanisms in place to ensure the I.AM - Operational Risk and Compliance Framework continues to meet organisational needs and regulatory requirements.

#### First line

The Business has first line of defence responsibility for managing Operational Risk including obligations to:

- take primary accountability for the identification, measurement and management of key risks and the related control environment.

**Second line**

Operational Risk functions (Division and Group) form the second line of defence.

Division Risk is accountable for:

- undertaking review and challenge of business activities and ensuring that the strategy is maintained across the division.

Group Operational Risk is accountable for:

- developing and maintaining relevant policies and procedures to ensure continuing appropriateness of the I.AM - Operational Risk and Compliance Framework and to support its consistent execution, and
- setting and monitoring compliance with the Group Operational Risk, Risk Appetite Statements (RAS).

**Third line**

Internal Audit forms the third line of defence and is accountable for:

- providing independent and objective assurance to management and the ANZ Board regarding compliance with policy and regulatory requirements;
- performing objective assessments across all geographies, divisions, lines of business and processes, and
- undertaking independent review of the adequacy of the I.AM - Operational Risk and Compliance Framework.

Collectively Internal Audit, Operational Risk functions, Divisions and Business Units are responsible for monitoring and reporting to Executive Management, the Board, Regulators and others on all matters related to the measurement and management of Operational Risk.

**Operational Risk Framework**

ANZ's I.AM - Operational Risk and Compliance Framework is delivered through:

- Level 1 ANZ Board Operational Risk Approach (the policy) – approved by the Board Risk Committee, outlines the core standards, roles and responsibilities and minimum requirements of the way in which operational risks and obligations are identified, acted on and monitored across ANZ sets the Operational Risk principles for governing the overall measurement and management of Operational Risk across ANZ.
- Level 2A Operational Risk Procedures (the Requirements, and Lifecycle, Roles and Responsibilities) – owned by Group Operational Risk, provide the procedures to support the consistent application of Level 1 Policy across ANZ. The procedures are further augmented by tools, templates, systems and on-going training.

### Operational risk mitigation

In line with industry practice, ANZ obtains insurance to cover those Operational Risks where cost-effective premiums can be obtained. In conducting their business, Business Units are advised to act as if uninsured and not to use insurance as a guaranteed mitigants for operational risk.

ANZ has business continuity, recovery and crisis management plans. The intention of the business continuity and recovery plans is to ensure critical business functions can be maintained, or restored in a timely fashion, in the event of material disruptions arising from internal or external events.

Crisis management planning at Group and country levels supplement business continuity plans in the event of a broader group or country crisis. Crisis management plans include crisis team structures, roles, responsibilities and contact lists, and are subject to testing.

### Operational risk reporting

ANZ's I.AM - Operational Risk and Compliance Framework includes a global, web-based Risk, Compliance and IT Governance tool that provides ANZ the source of truth and provides greater transparency and integrity of Risk, Controls, Obligations and Events information across ANZ.

OREC's role is to monitor and oversight at an enterprise level the state of Operational Risk and compliance management and to instigate any necessary corrective actions.

ANZ has been authorised by APRA to use the advanced measurement approach (AMA) for calculation of operational risk capital requirements under APS 115 Capital Adequacy: Advanced Measurement Approaches to Operational Risk. This methodology applies across all of ANZ. However, for the purposes of RBNZ reporting, ANZ Bank New Zealand Ltd uses Reserve Bank of New Zealand standardised approach to Operational risk capital calculation.

### Operational risk management

The objective of ANZ's approach to Operational Risk is to ensure that risks are identified, assessed, measured, evaluated, treated, monitored and reported in a structured environment with appropriate governance oversight.

The I.AM - Operational Risk and Compliance Framework includes management and measurement of operational risks and compliance with laws, regulations, industry standards, codes and principles of good governance, and internal policies and procedures. It is founded on ANZ's values and culture, which focus on doing what's right and being ethical, accountable, trustworthy and transparent in our decisions.

ANZ takes a risk based approach to the management of Operational Risks and obligations. This enables ANZ to be consistent in proactively identifying, assessing, managing, reporting and escalating Operational Risk related risk exposures, while respecting the specific obligations of each jurisdiction in which we operate.

Day-to-day management of Operational Risk is the responsibility of business unit line management and staff. Risk management, supported by a strong Risk Culture, ensures all staff are thinking about and managing risk on a daily basis – "Risk is Everyone's Responsibility". However, Senior Management needs visibility of Key Risks. These are the risks that if they materialised, would adversely affect the achievement of business objectives, ANZ's reputation, legal and regulatory compliance or impact key processes.

### ANZ's advanced measurement approach

Group Operational Risk is responsible for maintaining ANZ's AMA for the measurement and allocation of operational risk capital.

