Absa Group Limited

Pillar 3 risk management report
for the reporting period ended
31 December 2022

The Pillar 3 risk management report for the reporting period ended 31 December 2022 provides the prescribed annual view of Absa Group Limited (the Group) regulatory capital and risk exposures. It complies with:

- The Basel Committee on Banking Supervision (BCBS) Pillar 3 disclosure requirements (Pillar 3 Standard).
- Regulation 43 of the Regulations relating to Banks (Regulations), issued in terms of the Banks Act, 1990 (Act No. 94 of 1990), where not superseded by the Pillar 3 disclosure requirements.

The report is supplemented with the Group's Pillar 3 risk management additional disclosures.

Management and the Group Risk and Capital Management Committee (GRCMC) have reviewed the report. The Board is satisfied that the Group's risk and capital management processes operated effectively for the period under review, and the Group is adequately capitalised and funded to support the execution of its strategy.

The information in this report is unaudited.

Contents

BCBS Pillar 3 disclosure requirements of sections and tables

References to disclosure requirements have been designated by [ ]

- A Additional disclosure tables Pillar 3 risk management report for the reporting period ended 31 December 2022
- B Not applicable to the Group

BCBS Pillar 3 disclosure requirements of sections and tables

- A Additional disclosure tables Pillar 3 risk management report for the reporting period ended 31 December 2022
- B Not applicable to the Group

1. Summary of risk profile and RWA

1. Summary of risk profile and RWA

1.1 Key performance metrics

Common equity tier 1 (CET1) ratio[1]
12.8%
2021: 12.8%

Economic capital (EC) coverage
1.6%
2021: 1.5

Leverage ratio[1]
7.8%
2021: 7.9%

Liquidity coverage ratio (LCR)[2]
124.6%
2021: 116.8%

Net stable funding ratio (NSFR)
113.4%
2021: 116.1%

Credit loss ratio (CLR)
0.96%
2021: 0.77%

Stage 3 ratio on gross loans and advances
5.3%
2021: 5.4%

Stage 1 and stage 2 coverage ratio
1.3%
2021: 1.5%

Stage 3 coverage ratio
46.1%
2021: 44.6%

Banking book net interest income (NII) sensitivity for a 2% upward shock in interest rates (Rm)
R1 099m
2021: R1 216m

Operational risk losses
(R18m)
2021: R893m

Review of current reporting period

- Capital ratios remained robust, above minimum regulatory requirements and internal capital targets, while supporting balance sheet growth.
- The liquidity position remains healthy and liquidity metrics are within risk appetite.
- The CLR has tracked at the upper end of the Group's through the cycle range (0.75% to 1.00%) as macro-economic pressures have started to emerge.
- Although the Group's stage 1 and stage 2 coverage ratio has gradually decreased since the coverage built during 2020, it remains above pre-pandemic levels.
- The Group proactively managed interest rate risk sensitivity in the banking book and remained positively geared to higher policy rates post risk management discipline.
- Operational risk losses decreased to a net gain, reflecting the combined impact of the effectiveness of controls and recoveries relating to prior period events.
- The Group continued to invest in infrastructure, process re-engineering, employee development and technology to deliver improved operational resilience.
- Sustainability targets, as a percentage of the Group's total loans, were set on the exposure to the oil, coal and gas sectors over the short, medium and long term.

Priorities

The Group's operating environment is expected to continue to be challenging. Risk, liquidity and capital management will remain a priority, including:

- Creating sustainable value for shareholders while maintaining sufficient capital supply for growth.
- Ensuring capital ratios are maintained within or above the upper end of the Board risk appetite and above minimum levels of regulatory capital through various economic and business cycles.
- Continuing to lengthen and diversify the funding base to support asset growth and other strategic initiatives while optimising funding costs.
- Monitoring growth to ensure a well-diversified credit portfolio in line with the Group's strategy and risk appetite.
- Positioning and managing the credit portfolio proactively to mitigate the impact of heightened country and sovereign risks.
- Improving controls, efficiency and operational resilience, through enhanced platforms and digital capabilities, across critical processes.
- Engaging and collaborating with regulatory authorities and other stakeholders on upcoming regulatory changes to ensure the most appropriate outcomes for the banking sector and broader economy.
- Developing further climate action guidelines and standards to guide the Group's approach to climate change-related risks and opportunities to align with commitments made by the Group.
- Conducting business and product impact assessments to evaluate the quantitative and qualitative implications of implementing Basel III finalisation, including the Fundamental Review of the Trading Book (FRTB) and the proposed amendments to bank-related regulations.

[1] Includes unappropriated profits.

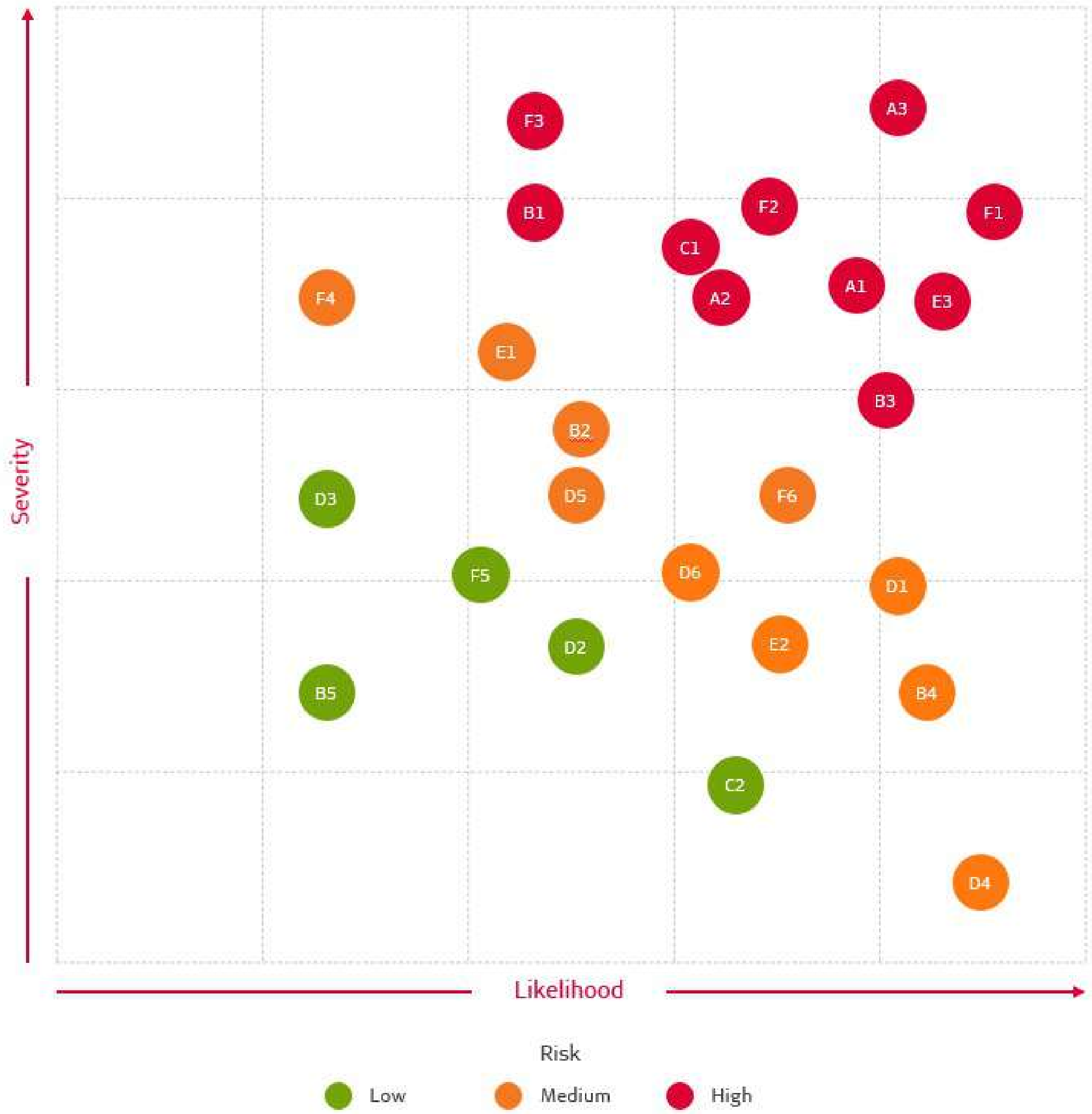
[2] The Group LCR reflects an aggregation of the Bank LCR and the ARO LCR. For this purpose, a simple average of the relevant three month-end data points is used in ARO, noting that the ARO LCR is capped at 100% per the minimum regulatory requirements. For the Bank, the LCR was calculated as a simple average of 90 calendar-day LCR observations.

1. Summary of risk profile and RWA

1.2 Risks arising from the operating environment

Global and geopolitical uncertainty remain heightened and are expected to continue impacting global markets and the outlook of the markets in which the Group operates. Risks faced by financial market participants in global and domestic economies remain elevated.

The Group's focus remains on proactive risk and capital management to positively position itself for changes in the operating environment. Risks are actively identified and prioritised, and our consolidated response is monitored to ensure effective implementation achieves the targeted result. Scenario analyses detect potential areas of weakness early and is used to assess response effectiveness. Current and emerging risks are plotted below:



1. Summary of risk profile and RWA

Risk theme	Current and emerging risks
Global and local economic uncertainty *(Macro-economic factors globally placing pressure on sovereigns, companies and individuals)*	• Persistently high global inflation driving monetary policy tightening, with the resultant high interest rates affecting growth and economic activity: [A1] – Potential introduction of supply-side inflation into economies already under pressure, increasing the risk of recession. – Stress is evident in global banks and consumers. – Asset values are negatively impacted. • Potential risk of sovereigns prematurely anticipating inflationary cycles to have peaked, resulting in heightened volatility. [A2] • High sovereign debt levels, along with reduced debt and interest servicing capacity, cause increased possibility of sovereign restructures or downgrades and defaults (Nigeria, Ghana, Kenya). [A3] Management's response • Protect the Group's liquidity and balance sheet. • Use scenarios to evaluate the potential outcomes of a variety of factors. Management develops mitigating actions and assesses their effectiveness to guide decision making. • Investigate the link between impairments and movements in the interest rates and consider credit solutions, due to customer stress. • Monitor downside risk presented by uncertainty. • Pragmatic approach to risk modelling where data may not reflect economic reality. • Maintain strong collections processes and consider strategic capabilities, including heightened collateral monitoring.
Strategic, execution and business risks *(These arise from external and internal drivers)*	• Global instability arising from geopolitical uncertainty and conflict, resulting in increased pressure on emerging markets. [B1] • Actions taken to limit inflation may be ineffective and result in economic hardship, higher unemployment, increased inequality, or lower business and consumer confidence. [B2] • Infrastructure failures, including logistical and power supply (including secondary impacts), negatively impact stakeholders and increase the cost of doing business. [B3] • Disruption driven by a constantly changing operating environment and evolving client needs. [B4] • Potential adverse impact of large strategic change projects on strategy risk, change risk and people risk. [B5] Management's response • Monitor and manage risk strategy and risk appetite to identify and mitigate risks as they arise, while supporting customers. • Maintain focus on operational resilience and business continuity management. • Continue investing in delivering scalable digital solutions. • Ensure change projects are properly scoped, fully capacitated and closely monitored through senior oversight, including independent quality assurance.
Global and local liquidity and cash flow stresses *(Cheap and plentiful liquidity is drying up)*	• Liquidity is drying up, as evidenced in the weak global demand for sovereign issuances. Areas of heightened risk resulting from this include: [C1] – Heightened concentration risk, especially for sovereigns as downgrades can have significant impacts. – Counterparty contagion risk from liquidity and credit risk perspectives. – Scarce hard currency in ARO, which impacts trade and release of dividends, particularly in Zambia and Nigeria. – Assumptions for business decisions, hedging and modelling may fail. • Grey-listing by the Financial Action Task Force (FATF) may impact hard currency funding and liquidity in South Africa. [C2] Management's response • Protect the Group's liquidity and balance sheet. • Continuously scan and prepare for possible illiquidity. • Challenge assumptions made for business decisions, hedging and modelling to assess if they are appropriate. • Assess for and build in flexibility regarding hedging and other liquidity and interest rate risk strategies. • Assess key counterparties to understand their potential cash flow or liquidity weaknesses. • Improve client knowledge and develop strategies to support clients with liquidity issues.

1. Summary of risk profile and RWA

Risk theme	Current and emerging risks
Increased compliance risk due to new and emerging regulations and oversight *(Rapid change and increasing complexity requires close monitoring)*	• Increasing pace and evolving complexity of regulatory and statutory requirements across the Group's markets impact the current business model. [D1] • Skills development needed to meet new regulatory requirements for ESG risk disclosure, operational resilience assessments and digital assets regulation. [D2] • Potential long-term impact of regulatory changes on business strategy and Group performance. [D3] • Pace of change in cryptocurrency and fintech, including regulation thereof. [D4] • Tightening margins and pricing restrictions (ARO). [D5] • New regulations relating to fraud and liability. [D6] Management's response • Maintain a forward-looking approach to evaluate, respond to and monitor change. • Engage with regulators and other stakeholders on regulatory developments. • Build a robust control environment of compliance. • Develop systems with the agility to accommodate change. • Understand the impact of future requirements on the current business model and practices, and proactively make necessary changes.
Environmental and social risks impact the Group, its customers and the operating environment *(The developing nature of these risks and their monitoring yields high uncertainty)*	• Adverse impact of climate and social change: [E1] – Will negatively impact communities and sharply heighten the Group's credit and insurance risks. – May cause increased migration and thus tension. • Complexities in managing social trends and the evolving societies and political environments in which the Group operates. Forthcoming elections may cause social unrest and heighten complexities. [E2] • Increasing expectations from stakeholders to integrate sustainability risk management practices with business activities: [E3] – Change risk will remain heighted as processes, metrics and monitoring is embedded. – Stakeholders need clarity on the cost and required participation in the Just Transition. – The Group needs to meet green targets on owned assets. Management's response • Reduce the Group's direct environmental footprint in line with its 2030 environmental action plan. • Embed processes to encourage customers to adopt business strategies and practices that align with the Group's Sustainability Policy. • Embed existing financing standards. • Continuously enhance credit and insurance risk data, models and scenario analyses to assess the impact of climate change risk. • Continue to engage with civil societies, shareholder activists and development finance institutions.
Heightened resilience, fraud, financial crime, people and cyber-risks expected for the foreseeable future *(Preparing for systemic wildcard events requires resilience)*	• Heightened risk of social unrest due to high inflation levels impacting cost of living, weak economic environments, infrastructure failures (including secondary impacts) and poor service delivery. [F1] • Fraud and security risks arising from economic pressure. [F2] • Increasing opportunistic financial and cyber-crime (such as ransomware attacks), and rising criminal sophistication. [F3] • Increasing exposure to potential data leaks arising from third and fourth-party suppliers. [F4] • Heightened risk to employee wellness from evolving social and economic environments. [F5] • Evolving risks arising from unethical use of artificial intelligence (AI) tools relating to internal and external fraud and cyber-crime. [F6] Management's response • Maintain focus on operational resilience and proactively identify and mitigate risks. • Maintain the technology estate's high stability. • Invest in security platforms, including external intelligence, customer awareness campaigns and industry collaboration. • Embed a strong and resilient risk culture across the Group. • Enhance due diligence performed on third-party suppliers. • Monitor and manage the impact on employees.