Operational Risk Capital is held to protect depositors and shareholders of the bank from rare and severe unexpected losses. In order to quantify the overall Operational Risk profile, ANZ maintains and calculates Operational Risk Capital (including regulatory and economic capital), on at least a six monthly basis. The capital model uses the following data as inputs:

- historical internal losses captured and reported in the bank wide Compliance and Operational Risk platform;
- relevant external losses, sourced from the Operational Risk Data Exchange (ORX), an industry data base comprising the anonymised loss data from over 90 member banks;
- scenario analysis - unexpected potential loss estimates for severe but plausible risk events which are calculated using exposure models developed using business data and inputs from subject matter experts.

Once calculated, the capital is allocated to divisions based on the historic loss experience and exposure to scenarios. Understanding the divisional exposure to scenarios (and their underlying risk drivers) allows lines of business to consider capital impacts when making decisions. Accordingly, capital allocations are structured to encourage businesses to effectively manage their operational risk exposures e.g. improve controls, reduce losses etc.



Operational Risk Regulatory Capital to meet the regulatory capital soundness standard is based on a 99.9% confidence interval in accordance with APS 115. Operational Risk Economic Capital is based on 99.97% confidence interval.

**Definition of compliance risk**

Compliance Risk is a subset of Operational Risk. It covers the risk of failure to act in accordance with laws, regulations, industry standards and codes, internal policies and procedures and principles of good governance as applicable to ANZ's businesses.

**Compliance**

The consequences of Compliance failure may include significant legal or regulatory sanctions, material financial loss (fines, civil penalties, damages) diminished reputation or restrictions on the ability of ANZ to do business. In order for the Business to be able to identify and manage Compliance Risk, they must identify their Regulatory Obligations and their impacted business activities, and maintain and monitor key controls.

Compliance specific approaches include:

- Centralised management of key obligations via a Global Obligations Library, enabling ANZ's change management capability in relation to new and revised obligations.
- An emphasis on the identification of changing regulations and the business environment, to enable proactive assessment of emerging compliance risks.
- Recognition of incident management as a separate element to enhance ANZ's ability to identify, manage and report on incidents/breaches in a timely manner.

**Management of the Whistle-blower Protection Policy**

ANZ will ensure there is an effective and fit for purpose channel, allowing employees and contractors to make confidential, anonymous submissions regarding concerns relating to accounting, internal control, compliance, audit and other matters.

## Chapter 9 – Equities

### Table 16 Equities – Disclosures for banking book positions

#### Definition and categorisation of equity investments held in the banking book

Equity risk is the risk of financial loss arising from the unexpected reduction in value of equity investments not held in the trading book including those of the Group's associates. ANZ's equity exposures in the banking book are primarily categorised as follows:

- Equity investments that are taken for strategic reasons - These transactions represent strategic business initiatives and include ANZ's investments in partnership arrangements with financial institutions in Asia. These investments are undertaken after extensive analysis and due diligence by Group Strategy, internal specialists and external advisors, where appropriate. Board approval is required prior to committing to any investments over delegated authorities, and all regulatory notification requirements are met. Performance of these investments is monitored by both the owning business unit and Group Strategy to ensure that it is within expectations and the values of the investments are tested at least six monthly for impairment.
- Equity investments made as the result of a work out of a problem exposure - From time to time, ANZ will take an equity stake in a customer as part of a work out arrangement for problem exposures. These investments are made only where there is no other viable option available and form an immaterial part of ANZ's equity exposures.

#### Valuation of and accounting for equity investments in the banking book

In line with Group Accounting Policy the accounting treatment of equity investments depends on whether ANZ has significant influence over the investee.

#### Investments in associates

Where significant influence exists, the investment is classified as an Investment in Associate in the financial statements. ANZ adopts the equity method of accounting for associates. ANZ's share of the results of associates is included in the consolidated income statement. The associate investments are recognised at cost plus ANZ's share of post-acquisition net assets. Interests in associates are reviewed bi-annually for impairment, using either market value, or a discounted cash flow methodology to assess value in-use. As at 30 September 2019 the carrying value of these investments were supported by value in use calculations.

#### From 1 October 2018 – Investment Securities

Where ANZ does not have significant influence over the investee, the instrument is categorised as an investment security and classified as fair value through profit and loss, with changes in fair value recognised in the income statement, unless designated irrevocably on acquisition as fair value through other comprehensive income (FVOCI). If this election is made, gains or losses are not reclassified from other comprehensive income to profit or loss on disposal of the investment. However, gains or losses may be reclassified within equity.

#### Prior to 1 October 2018 - Available-for-Sale Investments

Where ANZ does not have significant influence over the investee, the investment is classified as Available-for-Sale (AFS). The investment is initially recognised at fair value plus transaction costs. Changes in the fair value of the investments are recognised in an equity reserve with any impairment recognised in the income statement. When the asset is sold the cumulative gain or loss relating to the asset held in the AFS revaluation reserve was transferred to the income statement.