1. Summary of risk profile and RWA

Overview of RWA [OV1]

The following table provides the RWA per risk type and the associated minimum capital requirements. Additional disclosures for each risk type, namely credit, counterparty credit, equity investment, securitisation, traded market and operational, are included in the sections that follow.

		Group				Bank[1]			
		a		b	c	a		b	c
		31 Dec 2022	31 Dec 2021	30 Sep 2022	31 Dec 2022	31 Dec 2022	31 Dec 2021	30 Sep 2022	31 Dec 2022
		RWA Rm	RWA Rm	RWA Rm	MCR[2] Rm	RWA Rm	RWA Rm	RWA Rm	MCR[2] Rm
1	Credit risk (excluding counterparty credit risk (CCR))	740 659	675 930	724 081	92 582	488 417	460 247	478 104	61 052
2	Of which: standardised approach (SA)	235 727	198 515	230 837	29 466	506	285	693	63
3	Of which: foundation internal ratings-based (FIRB) approach	-	-	-	-	-	-	-	-
4	Of which: supervisory slotting approach	-	-	-	-	-	-	-	-
5	Of which: advanced internal ratings-based (AIRB) approach	504 932	477 415	493 244	63 116	487 911	459 962	477 411	60 989
6	CCR	16 303	16 254	18 178	2 038	14 860	14 039	14 515	1 858
7	Of which: standardised approach for CCR (SA-CCR)	16 303	16 254	18 178	2 038	14 860	14 039	14 515	1 858
8	Of which: internal model method (IMM)	-	-	-	-	-	-	-	-
9	Of which: other CCR	-	-	-	-	-	-	-	-
10	Credit valuation adjustment (CVA)	6 480	10 203	11 583	810	5 098	6 329	6 409	637
11	Equity positions under the simple risk weight approach	3 482	3 578	3 453	435	1 823	1 779	1 819	228
12	Equity investments in funds – look-through approach	8 151	9 172	8 901	1 019	2 626	2 490	2 483	328
13	Equity investments in funds – mandate-based approach	-	-	-	-	-	-	-	-
14	Equity investments in funds – fall-back approach	-	446	482	-	-	-	-	-
15	Settlement risk	1 279	1 191	1 404	160	1 222	1 529	1 325	153
16	Securitisation exposures in banking book	577	3 937	2 069	72	577	2 135	2 069	72
17	Of which: IRB ratings-based approach (SEC-IRBA)	-	3 937	2 069	-	-	2 135	2 069	-
18	Of which: securitisation external RBA (SEC-ERBA), including internal assessment approach (IAA)	-	-	-	-	-	-	-	-
19	Of which: securitisation SA (SEC-SA)	577	-	-	72	577	-	-	72
20	Market risk	38 882	39 183	46 595	4 860	28 250	26 194	33 059	3 531
21	Of which: SA	18 915	19 693	29 158	2 364	8 283	9 299	15 622	1 035
22	Of which: internal model approach (IMA)	19 967	19 490	17 437	2 496	19 967	16 895	17 437	2 496
23	Capital charge for switch between trading book and banking book	-	-	-	-	-	-	-	-
24	Operational and resilience risk	122 496	115 059	118 845	15 312	77 513	76 641	76 641	9 689
	Non-customer assets	25 838	25 519	26 916	3 230	17 405	15 984	15 300	2 176
25	Amounts below the thresholds for deduction (subject to 250% risk weight)	34 379	23 442	32 385	4 297	15 118	13 878	16 189	1 890
26	Floor adjustment (after application of transitional cap)[3]	9 467	7 610	7 648	1 183	9 184	6 983	6 983	1 148
27	Total (1+6+10+11+12+13+14+15+16+20+23+24+25+26+non-customer assets)	1 007 993	931 524	1 002 540	125 998	662 093	628 228	654 896	82 762

[1] Absa Bank Limited includes subsidiary undertakings, special-purpose entities, joint ventures, associates, and offshore holdings.

[2] The 2022 minimum total regulatory CAR of 12.5% includes the capital conservation buffer, Pillar 2A at 1.00% and the D-SIB add-on but excludes the bank-specific individual capital requirement (Pillar 2B add-on).

[3] Includes the operational risk floor.

2. Basis of preparation

2. Basis of preparation

2.1 Scope of consolidation

The Group's registered head office is in Johannesburg, South Africa and operates in 14 countries. The Group has banks[1] in Botswana, Ghana, Kenya, Mauritius, Mozambique, Seychelles, South Africa, Tanzania (Absa Bank Tanzania and National Bank of Commerce), Uganda and Zambia, as well as insurance operations in Botswana, Kenya, Mozambique, South Africa and Zambia. The Group also has representative offices in Namibia, Nigeria and the United States, as well as securities entities in the United Kingdom and the United States.

The legal structure below outlines the Group's holdings:

2.2 Pillar 3 risk management report oversight

The purpose of the Pillar 3 risk management report is to provide a comprehensive view of the Group's RC and risk exposures. It complies with:

- The BCBS revised Pillar 3 disclosure requirements (Pillar 3 Standard).
- Regulation 43 of the Regulations relating to Banks (Regulations), issued in terms of the Banks Act, No. 94 of 1990 (Banks Act), where not superseded by the revised Pillar 3 disclosure requirements.

The information in this report is unaudited.

For the reporting period 31 December 2022 (compared with 31 December 2021), the Board is satisfied that the Group's risk and capital management processes operated effectively, that business activities were managed within the Board-approved risk appetite, and that the Group is adequately capitalised and funded to support the execution of its strategy.

[1] Banks are wholly owned, apart from the following where the Group holds majority stakes: Botswana 67.8%, Kenya 68.5%, Mozambique 98.7%, National Bank of Commerce, Tanzania 55% and Seychelles 99.8%.

2. Basis of preparation

2.3 Preparation, validation and sign-off

This report was prepared in line with the Board-approved Banks Act Public Disclosure (Pillar 3) policy. The policy sets out responsibilities in the preparation, validation and sign-off of the report. The Group's risk function centrally reviewed and challenged the disclosures to ensure they are a fair representation of the risk profile. The report was validated and approved through the Group's risk governance channels which include Risk Type Officers (RTOs), the Group Chief Risk Officer (GCRO), Group Financial Director, and the Group Risk and Capital Management Committee (GRCMC).

2.4 Scope of application of Basel measurement

The Group applies the following RC demand measurement approaches when determining its Pillar 1 capital requirements:

Risk type	Approach used
Credit risk (South Africa)	
• Retail and wholesale credit risk	• AIRB
• CCR	• SA-CCR and AIRB
• CVA	• SA
• Securities financing	• Comprehensive approach
• Statutory reserve	• SA
• Liquid asset portfolio	• AIRB
• Equity investment risk in the banking book – listed and unlisted	• Market-based simple risk weight approach and equity investments in funds-look-through approach
• Investments in associates and joint ventures	• Pro rata consolidated methodology or the deduction approach
Credit risk (ARO)	
• All entities and credit risk types	• SA
Market risk	
• General position risks for trading book positions	• IMA
• Issuer-specific risks for trading book positions	• SA
Operational and resilience risk	
• Operational and resilience risk – majority of the Group's divisions	• Advanced measurement approach (AMA)
• Certain joint ventures and associates and ARO legal entities	• Basic indicator approach (BIA) or SA
Other risks	
• Non-customer assets	• SA

2.5 Accounting policies and valuation methodologies

The principal accounting policies applied are set out in the Group's most recent audited annual financial statements.

2.6 Linkages between financial statements and regulatory exposures

Where a different treatment is applied for Basel regulatory reporting compared to statutory accounting reporting, the approach is set out below:

Entity	Statutory accounting treatment	Basel III regulatory treatment
Subsidiaries engaged in insurance activities (Absa Financial Services Limited (AFS))	Consolidated	Excluded from the calculation of the capital adequacy ratio
Associates, joint ventures and participation in businesses that are financial in nature	Equity-accounted	Deducted from qualifying capital or proportionately consolidated
Associates, joint ventures and participation in businesses that are not financial in nature	Equity-accounted	Included in equity investment risk capital

2. Basis of preparation

2.6.1 Differences between accounting and regulatory scope of consolidation and mapping of financial statement categories with regulatory risk categories [LI1]

The carrying values under the scope of regulatory consolidation below are based on the SARB's regulatory requirements. The financial statement carrying values reflect IFRS requirements.

	a	b	c	d	e	f			g
	2022								
			Carrying values of items						
	Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation	Subject to credit risk framework	Subject to CCR framework	Subject to securitisation framework	Subject to market risk framework	Equity Investment Risk	Other Assets	Not subject to capital requirements or subject to deduction from capital
	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm
Assets									
Cash, cash balances and balances with central banks	67 179	65 384	2 009	-	-	3 114	-	63 373	-
Investment securities	215 637	208 522	204 031	-	-	15 161	4 491	-	-
Trading portfolio assets	206 436	206 436	92 417	57 888	-	151 752	-	-	-
Hedging portfolio assets	4 973	4 973	-	4 973	-	4 972	-	-	-
Other assets	25 190	23 952	6 980	-	-	4 355	-	16 973	-
Current tax assets	657	553	-	-	-	-	-	553	-
Non-current assets held for sale	212	212	-	-	-	-	-	212	-
Loans and advances	1 213 399	1 212 505	1 126 395	86 111	-	72 663	-	-	-
Reinsurance assets	663	-	-	-	-	-	-	-	-
Investments linked to investment contracts	19 288	-	-	-	-	-	-	-	-
Investments in associates and joint ventures	2 409	5 853	-	-	-	-	2 409	-	3 443
Investment properties	397	225	-	-	-	-	-	225	-
Property and equipment	15 325	15 229	-	-	-	-	-	15 229	-
Goodwill and intangible assets	12 901	12 378	-	-	-	-	-	-	12 379
Deferred tax assets	8 535	134	-	-	-	-	-	-	8 535
Total assets	1 793 201	1 756 356	1 431 832	148 972	-	252 017	6 900	96 565	24 357

2. Basis of preparation

	a	b	c	d	e	f			g
	2022								
	Carrying values of items								
	Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation	Subject to credit risk framework	Subject to CCR framework	Subject to securitisation framework	Subject to market risk framework	Equity investment risk	Other Assets	Not subject to capital requirements or subject to deduction from capital
	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm
Liabilities									
Trading portfolio liabilities	94 895	94 895	-	56 591	-	94 895	-	-	-
Hedging portfolio liabilities	2 237	2 237	-	-	-	2 237	-	-	-
Other liabilities	36 520	34 952	-	-	-	-	-	-	34 952
Provisions	5 912	5 751	-	-	-	-	-	-	5 751
Current tax liabilities	971	949	-	-	-	-	-	-	949
Non-current liabilities held for sale	26	26	-	-	-	-	-	-	26
Deposits	1 241 919	1 241 918	-	-	-	88 225	-	-	1 153 693
Debt securities in issue	205 519	205 519	-	-	-	-	-	-	205 519
Liabilities under investment contracts	19 999	-	-	-	-	-	-	-	-
Policyholder liabilities under insurance contracts	5 384	-	-	-	-	-	-	-	-
Borrowed funds	26 420	23 551	-	-	-	-	-	-	23 551
Deferred tax liabilities	351	119	-	-	-	-	-	-	119
Total liabilities	**1 640 153**	**1 609 917**	**-**	**56 591**	**-**	**185 357**	**-**	**-**	**1 424 560**

Column b: The regulatory scope of consolidation excludes balances related to the Group's insurance entities. The financial statements include these balances.

Columns c to g: The carrying value under regulatory scope of consolidation does not equal the sum of the amounts subject to the different risk framework due to:

- Derivative financial instruments (contained in trading portfolio assets, trading portfolio liabilities and hedging portfolio assets) are subject to RC for both CCR and market risk.
- Reverse repos to non-banks included in loans and advances to customers are subject to RC under the credit and CCR frameworks.
- Reverse repos to banks are included in loans and advances to banks and are subject to RC under the credit and CCR frameworks.

2. Basis of preparation

2.6.2 Main sources of differences between regulatory exposure amounts and carrying values in financial statements [LI2]

		a					b	c
		2022						
			Items subject to					
		Total	Credit risk framework	Securitisation framework	CCR framework	Market risk framework	Equity investment risk	Other assets
		Rm	Rm	Rm	Rm	Rm	Rm	Rm
1	Asset carrying value amount under scope of regulatory consolidation (as per template LI1)	1 732 000	1 431 832	-	148 972	252 017	6 900	96 565
2	Liabilities carrying value amount under regulatory scope of consolidation (as per template LI1)	241 948	-	-	56 591	185 357	-	-
3	**Total net amount under regulatory scope of consolidation**	**1 490 052**	**1 431 832**	**-**	**92 381**	**66 660**	**6 900**	**96 565**
4	Off-balance sheet amounts	-	417 548	-	-	-	-	-
5	Differences in valuations	-	(63 641)	689	(53 686)	-	(4 059)	-
6	Differences due to consideration of provisions	-	38 958	-	-	-	-	-
7	Credit conversion factor (CCF)	-	(251 299)	-	-	-	-	-
8	Significant investments not subject to RWA	-	-	-	-	-	-	-
9	**Exposure amounts considered for regulatory purposes**	**1 490 052**	**1 573 398**	**689**	**38 695**	**66 660**	**2 841**	**96 565**

The most important drivers of the difference between the carrying value and exposures considered for regulatory purposes are: [LIA]

- Line 4: Pre-CCF off-balance sheet exposures that contribute to the regulatory credit risk framework.
- Line 5: Differences in valuations under the credit risk framework relate to differences in treatment between risk and finance due to eliminations and grossing up of transactions, including netting and valuation effects under the CCR framework as well as valuation effects under the CCR framework.
- Line 6: Differences due to consideration of provisions relate to impairments under the AIRB approach deducted from credit risk framework in table LI1.

The exposure amounts considered for regulatory purposes in table LI2 above correspond to the exposure reported in the following tables:

- Credit risk framework total corresponds to the sum of exposure at default (EAD) post-CRM and CCF in table CR6 on page 45 and exposures post-CCF and CRM in table CR4 on page 39.
- Securitisation framework total corresponds to the sum of securitisation exposures where the Group acted as originator and sponsor in table SEC1 on page 62.
- CCR framework total corresponds to the sum of EAD post-CRM under the different approaches in table CCR1 on page 57.

Equity investment risk total corresponds to the sum of exposure amount in table CR10 on page 67.

2. Basis of preparation

2.6.3 Prudent valuation adjustments (PVA) [PV1]

The total PVA adjustment for the Group for 2022 amounted to R443m (2021: R761m).

The Group has a robust independent valuation control framework responsible for ensuring positions held at fair value are valued at exit price as evidenced by independent market data and according to IFRS. PVA is considered the excess of valuation adjustments required to achieve the identified prudent value over and above any adjustments applied under IFRS and recognized in CET1 capital. The Group implemented the core approach to calculating PVA in line with Directive 5 of 2020 issued by the South African Reserve Bank for the year ended 31 December 2022. Prior to this, PVA for fair value assets and liabilities (FVAL) was calculated under the simplified approach. PVA is calculated using the core approach for CIB SA and Group Treasury within Absa Bank Limited and the simplified approach is applied to all other balances in Absa Bank Limited (making up 4% of gross FVAL) and its subsidiaries. The simplified approach requires banks to set the PVA at 0.1% of the sum of the absolute value FVAL. The financial instruments driving the Group's PVA over the period are interest rate derivatives, credit default swaps and non-exchange traded bonds.

		a	b	c	d	e	f	g	h
		2022							
		Equity Rm	Interest rates Rm	FX Rm	Credit Rm	Commo-dities Rm	Total Rm	Of which: In the trading book Rm	Of which: In the banking book Rm
1	Closeout uncertainty of which:	10 403	266 360	2 353	27 469	-	306 585	271 391	35 194
2	Market price uncertainty	1 040	145 984	1 347	3 390	-	151 761	134 183	17 578
3	Closeout cost	9 363	120 376	1 006	24 079	-	154 824	137 208	17 616
4	Concentration	-	-	-	-	-	-	-	-
5	Early termination	-	-	-	-	-	-	-	-
6	Model risk	-	-	-	-	-	-	-	-
7	Operational risk	-	-	-	-	-	-	-	-
8	Investing and funding cost	-	-	-	-	-	-	-	-
9	Unearned credit spreads	-	-	-	-	-	-	-	-
10	Future administrative costs	-	-	-	-	-	-	-	-
11	Other	-	136 899	-	-	-	136 899	17 006	119 893
12	**Total adjustment**	10 403	403 259	2 353	27 469	-	443 484	288 397	155 087

3. Risk management overview

3. Risk management overview

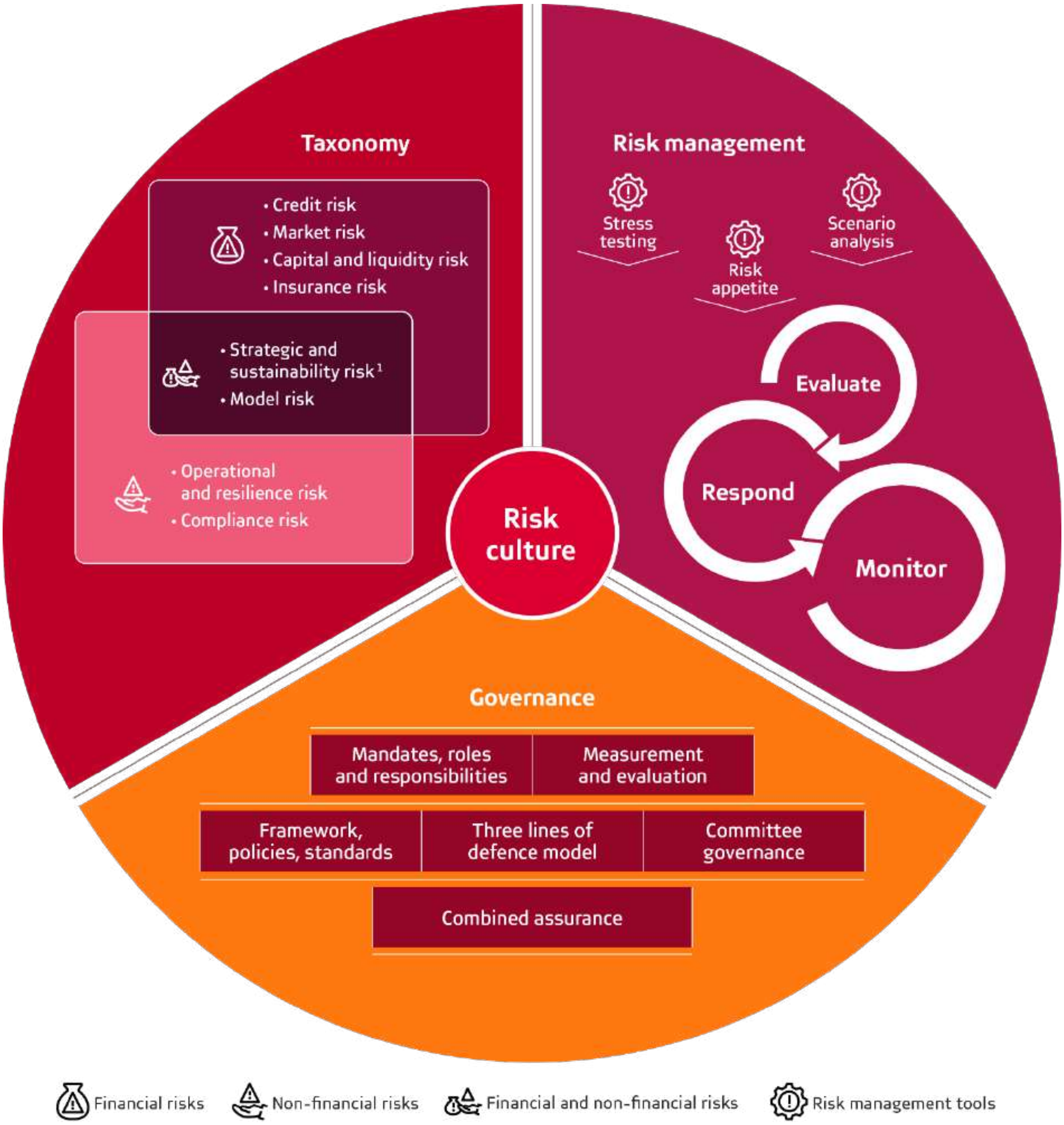
3.1 Risk management approach [OVA]

The Group identifies and assesses risks and opportunities arising from internal and external environments, and proactively identifies emerging risks. To ensure effective risk management, our consolidated response is monitored as follows:

- Recognise the importance of a strong risk culture, which is integral to the Group's culture.
- Consider key (principal) risks, clear ownership and accountability, and Group-wide risk coverage.
- Support the Group's strategy with a coherent risk management operating model and appropriate risk practices, tools and techniques.
- Uphold the risk governance structure at Group, country, business and Group functions, with clear Board escalation and oversight.
- Follow comprehensive and structured processes for evaluating, responding to and monitoring risks.
- Oversee and manage Group-wide assurance through a combined assurance model with clear accountability across the three lines of defence.

3.2 Enterprise Risk Management Framework (ERMF)

The following graphic is a visual representation of the ERMF:



The role of risk management is to evaluate, respond to and monitor risks in the execution of the Group's strategy. The Group's strategy is supported by an effective ERMF. The Group's risk function performs conformance reviews; checks and challenges the risk profile; and retains independence in analysis and decision-making, underpinned by regular reporting to the Executive Committee and the Board. The GCRO assumes responsibility for the ERMF.

[1] Includes reputational risk.

3. Risk management overview

The ERMF:

- Outlines the approach to the management of risk and provides the basis for setting frameworks and policies, and establishing appropriate risk practices throughout the Group.
- Defines the risk management process and sets out the activities, tools, techniques and the operating model to ensure material risks can be identified and managed.
- Ensures appropriate responses are in place to protect the Group and its stakeholders.
- Sets out principal risks and assigns clear ownership and accountability for these risks.

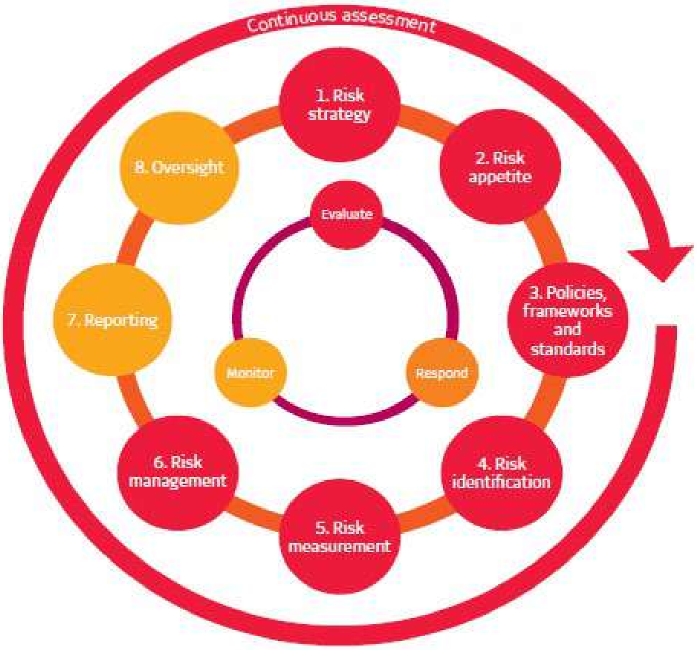
The principal risks as defined in the ERMF are credit, market, capital and liquidity, insurance, strategic and sustainability, model, operational and resilience and compliance. Risks are defined in recognition of their significance to the Group's strategic ambitions.

3.3 Strategy and risk appetite

3.3.1 Strategy, business model and risk appetite

The Group creates, grows and protects wealth through its banking, insurance and asset management businesses by implementing the Group's business strategy. The strategy focuses on opportunities for growth and considers the matters believed to be material to long-term sustainability. It is the key driver of risk and return and should be achieved within risk appetite.

The risk strategy is developed alongside the Group's business strategy and forms an integral part of the integrated planning process. Within the risk strategy, risk appetite defines the types and amount of risk that the Group, its business units and legal entities are willing to take to meet its strategic objectives. This forms part of the strategic planning process to ensure the business strategy is achievable within risk appetite, and that the organisation's decision-making and strategic planning is supported by risk information.



The Group's risk appetite:

- Specifies the level of risk the Group is willing to take in pursuit of its strategy.
- Considers all principal and material risks individually and, where appropriate, in aggregate.
- Consistently measures, monitors, and communicates the level of risk for different risk types, expressed in qualitative and quantitative terms.
- Describes agreed parameters for the Group's performance and resilience under varying levels of financial stress and volatility to earnings, capital adequacy, leverage, and liquidity.
- Is considered in key decision-making processes, including business planning, mergers and acquisitions, new product approvals and business change initiatives.

The Group's risk appetite is stated qualitatively in terms of risk principles and risk preferences and refers to the types of risk the Group actively seeks as well as those it accepts and avoids. In addition, the maximum amount of risk that the Group is prepared to accept to achieve its business objectives is defined using a range of quantitative metrics relating to capital adequacy, earnings volatility, liquidity, and leverage. These are cascaded to the level of principal risk, legal entity, and business unit.

Group quantitative risk appetite metrics	Description
CET1 capital adequacy ratio (%)	The Group aims to have sufficient capital supply to remain within risk appetite and above minimum regulatory CET1 capital adequacy ratio post-management actions following a severe yet plausible stress.
Leverage ratio (%)	The Group aims to remain within risk appetite and above regulatory minimum leverage ratio post-management actions following a severe yet plausible stress.
Economic capital coverage (multiple)	The Group aims to have sufficient capital supply to remain within risk appetite and maintain an investment-grade credit rating post-management actions following a severe yet plausible stress.
CLR (%)	The Group aims to maintain credit losses in its portfolios within risk appetite following a severe yet plausible stress.
Earnings-at-risk (EaR) (%)	With 90% confidence, the reduction in the Group's pre-tax earnings will not exceed a predefined level following a severe yet plausible stress.
LCR (%)	The Group has sufficient high-quality liquid assets (HQLA) to survive a significant stress over a 30-day period.
NSFR (%)	The Group maintains a stable funding profile where available stable funding (ASF) is adequate to meet its required stable funding (RSF).

3. Risk management overview

Group qualitative risk appetite statement

The Group's qualitative risk appetite statement provides a high-level perspective on what the Group considers the most important risk themes impacting its aggregate risk profile. It provides guiding principles on the risk that the Group actively seeks, risks that arise from being in business and risks that should be avoided.

Risk theme	Qualitative statement
Business and strategy	• Focus risk-taking on activities and business engagements that are core to the business strategy. This includes products, customer segments and geographies as they relate to the Group's deposit taking, lending, transacting, trading, advisory, insurance and investment businesses. • Pursue risk-taking through activities that the Group understands and has the requisite skills and capabilities to manage. Continue to enhance the Group's skills and capabilities in line with emerging opportunities, trends and changing markets. • Minimise strategic drift in pursuing business objectives by pro-actively monitoring and responding to material deviations from planned outcomes in a timely manner. This risk appetite statement takes cognisance of the continuous change in the business environment and emerging opportunities. Maintain alignment to strategy while ensuring that the strategy remains supportive of the Group's growth objectives, risk preferences and stakeholder value creation.
People and leadership	• Recruit, train, develop and retain an appropriate level of skilled and capable human capital in line with an effective operating model design for resourcing, supporting systems, diversity and performance. • Align remuneration to support the delivery of strategic objectives and the efficient usage of financial resources in accordance with approved risk appetite. • The Group has no tolerance for any form of discrimination or prejudicial treatment based on age, culture, race, gender and disability, including harassment of any kind. • Leadership to set an example for a high performing and values-based culture. • The Group has no tolerance for fraud by its employees and considers such as unacceptable behaviour.
Resilience	• Maintain robust systems, adequate processes, and recovery capabilities in order to contain operational disruptions due to technology infrastructure failures, third-party services unavailability, cyber security attacks and lack of data protection. • Assess the technology and security emerging risks on a continuous basis to ensure the Group has a forward-looking view to which it must respond to. • Protect the Group's technology assets as it pursues its digital strategy, while maintaining value-adding data management and accelerating delivery of strategic initiatives.
Capital adequacy	• Maintain capital adequacy at levels that enable the Group to continue doing business under severe yet plausible stress conditions within Board approved risk appetite. • Maintain capital levels above minimum regulatory requirements under a very severe stress event. • Allocate capital optimally to generate appropriate returns and ensure that the Group does not unduly hold capital in excess of the approved risk appetite.
Funding and liquidity	• Maintain a healthy liquidity position by holding adequate but not excessive buffers of HQLA above minimum regulatory requirements. • Maintain the tenor composition of assets and liabilities at levels that ensure the sustainability of the Group's funding structure under business as usual and stressed conditions.
Concentrations	• Maintain a well-diversified portfolio of assets and liabilities at all times whilst being cognisant of structural constraints that exist in specific markets in which the Group operates. Manage structural concentrations within approved risk appetite. • Conduct risk-taking activities in a manner that optimises concentrations in industries, sectors, products, counterparties, maturity, funding base, countries, types of collateral and credit protection providers.
Earnings volatility	• Maintain diversified sources of earnings through an economic cycle to ensure sustainable shareholder value creation. • Manage risk-taking activities within Board approved risk appetite for earnings volatility under business as usual and stressed conditions.
Conduct, legal and reputation	• Minimise the risk that harm is caused to our customers, or to the integrity and stability of the market. • Regularly assess our customer engagement model to ensure we deliver on our customer centric principles. • Uphold a satisfactory level of employee conduct and ethical behaviour at all times when carrying out activities on behalf of the Group. • Comply, at all times, with regulatory requirements and other laws to which the Group and its subsidiaries are bound. • Maintain business activities and processes which uphold the Group's reputation, brand, and franchise value.
Sustainability	• Continuously assess the suitability of the Group's products and customer value propositions against changing environmental and social factors while continuing to fulfil its role of growing the economy in a sustainable and responsible manner. • Enhance understanding on climate change risk and opportunity management and integrate into overall risk management framework • Identify, assess, and manage sustainability risks to minimize and mitigate negative impact to employees, communities, society and the natural environment and enhancing positive impact.