**Table 16(b) and 16(c): Equities – Types and nature of Banking Book investments**

Equity investments	Sep 19 \$M	
	Balance sheet value	Fair value
Value of listed (publicly traded) equities	4,043	3,459
Value of unlisted (privately held) equities	135	135
<b>Total</b>	<b>4,178</b>	<b>3,594</b>

Equity investments	Mar 19 \$M	
	Balance sheet value	Fair value
Value of listed (publicly traded) equities	3,937	3,683
Value of unlisted (privately held) equities	119	119
<b>Total</b>	<b>4,056</b>	<b>3,802</b>

Equity investments	Sep 18 \$M	
	Balance sheet value	Fair value
Value of listed (publicly traded) equities	3,554	2,869
Value of unlisted (privately held) equities	86	86
<b>Total</b>	<b>3,640</b>	<b>2,955</b>

**Table 16(d) and 16(e): Equities – gains (losses)**

Realised gains (losses) on equity investments	Half Year Sep 19	Half Year Mar 19	Half Year Sep 18
	\$M	\$M	\$M
Cumulative realised gains (losses) from disposals and liquidations in the reporting period	-	42	124
Cumulative realised losses from impairment and writedowns in the reporting period	-	-	-
	-	42	124

Unrealised gains (losses) on equity investments	Half Year Sep 19	Half Year Mar 19	Half Year Sep 18
	\$M	\$M	\$M
Total unrealised gains (losses)	(88)	160	36
Reversal of prior period unrealised gains (losses) from disposals and liquidations in the reporting period	-	-	-
<b>Total unrealised gains (losses) included in Common Equity Tier 1, Tier 1 and/or Tier 2 capital</b>	<b>(88)</b>	<b>160</b>	<b>36</b>

**Table 16(f): Equities Risk Weighted Assets**

From 1 January 2013 all banking book equity exposures are deducted from Common Equity Tier 1 capital.

## Chapter 10 – Interest Rate Risk in the Banking Book

### Table 17 Interest Rate Risk in the Banking Book

#### Definition of Interest Rate Risk in the Banking Book (IRRBB)

Interest rate risk in the banking book (IRRBB) relates to the potential adverse impact of changes in market interest rates on ANZ's future net interest income. The risk generally arises from:

- **Repricing and yield curve risk** - the risk to earnings or market value as a result of changes in the overall level of interest rates and/or the relativity of these rates across the yield curve.
- **Basis risk** - the risk to earnings or market value arising from volatility in the interest margin applicable to banking book items.
- **Optionality risk** - the risk to earnings or market value arising from the existence of stand-alone or embedded options in banking book items.

#### Regulatory capital approach

ANZ has received approval from APRA to use the IMA for the calculation of regulatory capital for IRRBB, under APS 117 Capital Adequacy: Interest Rate Risk in the Banking Book (Advanced ADIs).

#### Governance

The Board Risk Committee has established a risk appetite for IRRBB and delegated authority to the Group Asset and Liability Committee (GALCO) to manage the strategic position (capital investment term) and oversee the interest rate risk arising from the repricing of asset and liabilities (mismatch risk) in the banking book. GALCO has delegated the management of this mismatch risk to the Markets business.

Market Risk is the independent function responsible for:

- Designing and implementing policies and procedures to ensure that IRRBB exposure is managed within the limit framework set by the Board Risk Committee.
- Monitoring and measuring IRRBB market risk exposure, compliance with limits and policies.
- Ensuring ongoing effectiveness and appropriateness of the risk management framework.

#### Risk Management framework

IRRBB is managed under a comprehensive measurement and reporting framework, supported by an independent Market Risk function. Key components of the framework include:

- A comprehensive set of policies that promote proactive risk identification and communication.
- Funds Transfer Pricing framework to transfer interest rate risk from business units so it can be managed by the Markets business and monitored by Market Risk.
- Quantifying the magnitude of risks and controlling the potential impact that changes in market interest rates can have on the net interest income and balance sheet market value of ANZ.
- Regular and effective reporting of IRRBB to executive management and the Board.

**Measurement of interest rate risk in the banking book**

ANZ uses the following principal techniques to quantify and monitor IRRBB:

- Interest Rate Sensitivity - this is an estimate of the change in economic value of the banking book due to a 1 basis point move in a specific part of the yield curve.
- Earnings at risk (EaR) - this is an estimate of the amount of income that is at risk from interest rate movements over a given holding period, expressed to a 97.5% level of statistical confidence.
- Value at risk (VaR) - this is an estimate of the impact of interest rate changes on the banking book's market value, expressed to a 99% level of statistical confidence for a given holding period.
- Market Value loss limits - this mitigates the potential for embedded losses within the banking book.
- Stress testing - standard extraordinary forward looking and repricing term assumptions tests are used to highlight potential risk which may not be captured by VaR, and how the portfolio might behave under extraordinary circumstances.