3. Risk management overview

Additional qualitative statements and risk appetite metrics relevant for the risk types, legal entities and business units are defined to align strategy execution and support the Group's defined risk appetite.

3.3.2 Stress testing and scenario planning

Stress testing and scenario planning provides a forward-looking view of financial and non-financial risks under a range of scenarios and sensitivities to estimate the potential impact on the Group, including its subsidiaries, business lines or portfolios. Stress testing is an integral part of the Group's risk management and quantification and should alert management to unexpected outcomes arising from either decision made by management or a wide range of external downside/upside factors. Stress testing forms a pillar of the ERMF in that it contributes to risk identification, risk management and risk mitigation on an enterprise-wide basis. The Group's Board is responsible for approving the Stress Testing Framework and, through the Group Risk and Capital Management Committee, maintains ultimate responsibility for the Group's stress testing Programme.

The Enterprise Stress Testing Framework defines the objectives of stress testing and supports the key business processes below:

- The identification of risks.
- The mitigation of risks through the review and challenge of limits, restraining of exposures and/or hedging of underlying risks.
- Risk and Portfolio management.
- Risk appetite setting and measurement.
- Strategy setting.
- Integrated financial planning.
- Regulatory stress test requirements.
- Internal Capital Adequacy Assessment Process (ICAAP), including capital planning and the setting of capital buffers.
- Internal Liquidity Adequacy Assessment Process (ILAAP), including liquidity planning and setting of liquidity buffers.
- The development and review of Recovery and Resolution plans.
- Communication with internal and external stakeholders (inter alia Rating Agencies and Regulators) on the sensitivity of Absa Group to external events and macro-economic downturn.

The Group performs comprehensive stress testing to ensure that it remains well capitalised relative to its business activities, the board's strategic plans, risk appetite, risk profile and the external environment in which it operates.

Absa Group performs the following types of stress tests:

Type of exercise	Purpose	Scenario type	Approach	Frequency
Enterprise-wide stress tests	Evaluates the impact of changing market variables on business decisions (e.g., financial, capital and funding implications).	Based on a range of plausible macroeconomic scenarios ranging from mild to severe stresses.	Largely bottom-up approaches, with specific risks being tested through top-down approaches.	Annual
Supervisory stress test	Evaluates the impact of regulator determined scenarios on key regulatory measures (e.g., capital, liquidity and operational targets and metrics).	Based on macroeconomic scenarios provided by regulatory authorities.	The approach taken varies based on regulatory scenarios. However, it is largely a top-down approach focusing mainly on an asset class, legal entity, or Group-wide stress assessment.	As directed by the Regulator
Reverse stress test	Assists the Group in understanding key risks and scenarios that may put business strategies and the Group's ability to remain a going concern at risk, as well as understanding the effectiveness and credibility of proposed recovery actions.	Based on extremely severe stress scenarios that would result in the bank reaching a 'point of failure' without implementing any recovery actions.	Largely top-down approaches used.	Annual
Sensitivity stress test	Typically evaluates sensitivity of a specific risk type, combination of risk types, business line, portfolio or legal entity to a single shock or multiple shocks.	Based on a combination of internally determined use case scenarios ranging from mild to severe stress scenarios and idiosyncratic risks.	Largely top-down approaches used.	Ad hoc
Climate risk stress test	A forward-looking exercise designed to measure an organisations exposure to climate risks, using scenario analysis to assess the potential impact of climate change on the organisations business model.	Prescribed scenarios published by leading industry standards e.g., Network for Greening the Financial System (NGFS). In addition, internal assumptions and judgement is factored into the scenarios.	Largely top-down approach at the current stage.	Annual

The Group performed the following stress tests during the period:

- The annual reverse stress test was performed to test the vulnerability of the Group's business models to a very severe global macroeconomic deterioration and internal idiosyncratic factors. The results was used to support the recovery planning review process.
- The annual enterprise-wide stress test primarily focused on identifying and measuring a severe yet plausible downside scenario relating to the continued deterioration in global economic activity on the performance and resilience of the Group's operations. The exercise made use of the vendor supported cloud-based platform that was implemented in the prior year.
- Exploratory climate risk scenario analysis. This included a historical extreme event assessment where the effects of the recent KZN floods and droughts in the North-West province was assessed to quantify impact on the portfolio; a transition risk sensitivity analysis which allows us to conceptualise the

3. Risk management overview

deterioration of credit quality due to taxes and restrictions on the access to capital and lastly a physical risk forecasting model, that shows the first outputs from our internal climate risk stress testing model on hazards (fire and flood).

3.4 Risk process

The risk management process follows a three-step approach, namely evaluate, respond and monitor (the E-R-M process). This enables management to identify and assess risks, determine the appropriate risk response, and then monitor the effectiveness of the risk response and any changes to the risk profile. The analysis is used to promote an efficient and effective approach to risk management.

This three-step risk management process:

- Can be applied to every objective at every level across the Group.
- Is embedded into business decision-making processes.
- Guides the Group's response to changes in the external or internal environment.
- Involves all colleagues and all three lines of defence.

The three-step E-R-M process is employed as follows:

Risk management process	
Evaluate	• Communicating and consulting with appropriate external and internal stakeholders in and throughout all steps of the risk management process. Communication seeks to promote awareness and understanding of risk, and consultation involves obtaining feedback and information to support decision-making. • Defining the scope, context and criteria, customising the risk management process and enabling effective risk assessment (identification, analysis or evaluation) and risk treatment. • Clearly identifying the objective(s) being assessed, and the events or circumstances that could cause a delay or failure to meet the objective(s) in full, including the external environment (e.g. economy or competitive landscape), internal environment (people, process or infrastructure), and touchpoints between the Group and its customers, suppliers, regulators and other stakeholders. • Using appropriate tools for identifying risks such as interviews, surveys, self-assessments, workshops, audit findings, industry benchmarking, review of prior loss events, critical path analysis, and challenging assumptions and dependencies by developing contrary views and positions and using expert judgement. • Calibrating and measuring risks in terms of impact, probability and speed of onset (where the use of models must adhere to set principles). • Categorising risks (preventive, strategic or external) and matching them to an appropriate risk management model/system. Assessing risks based on inherent and residual risks. • Analysing the root causes of identified events and circumstances, the underlying sources of risk, and the cause -and -effect relationships. • Investigating the relationships and interactions between risks, compounding effects, correlations, concentrations and aggregations. • Ranking risks and taking an overall portfolio view of them to determine priorities.
Respond	• Determining the appropriate risk treatment, which is an iterative process of formulating and selecting risk treatment options, planning and implementing, assessing the effectiveness, deciding whether the remaining risk is acceptable, and taking further action if needed. • Embedding controls into the business activity/process and automating controls wherever possible, e.g. as they may apply to preventive risks. Considering the implications of control failures, and whether secondary or latent controls should be deployed in the case of material risks. • Debating/discussing strategic risks to determine cause and effect with appropriate responses. • Reviewing and redesigning stress/scenario testing in response to the development of new/unanticipated external risks. • Complying with all relevant laws and regulations and focusing on priority risks first. • Looking for a response that might mitigate more than one risk and extend or replicate existing controls if appropriate. Considering any unintended consequences, e.g. mitigating actions taken to control one risk could introduce other risks or undermine existing controls. • Significant risk events undergo an independent root cause analysis.
Monitor	• Establishing monitoring and review processes to assure and improve design, implementation and outcomes. • Establishing recording and reporting processes to provide information for decision-making and improve management activities. • Focusing on progress towards objectives, using key performance indicators (KPIs) to identify objectives that require further attention. • Analysing current and evolving risk profiles and risk trends, using key risk indicators (KRIs) to understand changes in the risk environment, proactive monitoring of new risks that might impact objectives (e.g. horizon scanning and scenario analyses), and monitoring changes in risk materiality, frequency and impact, and the appropriateness of existing responses. New risk evaluations should be initiated if necessary. • Ensuring risks are maintained within set limits (refer to the risk appetite section on page 19), and that this remains appropriate as circumstances and objectives evolve. • Checking that controls are functioning as intended and remain fit for purpose: track performance using key control indicators (KCIs), monitoring first-line activities to ensure these are operating within mandates, ensuring policies are routinely updated and standards have been implemented, and ensuring appropriate resources are being deployed. Monitoring includes assurance, control testing and conformance reviews. • Applying a combined assurance model to optimise overall assurance in the risk and control environment. • Where a risk event materialises assessing root causes, identifying possible control failures, identifying potential behavioural failures, considering whether better knowledge would have improved decision-making, and identifying what lessons could be learned for future assessments and management of risks. Control issues must be assigned clear ownership and timelines for resolution. • KPIs, KRIs and KCIs must adhere to set principles.

3. Risk management overview

3.5 Risk architecture

3.5.1 Risk culture

The Board takes the lead in establishing the 'tone at the top' by promoting risk awareness in a sound risk culture. Executive leadership ensures a sound risk culture supports the Group's ability to operate consistently within its risk appetite, identify any desirable changes to the risk culture and ensure it takes steps to address those changes.

The purpose of risk management is the creation and protection of value. It improves performance, encourages innovation and supports the achievement of the Group's strategy.

Principles of effective risk management culture:

- Integrated – risk management is an integral part of all the Group's activities.
- Structured and comprehensive – a structured and comprehensive approach to risk management contributes to consistent and comparable results.
- Customised – the risk management framework and process are customised and proportionate to the Group's external and internal context related to its objectives.
- Inclusive – appropriate and timely involvement of stakeholders enables their knowledge, views and perceptions to be considered. This results in improved awareness and informed risk management.
- Dynamic – risks can emerge, change or disappear as the Group's external and internal context changes. Risk management anticipates, detects, acknowledges and responds to those changes and events appropriately and timeously.
- Best available information – the inputs to risk management are based on historical and current information, as well as on future expectations. Risk management explicitly considers any limitations and uncertainties associated with such information and expectations. Information should be timeous, clear, and available to relevant stakeholders.
- Human and cultural factors – human behaviour and culture significantly influence all aspects of risk management at each level and stage. The Group strives for ethical behaviour underpinned by the Absa Values.
- Continuous improvement – risk management is improved through ongoing learning and experience.
- Reward – Evidence that good risk management influences reward and incentives.

3.5.2 The three lines of defence

The Group applies a three lines of defence model in support of the combined assurance model to govern risk across all businesses and functions. The ERMF assigns specific responsibilities to each line of defence.

All employees are responsible for ensuring the Group operates within its risk appetite. These responsibilities are defined in terms of the employee's role in the three lines of defence.

<table>
<tr><th colspan="3">Three lines of defence</th></tr>
<tr><td>1st line of defence</td><td>2nd line of defence</td><td>3rd line of defence</td></tr>
<tr><td>Business and group functions</td><td>Risk and compliance functions</td><td>Internal audit</td></tr>
<tr><td>Risk ownership and management
• Perform business activities to fulfil strategic objectives, in line with risk appetite.
• Accountable for risks incurred in these activities and managing risk profile within risk appetite.
• Manage risks via avoidance, mitigation, transfer or acceptance.
• Design, operate and test effective controls and procedures in line with risk frameworks and policies.
• Escalating risk events to senior managers and risk and compliance.
• The ERC sets the business risk appetite and limits (within Group bounds), drive risk-taking and monitor aggregate risk profile of the business.</td><td>Risk oversight
• Establishing rules and constraints with reference to the frameworks and policies under which first line activities are performed, consistent with the risk appetite of the Group.
• Perform assurance testing of the first line against these limits and constraints.
• If the first line breaches limits or contravenes rules or constraints, the second line may, at its discretion, direct the activities of the first line to bring it within compliance.
• Perform independent challenge of all risks in the first line, including an evaluation of the quality of the risk management being exercised by the first line.</td><td>Independent assurance
Independent review of:
• Adherence to risk policies and standards.
• Effectiveness of control environment in context of the risk profile.
• Opine on adequacy and effectiveness of first- and second-line risk management approaches.</td></tr>
<tr><td colspan="3">All three lines of defence support coordinated, effective and efficient combined assurance.</td></tr>
</table>

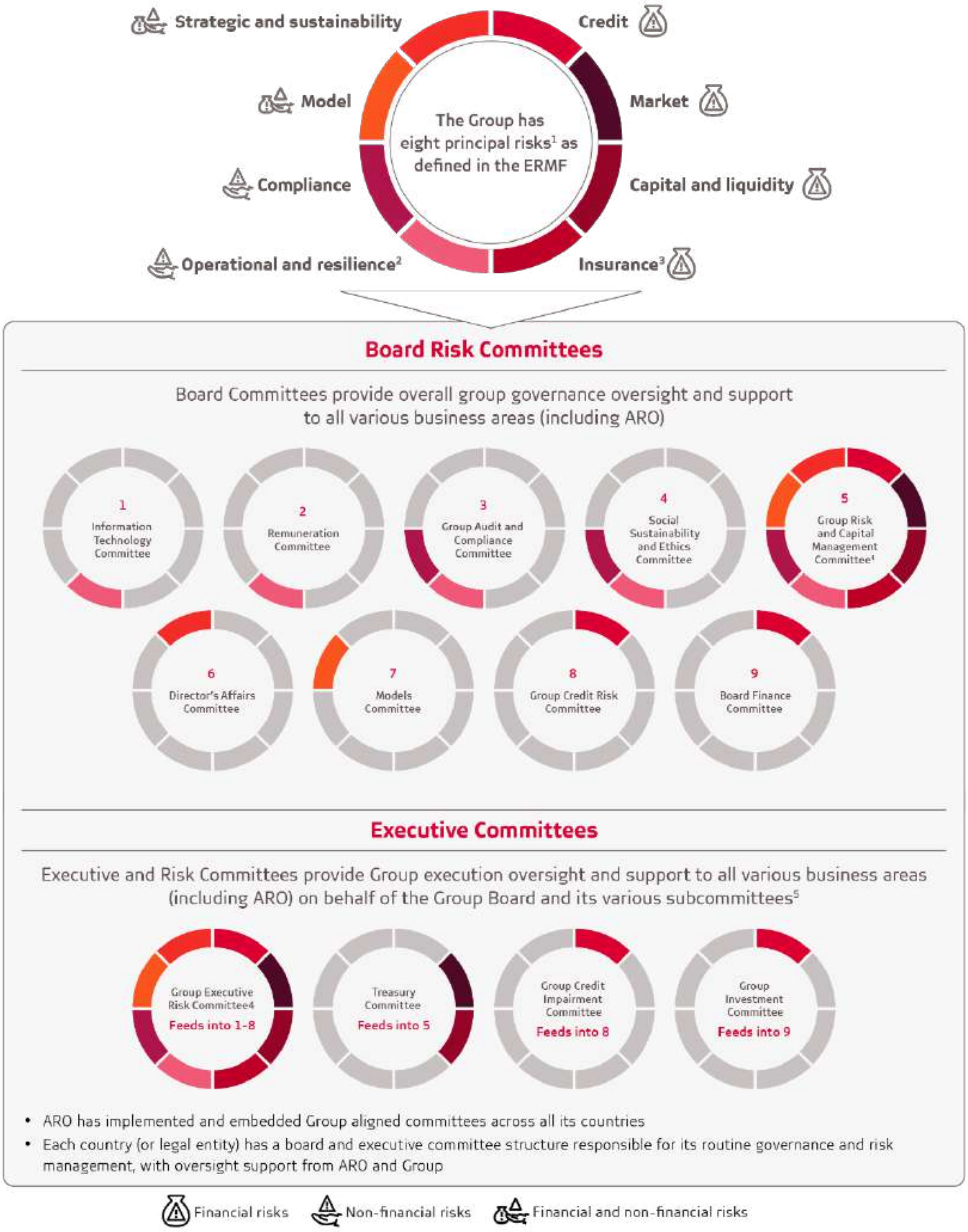
Regardless of their function, all teams who manage processes in the Group are responsible for designing, implementing, remediating, monitoring and testing the controls for those processes.