The calculations used to quantify IRRBB require assumptions to be made about the repricing term of exposures that do not have a contractually defined repricing date, such as deposits with no set maturity dates, and prepayments. Changes to these assumptions require GALCO approval.

Basis and optionality risks are measured using Monte Carlo simulation techniques, to generate a theoretical worst outcome at a specified confidence level (typically no less than at a 99% level of statistical confidence) less the average outcome.

**Reporting of interest rate risk in the banking book**

Market Risk analyses the output of ANZ's VaR, EaR and Stress Testing calculations daily. Compliance with the risk appetite and limit framework is reported to CMRC, GALCO and the Board Risk Committee.

**ANZ's interest rate risk in the banking book capital requirement**

The IRRBB regulatory capital requirements includes a value for repricing and yield curve risk, basis and optionality risks based on a 99% confidence interval, one year holding period and a six year historical data set.

Embedded losses also contribute to make up the capital requirement and are calculated as the difference between the book value of banking book items and the current economic value taking hedge accounting aspects into account.

**Results of standard shock scenario**

The Basel II framework sets out a standard shock scenario of a 200 basis point parallel shift change in interest rates, in order to establish a comparable test across banks.

Table 17(b) that follows shows the results of this test by currency of the exposures outside the trading book.

Table 17(b): Interest Rate Risk in the Banking Book

Standard Shock Scenario Stress Testing: Interest rate shock applied	Change in Economic Value		
	Sep 19 \$M	Mar 19 \$M	Sep 18 \$M
AUD			
200 basis point parallel increase	(508)	(336)	(485)
200 basis point parallel decrease	527	327	497
NZD			
200 basis point parallel increase	(136)	(76)	(133)
200 basis point parallel decrease	126	64	129
USD			
200 basis point parallel increase	(34)	-	(76)
200 basis point parallel decrease	38	1	76
GBP			
200 basis point parallel increase	18	33	21
200 basis point parallel decrease	(19)	(34)	(21)
Other			
200 basis point parallel increase	(44)	24	(48)
200 basis point parallel decrease	50	(22)	52
<b>IRRBB regulatory capital</b>	<b>554</b>	<b>580</b>	<b>705</b>
<b>IRRBB regulatory RWA</b>	<b>6,922</b>	<b>7,245</b>	<b>8,814</b>

**IRRBB stress testing methodology**

Stress tests within ANZ include standard extraordinary forward looking and repricing term assumptions tests. These tests are used to highlight potential risk which may not be captured by VaR, and how the portfolio might behave under extraordinary circumstances. Standard stress tests include statistically derived scenarios based on historical yield curve movements. These combine parallel shocks with twists and bends in the curve to produce a wide range of hypothetical scenarios at high statistical confidence levels, with the single worst scenario identified and reported. Other stress tests include interest rate moves from historical periods of stress possible future stress test as well as stresses to assumptions made about the repricing term of exposures. The extraordinary rate move scenarios include rate changes over the stressed periods in financial market history. Forward looking stress tests include interest rate moves from plausible future severe scenarios. Stresses of the repricing term assumptions investigate scenarios where actual repricing terms are significantly different to those modelled.

## Chapter 11 – Leverage and Liquidity Coverage Ratio

### Leverage Ratio

The Leverage Ratio requirements are part of the Basel Committee on Banking Supervision (BCBS) Basel III capital framework. It is a simple, non-risk based supplement or backstop to the current risk based capital requirements and is intended to restrict the build-up of excessive leverage in the banking system.

Consistent with the BCBS definition, APRA's Leverage Ratio compares Tier 1 Capital to the Exposure Measure (expressed as a percentage) as defined by APS 110. APRA has not finalised a minimum Leverage Ratio requirement for Australian ADIs, although they have proposed a minimum of 3.5% for internal ratings based approach ADI. At 30 September 2019, the Group's Leverage Ratio of 5.6% was above the 3% minimum currently required by the BCBS. Table 18 below shows the Group's Leverage Ratio calculation as at 30 September 2019 and Table 19 summarises the reconciliation of accounting assets and leverage ratio exposure measure at 30 September 2019.