3. Risk management overview

3.5.3 Governance

The Group Board is supported by several committees at Board, executive, business and function levels. The diagram below depicts the risk-related committees. ARO risk governance structures are compatible with the Group and comply with in-country regulations.

Risk governance structure



[1] Each sub-risk is overseen by a Board Committee.

[2] People risk is overseen by the Social, Sustainability and Ethics Committee and the Remuneration Committee.

[3] Absa Financial Services Ltd (AFS) is the controlling company of the regulated insurance group. Subsidiaries of AFS are standalone legal entities. AFS and its subsidiaries have their own respective boards and are supported by relevant committee structures and governance requirements. These include the AFS Audit, Risk and Compliance Committee, the AFS Group Actuarial Committee and the AFS Social and Ethics Committee. The Insurance Principal Risk Management Framework is approved annually by the AFS Group Actuarial Committee, in addition to the Group Risk and Capital Management Committee.

[4] Group Risk and Capital Management Committee is responsible for portfolio oversight of all risks.

[5] Business unit risk committees govern their business' risks end-to-end.

3. Risk management overview

The main risk-related responsibilities of the Board-appointed committees are as follows:

Committees	Key risk focus areas	Principal risk covered
Group Risk and Capital Management Committee (GRCMC)	Risk, risk appetite, all elements of the ERMF, capital, funding and liquidity management.	Full responsibility: • Market risk • Capital and liquidity risk • Insurance risk • Strategic and sustainability risk (strategy risk) • Operational and resilience risk Monitors: • Credit risk • Model risk • Compliance risk • Strategic and sustainability risk
Models Committee (MC)	Approval of material models and model governance oversight.	• Model risk
Group Audit and Compliance Committee (GACC) (includes Disclosure Committee)	Internal controls, compliance, internal and external audit, accounting and external reporting.	• Operational and resilience risk (control environment and financial reporting risk) • Compliance risk (financial crime risk)
Group Credit Risk Committee (GCRC)	Approval of large single-name exposures and material country risk limits, credit portfolio oversight, consideration and management of emerging risks and material concentrations.	• Credit risk
Information Technology Committee (ITC)	IT systems, data, architecture and innovation, resilience and return on investment.	• Operational and resilience risk (information and cyber risk, technology risk)
Social, Sustainability and Ethics Committee (SSEC)	Conduct, sustainability, stakeholder management, corporate citizenship, ethics, labour, diversity and inclusion, and general human resources and talent management matters.	• Compliance risk (conduct risk) • Strategic and sustainability risk (sustainability risk) • Operational and resilience risk (people risk)
Group Remuneration Committee (RemCo)	Remuneration and incentive arrangements, policy and disclosures, executive appointments and succession.	• Operational and resilience risk (people risk) • Elements of reputational risk
Directors Affairs Committee (DAC)	Assists in corporate governance including composition of Board, induction and director training; effectiveness evaluation of the Board, and considering matters of regulatory and reputational risk	• Strategic and sustainability risk (Reputational risk)

3.5.4 Combined assurance

The Group adheres to the combined assurance model, as outlined in Principle 15 of the King IV Report on Corporate Governance™ for South Africa 2016[1]. Combined assurance is a coordinated activity that aligns and integrates assurance work across the Group's three lines of defence. It includes external assurance providers, maintaining segregation of duties, and the efficient and effective management of the Group's control environment. This ensures optimal coverage over the material risks that the Group is exposed to. Combined assurance is integrated to daily business decisions and activities.

Each business is expected to:

- Drive the coordination of assurance activities across the three lines of defence by implementing effective governance and oversight processes.
- Demonstrate adequate risk and control coverage over critical processes, material control issue remediation and strategic change initiatives as requested by senior management, Board and regulatory requests.
- Demonstrate appropriate remedial responses to the identification of unacceptable residual risk exposure and control issues.

Combined assurance coverage, plans and reports are monitored at business and functional levels, and the ERC reports these to the GACC.

3.5.5 Frameworks, policies and standards

The Group's policy hierarchy delivers a consistent approach across the Group:

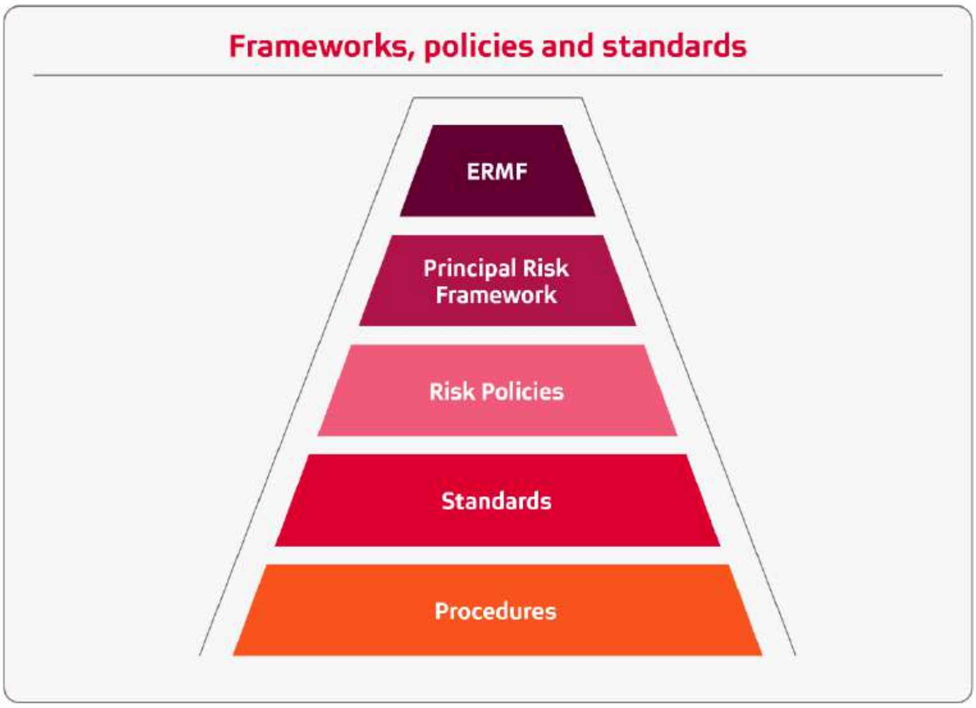
- Defining and implementing Group-wide frameworks, policies and standards.
- Limiting variation from Group minimum requirements and policy to circumstances where specific jurisdictional legal or regulatory requirements apply.
- Mandating alignment of governance documentation to the requirements and definitions of the hierarchy.

[1] Copyright and trademarks are owned by the Institute of Directors in South Africa NPC and all of its rights are reserved.

3. Risk management overview

This drives consistency and efficiency, and enables enhanced aggregation, risk oversight across the businesses, and improved line of sight to all levels of management.

The hierarchy has five tiers, with each level cascading from the level above. The degree of granularity and specific requirements increases as the levels descend.



- **ERMF** and **frameworks** include risk appetite and stress testing, as well as the 8 principal risks. These describe the high-level Group-wide approach for a specific risk and are mandatory for each of the principal risks identified in the ERMF. Frameworks also outline the risk and policy taxonomy that enables proper management and governance of the principal risk.
- **Policies** set out the control objectives, principles and other core requirements for the organisation's activities. Policies explain what businesses, functions and legal entities need to do, rather than how they need to do it.
- **Standards** set out the key controls that ensure policy objectives are met, and people responsible for them. Standards describe how the policy objectives will be met in a particular entity, business or function.

Ownership and approval

All frameworks and policies are owned by Group and standards are owned by the business unit or function responsible for performing the described activity.

- Frameworks are approved by the Board or mandated Board sub-committee. Frameworks are reviewed annually
- Policies are approved by the Executive Risk Committee or in exceptional circumstances approved by the Board subcommittee, including where there is a regulatory or other specific requirement. Policies are reviewed at least once in a three-year cycle.
- Standards are approved by business and reviewed when there are material changes to the related policy or in response to impacting event.

3.5.6 Data

3.5.6.1 Risk data

Internal and external data is utilised in meeting regulatory requirements and the management of risk. The Group enters into selected data and analytics partnerships with third parties to enhance and heighten its understanding of customers. Internal data is owned and managed by the respective business units with regular assessment of data quality via their respective risk governance structures. All key datasets are subject to the requirements of the Group's data and records management policies and standards.

3.5.6.2 Risk reporting

The objective of risk reporting is to provide timeous, accurate, comprehensive and useful information to the Board and senior management to facilitate informed decision-making. Board and senior management risk committees determine their requirements in terms of content and frequency of reporting under both normal and stressed conditions. Risk reporting processes flow from the business unit and relevant risk committees to the ERC and thereafter to Board committees. The content and level of aggregation are adjusted to suit the needs of each committee. Risk reports typically contain the following key information:

- Monitoring and management of the risk profile and key risk metrics per risk type against risk appetite and forecasts, including trend analysis.
- Monitoring of emerging risks and changes in the environment with an assessment of the potential impact on the Group.
- Results of stress testing exercises to assess the adequacy of financial resources and the Group's sensitivity to stresses.
- An assessment of the risk governance profile, including an assessment of the degree to which risk frameworks and policies are implemented throughout the Bank and assurance activities.

In 2013, the BCBS published regulations (BCBS 239) pertaining to the principles for risk data aggregation and risk reporting (RDARR). The Group's risk data aggregation capabilities and risk reporting practices are aligned with the principles of BCBS 239.

3. Risk management overview

3.5.7 Models

Model risk is a principal risk to be managed under the ERMF, with specific guidelines set out in the Model Risk Management Framework, model risk appetite statement, Group model risk policy (GMRP) and relevant standards covering model ownership, development, approval, implementation, monitoring and validation.

3.5.8 Technology

Effective enterprise risk management practices rely heavily on information technology. To maximize value for business, the Group remains committed to improving the current technology solutions and seeking out cutting-edge tools and technology solutions. The Group's technology landscape encompasses critical functions such as:

- Data collection and analysis.
- Risk analysis and modelling.
- Maintaining a robust minimum control requirements inventory.
- Models for calculating risk and criticality of technology assets.
- Risk assessment, control, and monitoring.

As the information technology landscape continues to evolve, the Group recognizes that this has a significant impact on how risks are tracked and managed within the organization. The risk technology capabilities are focused on leveraging the organizations technology landscape which includes big data analytics, cloud computing, enterprise risk management applications, automated control assessments, and parallel processing platforms with the aim of enhancing an integrated view of the entire landscape. By doing so, value can be unlocked and new insights gained that enable the Group to proactively manage its risk landscape.

3.6 Principal risks

The ERMF includes risks taken by the Group that are foreseeable and material enough to merit establishing specific Group-wide control frameworks. These are grouped into eight principal risks[1] that account for the vast majority of the total risk faced by the Group.

- Financial principal risks
  - Credit risk
  - Market risk
  - Capital and liquidity risk
  - Insurance risk[1]
- Non-financial principal risks
  - Operational and resilience risk
  - Compliance risk[1]
- Risks straddling both financial and non-financial risks
  - Model risk
  - Strategic and sustainability risk[1]

The Board annually reviews and approves the ERMF on recommendation by the GRCMC. The Group Chief Executive grants authority and responsibility to the GCRO to ensure the principal risks are managed under appropriate risk control frameworks and within the Board-approved risk appetite and risk budget.

Individual events may entail more than one principal risk. For example, internal fraud by a trader may expose the Group to operational and market risks and many aspects of reputational and conduct risks.

Credit, market, capital and liquidity, and insurance are collectively known as financial principal risks. Strategy and sustainability (including reputational) and model risk are known as principal risk types which straddle both financial and non-financial risk. The remaining risks are referred to as non-financial principal risks.

This is not an exhaustive list of risks the Group is subject to. For example, the Group is also subject to political and regulatory risks in the jurisdictions where it operates. While these may be consequential and are assessed in the Group's planning and decision-making, they are not considered principal risks. However, these other risks are subject to this framework and oversight by risk management.

The GCRO is accountable for ensuring frameworks, policies and associated standards are developed and implemented for each of the principal risks and that they are subject to limits, monitored, reported on and escalated as required. The Chief Compliance Officer is accountable for compliance and reputational risks.

[1] For more information on the eight principal risks, refer to the credit, market, capital and liquidity, operational and resilience and model risks sections. For details on insurance, compliance and strategic & sustainability risks, refer to the risk management section of the financial booklet.