**Table 18 Leverage Ratio**

	Sep 19 \$M	Mar 19 \$M	Sep 18 \$M
<b>On-balance sheet exposures</b>			
1 On-balance sheet items (excluding derivatives and SFTs, but including collateral)	823,620	824,997	799,199
2 (Asset amounts deducted in determining Basel III Tier 1 capital)	(12,976)	(14,082)	(13,794)
<b>3 Total on-balance sheet exposures (excluding derivatives and SFTs)</b>	<b>810,644</b>	<b>810,915</b>	<b>785,405</b>
<b>Derivative exposures</b>			
4 Replacement cost associated with all derivatives transactions (ie net of eligible cash variation margin)	11,565	8,074	8,702
5 Add-on amounts for PFE associated with all derivatives transactions	32,713	31,651	29,471
6 Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the operative accounting framework	1,384	-	-
7 (Deductions of receivables assets for cash variation margin provided in derivatives transactions)	(11,893)	(8,789)	(8,106)
8 (Exempted CCP leg of client-cleared trade exposures)	-	-	-
9 Adjusted effective notional amount of written credit derivatives	3,906	2,060	2,137
10 (Adjusted effective notional offsets and add-on deductions for written credit derivatives)	(3,417)	(1,557)	(1,528)
<b>11 Total derivative exposures</b>	<b>34,258</b>	<b>31,439</b>	<b>30,676</b>
<b>Securities financing transaction exposures</b>			
12 Gross SFT assets (with no recognition of netting), after adjusting for sale accounting transactions	35,980	36,256	34,173
13 (Netted amounts of cash payables and cash receivables of gross SFT assets)	(1,426)	(1,344)	(253)
14 CCR exposure for SFT assets	2,369	2,375	2,146
15 Agent transaction exposures	-	-	-
<b>16 Total securities financing transaction exposures</b>	<b>36,923</b>	<b>37,287</b>	<b>36,066</b>
<b>Other off-balance sheet exposures</b>			
17 Off-balance sheet exposure at gross notional amount	253,791	245,941	245,108
18 (Adjustments for conversion to credit equivalent amounts)	(146,391)	(139,999)	(142,298)
19 Off-balance sheet items	<b>107,400</b>	<b>105,942</b>	<b>102,810</b>
<b>Capital and Total Exposures</b>			
20 <b>Tier 1 capital</b>	<b>55,221</b>	<b>53,075</b>	<b>52,218</b>
21 <b>Total exposures</b>	<b>989,225</b>	<b>985,583</b>	<b>954,957</b>
<b>Leverage ratio</b>			
22 <b>Basel III leverage ratio</b>	<b>5.6%</b>	<b>5.4%</b>	<b>5.5%</b>

**Table 19 Summary comparison of accounting assets vs. leverage ratio exposure measure**

		<b>Sep 19</b>	<b>Mar 19</b>	<b>Sep 18</b>
		<b>\$M</b>	<b>\$M</b>	<b>\$M</b>
1	Total consolidated assets as per published financial statements	981,137	980,244	942,624
2	Adjustment for investments in banking, financial, insurance or commercial entities that are consolidated for accounting purposes but outside the scope of regulatory consolidation.	(871)	(39,618)	(40,829)
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.	(86,409)	(47,936)	(37,747)
5	Adjustment for SFTs (i.e. repos and similar secured lending)	944	1,033	1,893
6	Adjustment for off-balance sheet exposures (i.e. conversion to credit equivalent amounts of off-balance sheet exposures)	107,400	105,942	102,810
7	Other adjustments	(12,976)	(14,082)	(13,794)
	<b>Leverage ratio exposure</b>	<b>989,225</b>	<b>985,583</b>	<b>954,957</b>



**Table 20 Liquidity Coverage Ratio disclosure template**

		Sep 19		Jun 19		Mar 19	
	Total Unweighted Value \$M	Total Weighted Value \$M	Total Unweighted Value \$M	Total Weighted Value \$M	Total Unweighted Value \$M	Total Weighted Value \$M	
<b>Liquid assets, of which:</b>							
1	High-quality liquid assets (HQLA)	-	144,200	-	137,770	-	141,966
2	Alternative liquid assets (ALA)	-	41,400	-	41,815	-	41,999
3	Reserve Bank of New Zealand (RBNZ) securities	-	4,997	-	5,150	-	5,579
<b>Cash outflows</b>							
4	Retail deposits and deposits from small business customers	202,675	20,702	196,242	19,932	196,966	20,100
5	of which: stable deposits	78,262	3,913	76,070	3,804	75,599	3,780
6	of which: less stable deposits	124,413	16,789	120,172	16,128	121,367	16,320
7	Unsecured wholesale funding	208,233	114,820	199,950	110,313	198,225	110,546
8	of which: operational deposits (all counterparties) and deposits in networks for cooperative banks	64,317	15,552	60,514	14,670	57,304	13,840
9	of which: non-operational deposits (all counterparties)	132,524	87,876	127,266	83,473	128,579	84,364
10	of which: unsecured debt	11,392	11,392	12,170	12,170	12,342	12,342
11	Secured wholesale funding		513		168		1,165
12	Additional requirements	143,054	40,181	139,289	37,855	136,570	35,619
13	of which: outflows related to derivatives exposures and other collateral requirements	24,736	24,736	22,724	22,724	20,668	20,668
14	of which: outflows related to loss of funding on debt products	-	-	-	-	-	-
15	of which: credit and liquidity facilities	118,318	15,445	116,565	15,131	115,902	14,951
16	Other contractual funding obligations	10,892	-	11,403	-	10,508	-
17	Other contingent funding obligations	66,370	3,985	67,841	4,795	70,505	4,292
18	Total cash outflows		180,201		173,063		171,722
<b>Cash inflows</b>							
19	Secured lending (e.g. reverse repos)	30,556	1,901	28,145	1,732	28,676	1,542
20	Inflows from fully performing exposures	37,335	26,443	37,147	25,744	33,223	22,715
21	Other cash inflows	18,235	18,235	16,680	16,680	15,336	15,336
22	Total cash inflows	86,126	46,579	81,972	44,156	77,235	39,593
23	Total liquid assets		190,597		184,735		189,544
24	Total net cash outflows		133,622		128,907		132,129
25	Liquidity Coverage Ratio (%)		142.6%		143.3%		143.5%
	Number of data points used (simple average)		66		65		63

**Liquidity Coverage Ratio (LCR)**

ANZ's average LCR for the 3 months to 30 September 2019 was 142.6% with total liquid assets exceeding net outflows by an average of \$56.9 billion.

The main contributors to net cash outflows were modelled outflows associated with the bank's corporate and retail deposit portfolios, offset by inflows from maturing loans. While cash outflows associated with derivatives are material, these are effectively offset by derivative cash inflows.

The composition of the liquid asset portfolio has remained relatively stable through the quarter, with HQLA securities and cash making up on average 76% of total liquid assets.

ANZ has a well-diversified deposit and funding base avoiding undue concentrations by investor type, maturity, market source and currency.

ANZ monitors and manages its liquidity risk on a daily basis including LCR by geography and currency, ensuring ongoing compliance across the network.

Table 21 NSFR disclosure template

Available Stable Funding (ASF) Item		Sep 19 Unweighted value by residual maturity				Weighted value \$M
		No maturity \$M	< 6 months \$M	6 months to < 1yr \$M	≥ 1yr \$M	
1	Capital	60,928	-	-	15,993	76,921
2	of which: regulatory capital	60,928	-	-	15,993	76,921
3	of which: other capital instruments	-	-	-	-	-
4	Retail deposits and deposits from small business customers	175,878	76,068	7,727	2,892	241,288
5	of which: stable deposits	75,312	18,486	-	-	89,108
6	of which: less stable deposits	100,566	57,582	7,727	2,892	152,180
7	Wholesale funding	108,827	259,407	34,547	91,003	197,037
8	of which: operational deposits	64,325	-	-	-	32,162
9	of which: other wholesale funding	44,502	259,407	34,547	91,003	164,875
10	Liabilities with matching interdependent assets	-	-	-	-	-
11	Other liabilities	16,116	6,620	-	295	295
12	of which: NSFR derivative liabilities	-	6,620	-	-	-
13	of which: All other liabilities and equity not included in the above categories	16,116	-	-	295	295
<b>14</b>	<b>Total ASF</b>					<b>515,541</b>
<b>Required Stable Funding (RSF) Item</b>						
15a	Total NSFR (HQLA)					6,950
15b	ALA					4,800
15c	RBNZ securities					849
16	Deposits held at other financial institutions for operational purposes	-	-	-	-	-
17	Performing loans and securities	17,218	120,967	49,663	419,824	389,062
18	of which: Performing loans to financial institutions secured by Level 1 HQLA	-	30,136	-	-	3,014
19	of which: Performing loans to financial institutions secured by non-Level 1 HQLA and unsecured performing loans to financial institutions	395	34,549	11,725	11,413	22,853
20	of which: 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)	15,945	50,602	32,031	115,171	152,732
21	of which: With a risk weight of less than or equal to 35% under APS 112	15	588	413	4,809	3,636
22	of which: Performing residential mortgages	-	5,110	5,108	289,962	206,246
23	of which: With a risk weight equal to 35% under APS 112	-	4,543	4,545	253,429	174,628
24	of which: Securities that are not in default and do not qualify as HQLA, including exchange-traded equities	878	570	799	3,278	4,217
25	Assets with matching interdependent liabilities	-	-	-	-	-
26	Other assets:	21,899	32,725	565	4,167	33,660
27	of which: Physical traded commodities, including gold	1,794				1,525
28	of which: Assets posted as initial margin for derivative contracts and contributions to default funds of central counterparties (CCPs)		1,571	-	-	1,336
29	of which: NSFR derivative assets		11,565	-	-	4,945
30	of which: NSFR derivative liabilities before deduction of variation margin posted		18,541	-	-	3,708
31	of which: All other assets not included in the above categories	20,105	1,048	565	4,167	22,146
32	Off-balance sheet items	-	-	-	182,367	7,664
<b>33</b>	<b>Total RSF</b>					<b>442,985</b>
<b>34</b>	<b>Net Stable Funding Ratio (%)</b>					<b>116.38%</b>

ANZ's NSFR as at 30 September 2019 was 116.4%, up 1.5% for the quarter.