4. Credit risk

4. Credit risk

Credit risk is the risk of financial losses arising due to a borrower, counterparty to a derivative transaction or an issuer of debt securities defaulting on contractual obligations. [CRA]

4.1 Review of current reporting period

Key risk metrics	2022	2021
CLR (%)	0.96	0.77
Stage 3 ratio on gross loans and advances (%)	5.3	5.4
Stage 3 coverage ratio (%)	46.1	44.6
Stage 1 and stage 2 coverage ratio (%)	1.3	1.5
Total coverage ratio (%)	3.9	4.1
Performing book weighted average probability of default (PD) (%)[1]	2.2	2.3
Weighted average loss given default (LGD) (%)[1]	27.8	29.9
Credit risk economic capital (EC) (Rbn)[2]	70.0	64.4
Total credit risk weighted assets (RWA) (Rbn)	775.7	719.5
Primary credit risk RWA (Rbn)[3]	741.3	679.8
CCR RWA (Rbn)[4]	22.8	26.5
Equity risk RWA (Rbn)	11.6	13.2

- Gross loans and advances increased to R1 258bn (31 December 2021: R1 134bn) due to strong growth across Corporate and Investment Banking (CIB), largely driven by continued momentum in trade finance activities, strong pipeline execution in structured and project finance areas and increased demand for working capital. This was further supported by well-diversified growth across the retail portfolios.
- The CLR increased to 0.96% (31 December 2021: 0.77%) which is at the upper end of the Group's through-the-cycle range of 0.75% to 1.00%. The elevated CLR was largely driven by macro-economic pressures, resulting in higher delinquencies and growth in non-performing loans across Products Solutions Cluster and Everyday Banking. This was exacerbated by a large impairment on a single name in SA and higher charges in ARO as a result of difficult market conditions in West Africa. It is important to note that the income statement includes significant stage 3 impairment recognised on investment securities issued by the Ghana government. However, these charges do not impact the reported CLR, as the CLR is determined by dividing impairment losses on loans and advances by total average loans and advances. With the inclusion of these charges, the overall CLR would amount to 1.14%.
- The stage 3 ratio on gross loans and advances decreased to 5.3% (31 December 2021: 5.4%) as loan book growth outpaced the increase in non-performing loans. This decline was supported by efforts to manage non-performing loans in Everyday Banking and improved recoveries, and a write-off in Relationship Banking.
- Stage 3 coverage increased to 46.1% (31 December 2021: 44.6%) due to an ageing legal book in Home Loans and additional stage 3 impairments recognised in CIB.
- The stage 1 and stage 2 coverage ratio decreased to 1.3% (31 December 2021: 1.5%) due to the partial release of the macro-overlay. This was further supplemented by loan book growth, which was focused on low-risk origination, particularly in CIB and ARO RBB. Although the Group's coverage ratio has gradually decreased since the coverage built during 2020, coverage remains well above pre-pandemic levels.
- Performing book weighted average PD decreased to 2.2% (31 December 2021: 2.3%), as excess liquidity was strategically invested in government securities and nostro placements with large international banks.
- Weighted average LGD decreased to 27.8% (31 December 2021: 29.9%), mainly attributable to model enhancements across the wholesale portfolio to enrich risk measurement at a customer level.
- Credit risk EC increased to R70.0bn (31 December 2021: R64.4bn) due to book growth and a marginal increase in EC risk intensity because of a slight deterioration in the risk profile across CIB ARO.
- Primary credit risk RWA increased to R741.3bn (31 December 2021: R679.8bn) due to growth in advances and investment securities, as well as Ghana's credit rating downgrade[5]. This was partially offset by favourable exchange rate movements in presence country currencies and a decrease in RWA intensity due to a positive shift in balance sheet mix, updates to risk models, and ongoing RWA optimisation initiatives.
- CCR RWA decreased to R22.8bn (31 December 2021: R26.5bn) due to mark-to-market movements and settlements of maturing derivative instruments, partially offset by an increase in securities financing transactions.
- Equity risk RWA decreased to R11.6bn (31 December 2021: R13.2bn) as the private equity portfolio continued to reduce in line with the Group's strategy to exit non-core businesses.

4.2 Priorities

- Monitor growth to ensure a well-diversified credit portfolio in line with the Group strategy and risk appetite.
- Monitor changes in the global macro-economic, political and regulatory environments to identify and manage risks at an early stage. The potential impact of these and other events are modelled in a comprehensive stress testing framework.
- Proactively manage legacy distressed names to maximise recovery rates.

[1] The percentages include only portfolios subject to the internal ratings-based (IRB) approaches.

[2] Credit risk EC includes equity risk, CCR, CVA and securitisation.

[3] Primary credit risk RWA includes credit risk (excluding CCR) and securitisation exposures in the banking book.

[4] CCR RWA includes credit valuation adjustment (CVA).

[5] Refer to the profit commentary section of the financial results booklet for more information on the Ghana sovereign related credit impairment charge.

4. Credit risk

- Enhance collections capabilities to effectively manage credit risk through the cycle.
- Focus on talent development and succession planning, ensuring a fully capacitated and well-skilled credit team.
- Keep abreast of regulatory changes, specifically the rollout of a new large exposure framework and Basel III enhancements to capital rules for credit risk.

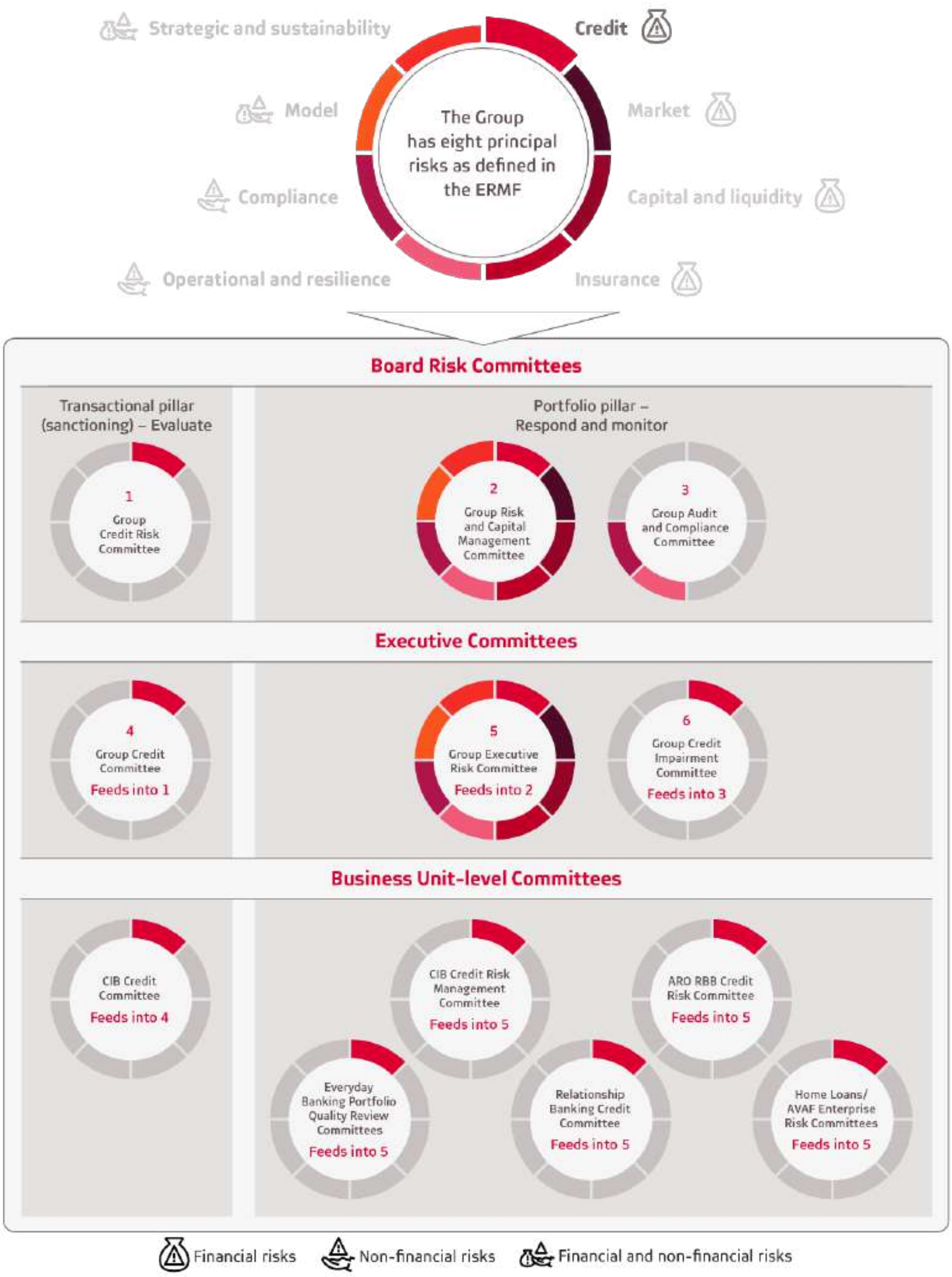
4.3 General information about credit risk

4.3.1 Risk identification and risk management

Credit risk is managed as a principal risk in accordance with the ERMF and the Credit Risk Management Framework (CRMF) and its associated policies. The risk management process is structured into three elements being evaluate, respond and monitor. This enables management to identify and assess risks, determine the appropriate risk response, and then monitor the effectiveness of the risk response and any changes to the risk profile. This process is used to promote an efficient and effective approach to risk management.

4.3.2 Governance

The credit risk management and control function consists of committees at Board, executive management and business unit levels. The key committees involved in the governance of credit risk are depicted below:



4. Credit risk

- **Credit oversight:** The GCRC is the primary Board committee responsible for credit risk oversight. An overview of the Croup's credit portfolio is to be tabled by the Absa Group Chief Credit Officer at every committee sitting and must include an evaluation of the overall health of the credit portfolio, emerging risks (including regional political and sovereign risks in presence countries), and material concentrations within the credit portfolios. The business unit credit risk committees provide strategic risk management leadership and oversee the business unit credit risk profile to ensure it remains within approved appetite, and considers for action business unit conformance reviews and controls testing results, outstanding audit items, regulatory issues, and risk events relating to credit risk.
- **Sanctioning:** The GCRC is the ultimate credit sanctioning authority in the Group, responsible for the approval of single-name exposures that exceed 10% of the Group's qualifying capital and reserves (large exposures), irrespective of risk grade or material country risk limits. The Absa Group Credit Committee (AGCC) is a Group Executive sub-committee mandated to opine on credit applications in respect of aggregate total financing limits up to 10% of the Group's qualifying capital and reserves irrespective of risk grade.
- **Risk oversight:** The ERC is accountable for the oversight of the enterprise-wide risk profile of the Bank. It considers and agrees risk appetite, stress testing scenarios, limits and triggers, and makes appropriate recommendations to the Board and Board sub-committees for review and/or approval. It is also responsible for the review and reporting of risk appetite consumption against forecasts, the Absa strategy and the risk appetite limits as approved by the Board.

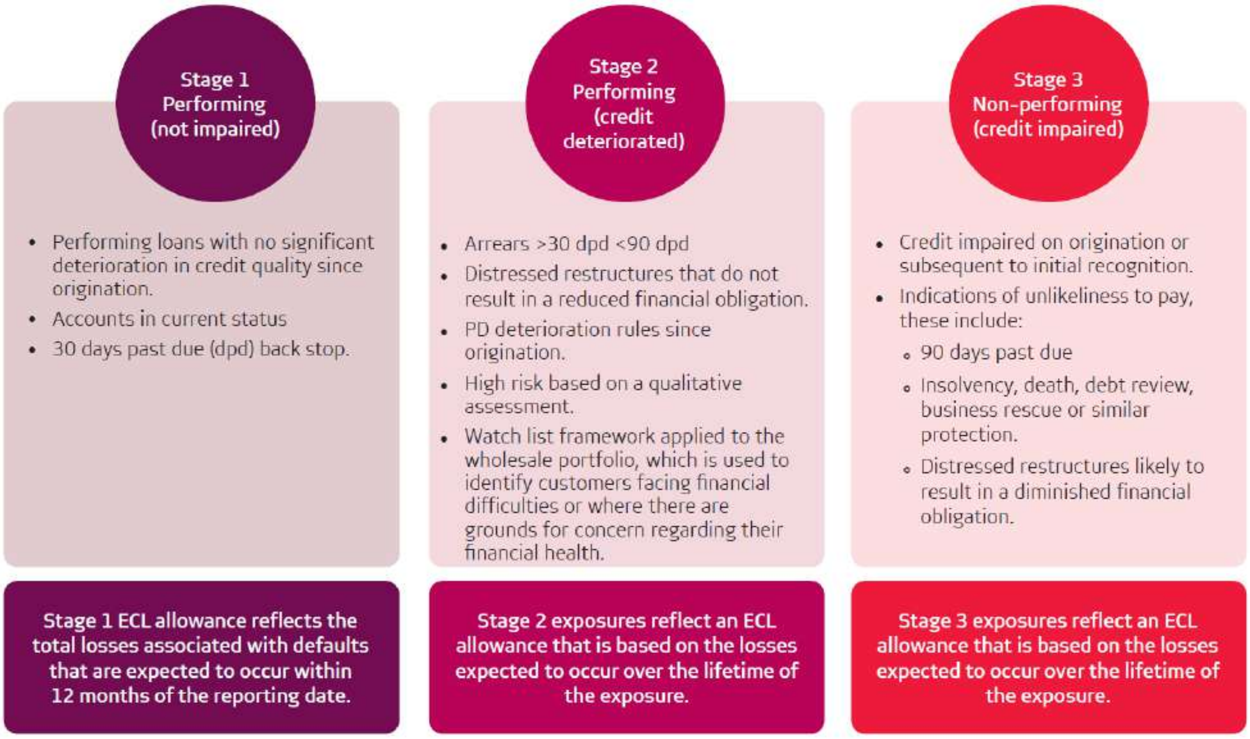
4.3.3 Reporting

The RTO is responsible for the following reporting:

- An overview of the Group's credit portfolio is to be tabled at senior management and Board sub-committees (Group ERC and GCRC), which includes an evaluation of the overall health of the credit portfolio, emerging risks, and material concentrations within the credit portfolios.
- Reports provide key insights into developing industry, sector and product trends and incorporate agreed management actions to modify behaviour and strategy in accordance with specific findings.
- Monitoring and reporting must be performed at a Group and business unit level and should include the following:
  - Current state of the credit portfolio as measured through the relevant metrics, and changes to the credit risk position with reference to an outlook based on a relevant forecast horizon.
  - Risk appetite utilisation above the limit and/or trigger level on a current or forecasted basis for all key risk metrics.
  - Management actions in response to any emerging issues, developments, and breaches of risk appetite triggers and limits.

4.3.4 Credit quality of assets

Various regulatory and accounting terms are used to refer to assets that are not performing as expected at the time of origination. The diagram below depicts these terms.



The age analysis of credit exposures [CRB(i)]

The following tables provide the age analysis of the Group's loans and advances, debt securities and off-balance sheet items. Assets are classified as defaulted when the Group considers that the obligor is unlikely to pay its credit obligations without recourse by the Group to actions such as realising security. Elements that indicate unlikeliness to pay include:

- The Group consents to a distressed restructuring/forbearance of the credit obligation where this is likely to result in a diminished financial obligation caused by the material forgiveness of principal, interest or fees.
- The customer is under debt review, business rescue or similar protection.
- Advice is received of customer insolvency or death.
- The obligor is 90 days or more past due on any credit obligation to the Group.

4. Credit risk

In addition, within the retail portfolios:

- All accounts of forbearance are treated as being in default from a regulatory reporting perspective, regardless of whether the restructure led to a diminished financial obligation or not.
- The Group requires an exposure to reflect at least 12 consecutive months of performance to be considered to have been cured from default.

The Group has an established framework and related processes to govern its approach to credit risk management and any resultant impairment of financial assets. Refer to the consolidated and separate annual financial statements for the reporting period ended 31 December 2022 for further detail.

In the following tables, defaulted exposures are aligned to the regulatory definition of default, non-defaulted exposures are performing exposures and allowances/impairments are total expected credit loss allowances.