The main sources of Available Stable Funding (ASF) at September 2019 were deposits from Retail and SME customers, at 47%, with other wholesale funding at 32% and capital at 15% of the total ASF.

The majority of ANZ's Required Stable Funding (RSF) at September 2019 was driven by mortgages at 47% and other lending to non-FI customers at 34% of the total RSF.

Table 21 NSFR disclosure template (continued)

Available Stable Funding (ASF) Item	Jun 19 Unweighted value by residual maturity				Weighted value \$M	
	No maturity \$M	< 6 months \$M	6 months to < 1yr \$M	≥ 1yr \$M		
	1	Capital	59,760	-		-
2	of which: regulatory capital	59,760	-	-	14,045	73,806
3	of which: other capital instruments	-	-	-	-	-
4	Retail deposits and deposits from small business customers	169,611	76,165	9,549	2,926	237,315
5	of which: stable deposits	72,279	19,643	-	-	87,326
6	of which: less stable deposits	97,332	56,522	9,549	2,926	149,989
7	Wholesale funding	121,249	259,674	31,039	92,185	198,684
8	of which: operational deposits	65,861	-	-	-	32,930
9	of which: other wholesale funding	55,388	259,674	31,039	92,185	165,754
10	Liabilities with matching interdependent assets	-	-	-	-	-
11	Other liabilities	19,144	5,368	-	1,508	1,508
12	of which: NSFR derivative liabilities	-	5,368	-	-	-
13	of which: All other liabilities and equity not included in the above categories	19,144	-	-	1,508	1,508
<b>14</b>	<b>Total ASF</b>					<b>511,313</b>
<b>Required Stable Funding (RSF) Item</b>						
15(a)	Total NSFR (HQLA)					5,725
15(b)	ALA					4,800
15(c)	RBNZ securities					649
16	Deposits held at other financial institutions for operational purposes	-	-	-	-	-
17	Performing loans and securities	17,667	129,925	39,091	423,280	392,194
18	of which: Performing loans to financial institutions secured by Level 1 HQLA	-	33,395	-	-	3,339
19	of which: Performing loans to financial institutions secured by non-Level 1 HQLA and unsecured performing loans to financial institutions	513	35,889	7,976	10,092	19,977
20	of which: 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)	16,227	55,257	25,542	115,068	152,186
21	of which: With a risk weight of less than or equal to 35% under APS 112	4	1,800	225	3,584	3,345
22	of which: Performing residential mortgages	-	4,992	4,999	293,720	211,681
23	of which: With a risk weight equal to 35% under APS 112	-	4,430	4,437	250,777	174,617
24	of which: Securities that are not in default and do not qualify as HQLA, including exchange-traded equities	927	392	574	4,400	5,011
25	Assets with matching interdependent liabilities	-	-	-	-	-
26	Other assets:	25,431	27,228	1,347	3,980	34,670
27	of which: Physical traded commodities, including gold	2,045	-	-	-	1,738
28	of which: Assets posted as initial margin for derivative contracts and contributions to default funds of central counterparties (CCPs)	-	1,577	-	-	1,340
29	of which: NSFR derivative assets	-	9,088	-	-	3,720
30	of which: NSFR derivative liabilities before deduction of variation margin posted	-	16,147	-	-	3,229
31	of which: All other assets not included in the above categories	23,386	416	1,347	3,980	24,643
32	Off-balance sheet items	-	-	-	177,176	7,116
<b>33</b>	<b>Total RSF</b>					<b>445,154</b>
<b>34</b>	<b>Net Stable Funding Ratio (%)</b>					<b>114.86%</b>