Credit quality of assets [CR1]

		a	b	c	d
		2022			
		Gross carrying values of			Net values
		Defaulted exposures[1]	Non-defaulted exposures	Allowances/impairments	(a+b-c)
		Rm	Rm	Rm	Rm
1	Loans	79 036	1 178 358	44 889	1 212 505
2	Debt Securities	7 583	203 596	2 657	208 522
3	Off-balance sheet exposures	1 104	199 251	1 318	199 037
4	**Total**	**87 723**	**1 581 205**	**48 864**	**1 620 064**

		a	b	c	d
		2021			
		Gross carrying values of			Net values
		Defaulted exposures[1]	Non-defaulted exposures[2]	Allowances/impairments	(a+b-c)
		Rm	Rm	Rm	Rm
1	Loans	71 921	1 060 711	41 441	1 091 191
2	Debt Securities	874	182 384	414	182 844
3	Off-balance sheet exposures	925	182 436	1 080	182 281
4	Total	73 720	1 425 531	42 935	1 456 316

The table below depicts the main drivers of the change in defaulted exposures. [CR2]

		a		
		31 Dec 2022	30 Jun 2022	31 Dec 2021
		Defaulted Exposures[1]	Defaulted Exposures[1]	Defaulted Exposures[1]
		Rm	Rm	Rm
1	Defaulted loans and debt securities at end of the previous reporting period	77 004	73 720	72 599
2	Loans and debt securities that have defaulted since the last reporting period	22 297	15 290	18 686
3	Returned to non-defaulted status	(3 253)	(2 800)	(2 752)
4	Amounts written off	(6 356)	(4 794)	(8 217)
5	Other changes, including repayments received	(1 969)	(4 412)	(6 596)
6	Defaulted loans and debt securities at end of the reporting period	87 723	77 004	73 720

[1] Aligned to the regulatory definition of default and includes defaulted off-balance sheet exposures.

[2] During the year, the Group reviewed its classification of certain undrawn facilities granted to customers. As a result of this review, the classification of certain facilities was amended from irrevocable to revocable. This reclassification more accurately reflects the underlying terms of these facilities.

4. Credit risk

Restructured exposures (impaired versus not impaired) [CRB(ii)

A loan restructure (modification) is a permanent change to one or more of the loan terms. Enforcing or adopting terms that were present in the original terms of the facility is not a modification. The treatment of a renegotiation or modification of the contractual cash flows of a financial asset depend on whether the modification is done for commercial reasons or because of financial difficulty of the borrower.

Contractual modifications on commercial terms are treated as a new transaction resulting in derecognition of the original financial asset and the recognition of a 'new' financial asset. Any difference between the carrying amount of the derecognised asset and the fair value of the new asset is recognised in profit or loss.

When the Group modifies the contractual conditions due to financial difficulties of the borrower, the asset is not derecognised unless the terms of the contract are substantively changed (such as the inclusion of an equity participation or a substantial change in counterparty). If the asset is not substantially modified, the gross carrying amount of the financial asset is recalculated to be the present value of the modified cash flows discounted at the original effective interest rate and any gain or loss is recognised in profit or loss as part of the total impairment loss.

The table below reflects restructures and distressed restructures that are concluded as part of the normal course of business within the retail portfolios:

	2022			2021		
	Gross carrying values of			Gross carrying values of		
	Total	Impaired[1]	Not Impaired	Total	Impaired[1]	Not Impaired
	Rm	Rm	Rm	Rm	Rm	Rm
Total restructured exposures	13 054	5 660	7 394	11 176	5 658	5 518

- The growth in restructures was largely driven by pro-active measures taken to assist customers with their debt obligations through forbearance options.

In 2020, the Group implemented various payment relief programmes across market segments. Directive 3 of 2020 (D3/2020) was issued by the South African Reserve Bank to provide temporary relief on the minimum capital requirements for banks relating to credit risk, specifically the treatment of restructured credit exposures related to COVID-19.

In the prior year, the Group discontinued the application of D2/2020 and applied the Group's existing credit policies to customers and clients that remained with COVID-19 related concessions and where new relief requests were received. Customers who previously received COVID-19 related concessions (payment relief) remain classified as being in relief until full settlement of the outstanding loan balance. The table below reflects the gross carrying amount of loans and advances where payment relief was provided within the retail portfolios:

	2022			2021		
	Gross carrying values of			Gross carrying values of		
	Total	Impaired[1]	Not Impaired	Total	Impaired[1]	Not Impaired
	Rm	Rm	Rm	Rm	Rm	Rm
Total restructured exposures	91 601	9 785	81 816	110 981	12 139	98 842

- The relief population is a finite list of accounts which continue to amortise. Distressed customer accounts amortise at a slower pace than the performing population, and therefore a negative selection of accounts remain.
- The reduction in impaired advances was however supported by a concerted effort to manage the non-performing loan book through debt sales and write-offs. The gross carrying amount of a financial asset is directly reduced (that is, written off) when the entity has no reasonable expectations of recovering it in its entirety, or a portion thereof. The Group has well-governed internal policies, which define how an individual account should be assessed for write-off, and which ensure that post write-off recoveries remain insignificant over the long run.

[1] Aligned to stage 3 exposures (non-performing loans) per the Annual Financial Statements. Credit exposures are classified within stage 3 when they are regarded as being credit impaired.

4. Credit risk

Exposures by geography [CRB(iii)]

2022	Total exposure Rm	NPLs[1] Rm	Specific impairments Rm	Write-Offs Rm
South Africa	1 356 237	54 792	24 751	9 779
Other African countries	319 341	11 800	5 968	1 371
Europe	67 234	–	–	–
North America	37 149	–	–	–
Asia	28 312	–	–	–
South America	301	–	–	–
Other	4 468	–	–	–
Total	**1 813 042**	**66 592**	**30 719**	**11 150**

2021	Total exposure Rm	NPLs[1] Rm	Specific impairments Rm	Write-Offs Rm
South Africa	1 208 170	52 499	22 857	10 160
Other African countries	293 180	9 952	4 821	3 345
Europe	56 823	–	–	–
North America	31 670	–	–	–
Asia	23 231	–	–	–
South America	356	–	–	–
Other	6 234	–	–	–
Total	1 619 664	62 451	27 678	13 505

[1] Aligned to stage 3 exposures per the Annual Financial Statements. Credit exposures are classified within stage 3 when they are regarded as being credit impaired.

4. Credit risk

Exposures by industry [CRB(iv)]

	2022		
	Total exposure Rm	NPLs[1] Rm	Specific impairments Rm
Agriculture, hunting, forestry and fishing	74 843	2 674	711
Business services	109 804	3 281	2 298
Community, social and personal services	123 222	246	81
Construction	18 990	749	416
Electricity, gas and water supply	53 452	412	130
Financial intermediation and insurance	321 482	1 128	88
Manufacturing	100 995	2 407	1 062
Mining and quarrying	43 167	899	622
Other	32 759	332	143
Private households	624 144	47 541	22 924
Real estate	123 952	4 062	1 205
Transport, storage and communication	59 288	1 617	501
Wholesale and retail trade, repair of specified items, hotels and restaurants	126 944	1 244	538
Total	1 813 042	66 592	30 719

	2021		
	Total exposure Rm	NPLs[1] Rm	Specific impairments Rm
Agriculture, hunting, forestry and fishing	65 521	1 869	618
Business services	89 039	2 863	1 674
Community, social and personal services	107 605	168	302
Construction	15 877	879	504
Electricity, gas and water supply	51 146	389	108
Financial intermediation and insurance	282 271	1 877	476
Manufacturing	89 915	1 347	608
Mining and quarrying	36 213	1 177	233
Other	21 037	272	87
Private households	595 671	46 106	21 195
Real estate	111 547	2 943	823
Transport, storage and communication	49 177	1 550	598
Wholesale and retail trade, repair of specified items, hotels and restaurants	104 645	1 011	452
Total	1 619 664	62 451	27 678

[1] Aligned to stage 3 exposures per the Annual Financial Statements. Credit exposures are classified within stage 3 when they are regarded as being credit impaired.

4. Credit risk

Exposures by Basel asset class and maturity [CRB(v)]

	2022				
	Total exposure Rm	Current to 6 months Rm	6 months to 1 year Rm	1 year to 5 years Rm	More than 5 years Rm
Banks	99 977	63 150	15 197	20 712	918
Corporate	472 164	129 610	41 822	259 794	40 938
Local governments and municipalities	9 698	2 163	5	4 021	3 509
Public sector entities (PSEs)	23 539	8 654	1 956	5 919	7 010
Retail – other	172 484	18 424	6 061	106 746	41 253
Retail mortgages (including any home equity line of credit)	367 427	29 128	1 618	34 215	302 466
Retail revolving credit	103 556	68 855	35	31 033	3 633
Securities firms	6 123	2 093	1 759	2 235	36
SME Corporate	190 887	91 197	17 260	50 362	32 068
SME Retail	17 988	10 968	392	4 123	2 505
Sovereign (including central government and central bank)	235 142	46 691	32 759	101 256	54 436
Specialised lending – income producing real estate	64 780	13 215	3 625	43 286	4 654
Specialised lending – project finance (PF)	49 277	3 670	954	16 690	27 963
Total	1 813 042	487 818	123 443	680 392	521 389

	2021				
	Total exposure Rm	Current to 6 months Rm	6 months to 1 year Rm	1 year to 5 years Rm	More than 5 years Rm
Banks	96 245	49 446	20 205	25 329	1 265
Corporate	419 430	94 218	42 967	243 786	38 459
Local governments and municipalities	10 612	1 399	8	3 979	5 226
Public sector entities (PSEs)	23 900	6 212	2 072	8 764	6 852
Retail – other	162 152	15 587	4 746	101 848	39 971
Retail mortgages (including any home equity line of credit)	342 397	30 192	1 061	28 524	282 620
Retail revolving credit	96 310	64 783	4 478	23 443	3 606
Securities firms	5 103	1 514	326	3 220	43
SME Corporate	189 558	88 778	11 865	60 977	27 938
SME Retail	23 521	13 357	317	5 542	4 305
Sovereign (including central government and central bank)	189 954	50 421	21 989	77 170	40 374
Specialised lending – income producing real estate	32 884	11 570	1 906	18 228	1 180
Specialised lending – project finance (PF)	27 598	1 880	930	11 493	13 295
Total	1 619 664	429 357	112 870	612 303	465 134

During the current year, significant movements were observed across Basel asset classes. These movements were primarily driven by several factors, including changes made to the Basel asset classes to ensure consistency with the underlying PD models, the integration of Enterprise and Wealth portfolios into the Relationship Banking regulatory capital process, and data remediation efforts, which resulted in a more accurate attribution of industry classifications. Similar movements are also evident in all disclosures related to the AIRB approach.

4. Credit risk

4.3.5 Measuring and **the management of** credit concentrations

Credit risk is accountable for the management of concentrations, or pools of exposures, whose collective performance could negatively affect the Group even if each individual transaction in a pool is soundly underwritten. When exposures in a pool are sensitive to certain economic or business correlations, that sensitivity, if triggered, may cause the sum of the transactions to perform as if it were a single, large exposure.

Credit concentrations can be grouped into two categories:

- Conventional credit concentrations would include concentrations of credits to single borrowers or counterparties, a group of connected counterparties, and sectors or industries, such as commercial real estate, and oil and gas.
- Concentrations based on common or correlated risk factors reflect subtler or more situation-specific factors, and often can only be uncovered through analysis, e.g., close linkages among emerging markets under stress conditions and previously undetected correlations between market and credit risks, as well as between those risks and liquidity risks, can produce widespread losses.

Risk appetite, including the setting and measurement of credit concentration risk limits, represents a critical component of the CRMF and is managed to maintain a diversified credit portfolio with respect to key concentration dimensions within the Risk Appetite Framework.

Business units are required to incorporate economic capital, exposure at risk and current exposure as key credit risk metric as a portfolio concentration management tool. This ensures that not only are concentrations that are large in value monitored, but also that concentrations that potentially become larger under stress conditions is proactively identified and managed.

Business units should establish frameworks to measure concentration risk, not only to single-name exposures, but establish aggregate limits for credit exposures to counterparties in the same economic sector or geographic region, whose financial performance is dependent on the same activity or commodity, indirect credit exposures arising from a bank's credit risk management activities, or any other relevant concentration risk dimension deemed appropriate by the business unit. The framework should include the following, but not limited to:

- Definitions of the credit concentration dimensions that are measured and managed.
- Techniques used to identify concentrations based on common risk factors or correlations among factors.
- Limit setting process.
- Monitoring and reporting of concentration risk against limits.
- Procedures for reporting on and authorising risk concentration policy and internal limit breaches.
- Description of the process relating to formulating scenarios and conducting stress testing on risk concentration exposures.

Country risk is managed by means of country risk limits (which includes the consideration of concentrations to Sovereigns).

4.4 Credit risk mitigation (CRM) [CRC]

CRM is used to reduce the credit risk associated with an exposure, and consequently to reduce potential losses in the event of obligor default or other specified credit events. Collateral is applied internally to mitigate underwriting risk where appropriate, and externally for RWA and RC purposes, where eligible.

Risk mitigants are classified as either funded or unfunded collateral. Funded collateral includes financial collateral (i.e. cash/deposits), physical collateral (i.e. fixed property) and other such receivables. Unfunded collateral includes guarantees, set-off (where legally enforceable), risk participations and other.

Collateral is a secondary consideration for the protection of the Group's lending activities as and when applicable to the specific type of lending under consideration. The main underwriting consideration remains an assessment of the primary exit from the exposure based on a cash flow analysis.

Generally, one or more forms of CRM are used in the credit approval process. The use and approach to CRM varies by product type, portfolio, customer and business strategy. Minimum requirements are prescribed in policies and standards, and cover, inter alia, valuations, haircuts and any required volatility adjustments, conditions or restrictions, legal certainty, correlations, concentrations and other.

4.4.1 Valuation of collateral

The Group uses several approaches for the valuation of collateral that is not in a defaulted state, including physical inspection, an automated valuation model (AVM), desktop valuations, statistical indexing and price volatility modelling. Valuations are regularly refreshed, with the frequency of valuation reviews based on the specific collateral type.

Once an asset becomes non-performing, the following is triggered:

- In the wholesale portfolio, collateral valuations are updated and impairment risk assessed. These valuations and capital at risk are regularly reviewed to ensure impairments remain adequate.
- In the retail portfolio, mortgage asset valuations are updated using an AVM, and an indexing methodology is used for instalment sale assets. High-value property assets are valued through a physical valuation. Valuations are updated at least six-monthly.

The banking book collateral management process focuses on the efficient handling and processing of a large number of cases in the retail portfolio and the lower end of the corporate sector, therefore heavily relying on the Group's collateral and document management systems. For larger wholesale exposures and capital market transactions, collateral is jointly managed between the credit and legal functions as transactions and associated legal agreements are often bespoke in nature. All security structures and legal covenants are reviewed at least annually to ensure they comply with the credit risk requirement.