## Glossary

ADI	Authorised Deposit-taking Institution.
Basel III Credit Valuation adjustment (CVA) capital charge	CVA charge is an additional capital requirement under Basel III for bilateral derivative exposures. Derivatives not cleared through a central exchange/counterparty are subject to this additional capital charge and also receive normal CRWA treatment under Basel II principles.
Collectively Assessed Provision for Credit Impairment	Collectively assessed provisions for credit impairment represent the Expected Credit Loss (ECL) calculated in accordance with AASB 9 Financial Instruments (AASB 9). These incorporate forward looking information and do not require an actual loss event to have occurred for an impairment provision to be recognised.
Credit exposure	The aggregate of all claims, commitments and contingent liabilities arising from on- and off-balance sheet transactions (in the banking book and trading book) with the counterparty or group of related counterparties.
Credit risk	The risk of financial loss resulting from a counterparty failing to fulfil its obligations, or from a decrease in credit quality of a counterparty resulting in a loss in value.
Credit Valuation Adjustment (CVA)	Over the life of a derivative instrument, ANZ uses a CVA model to adjust fair value to take into account the impact of counterparty credit quality. The methodology calculates the present value of expected losses over the life of the financial instrument as a function of probability of default, loss given default, expected credit risk exposure and an asset correlation factor. Impaired derivatives are also subject to a CVA.
Days past due	The number of days a credit obligation is overdue, commencing on the date that the arrears or excess occurs and accruing for each completed calendar day thereafter.
Exposure at Default (EAD)	Exposure At Default is defined as the expected facility exposure at the date of default.
Impaired assets (IA)	Facilities are classified as impaired when there is doubt as to whether the contractual amounts due, including interest and other payments, will be met in a timely manner. Impaired assets include impaired facilities, and impaired derivatives. Impaired derivatives have a credit valuation adjustment (CVA), which is a market assessment of the credit risk of the relevant counterparties.
Impaired loans (IL)	Impaired loans comprise of drawn facilities where the customer's status is defined as impaired.
Individual provision charge (IPC)	Individual provision charge is the amount of expected credit losses on financial instruments assessed for impairment on an individual basis (as opposed to on a collective basis). It takes into account expected cash flows over the lives of those financial instruments.
Individually Assessed Provisions for Credit Impairment	Individually assessed provisions for credit impairment are calculated in accordance with AASB 9 Financial Instruments (AASB 9). They are assessed on a case-by-case basis for all individually managed impaired assets taking into consideration factors such as the realisable value of security (or other credit mitigants), the likely return available upon liquidation or bankruptcy, legal uncertainties, estimated costs involved in recovery, the market price of the exposure in secondary markets and the amount and timing of expected receipts and recoveries.

Internationally Comparable Basel III Capital Ratio	The Internationally Comparable Basel III CET1 ratios are ANZ's interpretation of the regulations documented in the Basel Committee publications; "Basel 3: A global regulatory framework for more resilient banks and banking systems" (June 2011) and "International Convergence of Capital Measurement and Capital Standards" (June 2006). They also include differences identified in APRA's information paper entitled International Capital Comparison Study (13 July 2015).
Market risk	<p>The risk to ANZ's earnings arising from changes in interest rates, foreign exchange rates, credit spreads, volatility, correlations or from fluctuations in bond, commodity or equity prices. ANZ has grouped market risk into two broad categories to facilitate the measurement, reporting and control of market risk:</p> <p>Traded market risk - the risk of loss from changes in the value of financial instruments due to movements in price factors for both physical and derivative trading positions. Trading positions arise from transactions where ANZ acts as principal with customers, financial exchanges or inter-bank counterparties.</p> <p>Non-traded market risk (or balance sheet risk) - comprises interest rate risk in the banking book and the risk to the AUD denominated value of ANZ's capital and earnings due to foreign exchange rate movements.</p>
Operational risk	The risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events including legal risk but excluding reputation risk.
Past due facilities	Facilities where a contractual payment has not been met or the customer is outside of contractual arrangements are deemed past due. Past due facilities include those operating in excess of approved arrangements or where scheduled repayments are outstanding but do not include impaired assets.
Qualifying Central Counterparties (QCCP)	QCCP is a central counterparty which is an entity that interposes itself between counterparties to derivative contracts. Trades with QCCP attract a more favorable risk weight calculation.
Recoveries	Payments received and taken to profit for the current period for the amounts written off in prior financial periods.
Restructured items	Restructured items comprise facilities in which the original contractual terms have been modified for reasons related to the financial difficulties of the customer. Restructuring may consist of reduction of interest, principal or other payments legally due, or an extension in maturity materially beyond those typically offered to new facilities with similar risk.
Risk Weighted Assets (RWA)	Assets (both on and off-balance sheet) are risk weighted according to each asset's inherent potential for default and what the likely losses would be in the case of default. In the case of non-asset backed risks (i.e. market and operational risk), RWA is determined by multiplying the capital requirements for those risks by 12.5.
Securitisation risk	The risk of credit related losses greater than expected due to a securitisation failing to operate as anticipated, or of the values and risks accepted or transferred, not emerging as expected.
Write-Offs	Facilities are written off against the related provision for impairment when they are assessed as partially or fully uncollectable, and after proceeds from the realisation of any collateral have been received. Where individual provisions recognised in previous periods have subsequently decreased or are no longer required, such impairment losses are reversed in the current period income statement.

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