4.4.2 Types of guarantor and credit derivative counterparties

In the commercial, corporate and financial sector, reliance is often placed on a third-party guarantor, which may be a parent company to the borrower, a major shareholder or a bank. Similarly, credit derivative transactions are sometimes used to hedge specific parts of any single-name risk in the wholesale portfolio. For these transactions, the most common counterparties or issuers are banks, non-bank financial institutions, large corporates and governments. The creditworthiness of the guarantor or derivative counterparty/issuer is assessed as part of the credit approval process and the value of such a guarantee or derivative contract is recorded against the guarantor/issuer's credit limits.

4. Credit risk

Overview of CRM techniques employed by the Group [CR3]

The following table depicts the extent to which the Group uses collateral and financial guarantees to secure exposures and reduce capital requirements:

		a	b	c	d	e
		2022				
		Exposures unsecured: carrying amount Rm	Exposures secured by collateral Rm	Exposures secured by collateral of which secured amount Rm	Exposures secured by financial guarantees Rm	Exposures secured by financial guarantee, of which secured amount Rm
1	Loans	553 950	658 555	658 555	29 525	26 573
2	Debt securities	208 522	-	-	-	-
3	Total	762 472	658 555	658 555	29 525	26 573
4	Of which defaulted	46 304	40 315	40 315	-	-

		a	b	c	d	e
		2021				
		Exposures unsecured: carrying amount Rm	Exposures secured by collateral Rm	Exposures secured by collateral of which secured amount Rm	Exposures secured by financial guarantees Rm	Exposures secured by financial guarantee, of which secured amount Rm
1	Loans	518 091	573 525	573 525	21 230	19 107
2	Debt securities	182 844	-	-	-	-
3	Total	700 935	573 525	573 525	21 230	19 107
4	Of which defaulted	36 345	36 450	36 450	-	-

4.5 Credit risk under the SA [CRD]

The Group uses the SA for its ARO banking book portfolios (both wholesale and retail). Due to the relative scarcity of data, the ARO portfolios are not currently on the IRB migration plan.

Standard and Poor's and Moody's ratings are used by the Group as input into standardised capital formulas for the Group, corporate and sovereign asset classes. Rating agencies have limited coverage in ARO. Where more than one rating is available, the more conservative rating is applied. Issuer ratings are generally used. Obligors that are not rated externally are classified as unrated for RC purposes.

The following table provides an analysis, per Basel asset class, of the exposure and impact of CRM under the SA. In the ARO portfolio, there are limited amounts of eligible collateral available for use in regulatory calculations:

4. Credit risk

SA – credit risk exposure and CRM effects [CR4]

		a	b	c	d	e	f
		2022					
		Exposures before CCF and CRM		Exposures post-CCF and CRM		RWA and RWA density	
		On-balance sheet amount Rm	Off-balance sheet amount Rm	On-balance sheet amount Rm	Off-balance sheet amount Rm	RWA Rm	RWA density %
1	Corporate	41 971	24 196	40 785	9 559	55 563	110
2	SME Corporate	37 499	15 521	35 878	6 466	47 346	112
3	PSEs	3 360	1 781	2 661	641	1 891	57
4	Local governments and municipalities	-	-	-	-	-	-
5	Sovereign (including central government and central bank)	136 235	1 824	107 355	583	74 815	69
6	Banks	24 963	7 144	23 946	3 295	13 821	51
7	Securities firms	-	-	-	-	-	-
8	Residential mortgages (including any home equity line of credit)	13 259	-	12 933	-	5 146	40
9	Retail – revolving credit	2 194	2 184	2 025	95	1 608	76
10	Retail – other	41 340	2	40 082	2	30 111	75
11	SME retail	1 474	37	1 374	7	1 072	78
12	Total	302 295	52 689	267 039	20 648	231 373	80

		a	b	c	d	e	f
		2021					
		Exposures before CCF and CRM		Exposures post-CCF and CRM		RWA and RWA density	
		On-balance sheet amount Rm	Off-balance sheet amount Rm	On-balance sheet amount Rm	Off-balance sheet amount Rm	RWA Rm	RWA density %
1	Corporate	32 310	27 168	31 422	11 780	45 318	105
2	SME Corporate	35 072	14 978	33 602	7 315	42 499	104
3	PSEs	2 827	1 275	2 241	638	1 619	56
4	Local governments and municipalities	-	-	-	-	-	-
5	Sovereign (including central government and central bank)	77 639	1 520	76 272	760	56 503	73
6	Banks	26 869	7 014	25 733	2 970	15 527	54
7	Securities firms	-	-	-	-	-	-
8	Residential mortgages (including any home equity line of credit)	11 583	-	11 306	-	4 438	39
9	Retail – revolving credit	1 946	2 236	1 789	105	1 418	75
10	Retail – other	38 302	1	36 043	1	26 987	75
11	SME retail	777	35	735	23	578	76
12	Total	227 325	54 227	219 143	23 592	194 887	80

4. Credit risk

The following table provides an analysis, per Basel asset class, of the risk weights applied to standardised exposures:

SA – exposures by asset classes and risk weights [CR5]

		2022										
		a	b	c	d	e	f	g	h	i	j	k
		Risk weight										Total credit exposures amount (post CCF and post-CRM)
		0%	>0% - 10%	>10% - 20%	>20 % - 35%	>35% - 50%	>50 % - 75%	>75 % - 100 %	>100% - 150%	>150 %	Others	
	Asset classes											
1	Corporate	-	-	268	-	368	-	37 680	12 029	-	-	50 345
2	SME Corporate	-	-	62	-	332	-	30 645	11 306	-	-	42 345
3	PSEs	-	-	-	-	2 824	-	478	-	-	-	3 302
4	Local governments and municipalities	-	-	-	-	-	-	-	-	-	-	-
5	Sovereign (including central government and central bank)	38 981	-	3 125	-	8 022	-	33 069	24 741	-	-	107 938
6	Banks	-	-	14 668	-	4 122	-	7 052	1 398	-	-	27 240
7	Securities firms	-	-	-	-	-	-	-	-	-	-	-
8	Residential mortgages (including any home equity line of credit)	-	-	-	5 461	251	5 310	1 911	-	-	-	12 933
9	Retail – revolving credit	-	-	-	-	19	2 015	84	2	-	-	2 120
10	Retail – other	-	-	-	-	318	39 296	447	22	-	-	40 083
11	SME retail	-	-	-	-	24	1 220	121	16	-	-	1 381
12	Total	38 981	-	18 123	5 461	16 280	47 841	111 487	49 514	-	-	287 687

4. Credit risk

2021

		a	b	c	d	e	f	g	h	i	j	k
		Risk weight										Total credit exposures amount (post CCF and post-CRM)
		0%	>0% - 10%	>10% - 20%	>20 % - 35%	>35% - 50%	>50 % - 75%	>75 % - 100 %	>100% - 150%	>150 %	Others	
	Asset classes											
1	Corporate	-	-	-	-	363	-	36 222	6 617	-	-	43 202
2	SME Corporate	-	-	821	-	254	-	32 454	7 389	-	-	40 918
3	PSEs	-	-	-	-	2 698	-	-	180	-	-	2 878
4	Local governments and municipalities	-	-	-	-	-	-	-	-	-	-	-
5	Sovereign (including central government and central bank)	19 340	-	3 133	-	9 243	-	33 437	11 879	-	-	77 032
6	Banks	-	-	12 971	-	5 803	-	9 162	768	-	-	28 704
7	Securities firms	-	-	-	-	-	-	-	-	-	-	-
8	Residential mortgages (including any home equity line of credit)	-	-	-	5 841	241	3 936	1 288	-	-	-	11 306
9	Retail – revolving credit	-	-	-	-	19	1 870	2	2	-	-	1 893
10	Retail – other	-	-	-	-	379	35 568	50	47	-	-	36 044
11	SME retail	-	-	-	-	13	726	2	17	-	-	758
12	Total	19 340	-	16 925	5 841	19 013	42 100	112 617	26 899	-	-	242 735

4.6 Credit risk under the IRB approach [CRE]

The following table provides the EAD composition for each of the credit approaches.

	2022	
Approach	EAD Rbn	EAD % of portfolio %
Advanced internal ratings-based (AIRB) approach	1 286	82
Standardised approach (SA)	288	18

The principal objective of credit modelling is to produce the most accurate possible quantitative assessment of the Group's credit risk at a counterparty and portfolio level. Integral to this is the calculation of internal credit parameters used for credit risk management purposes and in the calculation of RC, EC and impairment requirements. The key credit parameters used in this process are EAD, PD, LGD, maturity (M) and asset correlation.

4. Credit risk

The table below provides an overview of the AIRB models used for regulatory capital calculation per portfolio.

<table>
<tr><th>Number of models</th><th>Model type</th><th>Model description</th></tr>
<tr><td colspan="3">Corporate and Investment Bank</td></tr>
<tr><td>9</td><td>PD</td><td>Large corporate portfolio:
• Models have a quantitative and qualitative component, are internally developed using industry accepted statistical methodologies for low default environments and making use of internal and external data covering full economic cycles. Where external data is used, appropriate testing is performed to ensure it remains representative of the internal portfolio.
• Three externally developed models are used, with calibrations to internal portfolio behaviour.
Sovereign and bank portfolios:
• Models are internally developed using statistical and expert judgement techniques and benchmarked against external rating agency ratings to determine final ratings. Models are calibrated using external default data and credit spread market data.
Specialised lending portfolios:
• Hybrid models using either a combination of statistical cash flow simulation models and qualitative scorecards or scorecards developed on internal data and calibrated to a combination of internal data and external benchmarks as appropriate.
All above portfolios:
• All DG ratings and associated PDs are reviewed by the credit risk portfolio representative and, if necessary, final adjustments are made to reflect information not captured by the models.
• Rating models make use of borrower-specific financial statement information as well as collateral information where applicable.</td></tr>
<tr><td>5</td><td>LGD</td><td>• LGD models are developed internally using industry accepted statistical methodologies for low default environments and data covering long-run and downturn conditions.
• The models are generally hybrid models developed on internal and external loss and recovery data with oversight and input from the credit experts, where appropriate.
• Models make use of transactional and collateral information with prudent adjustments to mitigate heightened uncertainty due to low volumes of data, where appropriate.</td></tr>
<tr><td>1</td><td>EAD</td><td>• EAD estimation is based on regulatory guidelines with credit conversion factors used as appropriate.
• Standard industry EAD methodologies are used, with internal and external data used to estimate long-run and downturn estimates.</td></tr>
<tr><td colspan="3">Relationship Banking</td></tr>
<tr><td>8</td><td>PD</td><td>Commercial and Agriculture portfolios:
• Models are internally developed using industry accepted statistical methodologies for data rich environments and making use of internal data covering full economic cycles.
• All DG ratings and associated PDs are reviewed by the credit risk portfolio representative and, if necessary, final adjustments are made to reflect information not captured by the models.
• Rating models make use of borrower-specific repayment and financial statement information.
Local government and municipalities:
• Hybrid model consisting of a quantitative and qualitative component, calibrated to a combination of internal data and external benchmarks. Where external data is used, appropriate testing is performed to ensure it remains representative of the internal portfolio. Model uses borrower-specific financial statement information and government grants/subsidies where applicable.
• All DG ratings and associated PDs are reviewed by the credit risk portfolio representative and, if necessary, final adjustments are made to reflect information not captured by the models.
Non-commercial exposures:
• Models are internally developed using industry accepted behavioural scorecard methodologies for data rich environments and making use of internal data covering full economic cycles. This automated scoring process incorporate product type, customer behaviour and delinquency status. Each behavioural score translates to a PD that is calibrated to an appropriate long run level for the segment.</td></tr>
<tr><td>4</td><td>LGD</td><td>Local government and municipalities:
• LGD models are developed internally using industry accepted statistical methodologies for low default environments.
• The model is a hybrid model developed using a workout approach with oversight and input from the credit experts.
• The model makes use of financial, audit opinion and municipality characteristic information, with prudent adjustments to mitigate heightened uncertainty due to low volumes of data.
All other portfolios:
• LGD models are developed internally using industry accepted statistical methodologies for data rich environments and data covering long-run and downturn conditions.
• The models are workout models with recoveries calculated using internal loss and recovery data and impacted by collateral type.
• Models also incorporate time in default and post-default payment behaviour.</td></tr>
<tr><td>2</td><td>EAD</td><td>• EAD estimation is based on regulatory guidelines with credit conversion factors used as appropriate.
• Standard industry EAD methodologies are used, split between revolving, non-revolving, amortizing and contingent type facilities.
• Internal portfolio experience is used to estimate long-run and downturn estimates.</td></tr>
</table>

4. Credit risk

Number of models	Model type	Model description
Retail		
7	PD	• Portfolios/products are segmented into homogeneous pools and sub-pools through an automated behavioural scoring process. The behavioural scorecards use industry accepted behavioural scorecard methodologies for data rich environments that incorporate product type, loan characteristics, customer behaviour, bureau information and delinquency status. • PDs are estimated for each sub-pool based on internal product level history associated with the respective pools, covering full economic cycles.
7	LGD	• LGD models are developed internally using industry accepted statistical methodologies for data rich environments and data covering long-run and downturn conditions. • LGD estimates are based on sub-segmentation with reference to collateral or product type, time in default and post-default payment behaviour. Final estimates are based on associated analyses and modelling of historical internal loss and recovery data.
7	EAD	• EAD estimation is based on regulatory guidelines with credit conversion factors used as appropriate. • Standard industry EAD methodologies are used, split between revolving, non-revolving, amortizing and contingent type facilities. • Internal portfolio experience is used to estimate long-run and downturn estimates.

Key risk parameters used in credit risk measurement

EAD	PD	LGD	M	Correlation
Exposure at default	**Probability of default**	**Loss-given default**	**Maturity**	**Correlation**
An estimate of the level of credit exposure, should the obligor default occur during the next (rolling) 12-month period.	Represents the likelihood that an individual obligor/facility will default during the next (rolling) 12-month period.	Represents an estimate of the percentage of EAD that will not be recovered, should the obligor/facility default occur during the next (rolling) 12-month period.	Remaining time until the effective maturity date of the loan or other credit facility.	Measures to what extent the risks in the various industry sector and regions in the loan portfolio are related to common factors.
These parameters can be calculated to represent different views of the credit cycle, which are used in different applications:				
	Through-the-cycle (TTC): reflecting the predicted default frequency in an average 12-month period across the credit cycle. Point-in-time (PIT): reflecting the predicted default frequency contingent on the macroeconomic environment.	Downturn (DT): reflecting behaviour observed under stressed economic conditions. Long run (LR): reflecting business-as-usual measures or behaviour under benign/average conditions.		

Internal and vendor-supplied credit models are used to estimate the key credit parameters of EAD, PD, LGD and asset correlation. The Group uses different modelling methodologies, ranging from pure statistical models and cash flow models to expert-based models, taking into account quantitative and qualitative risk drivers.

To provide a common measure of default risk across the Group, an internal default grade scale is used. This scale is mapped to a scale of default probabilities for regulatory reporting purposes and to external agency ratings for benchmarking purposes.

The application of the key risk parameters in credit risk measurement and decision-making is set out in the following tables:

4. Credit risk

Application of key risk parameters in credit risk measurement

<table>
<tr><th>EAD</th><th>PD</th><th>LGD</th><th>M</th><th>Correlation</th></tr>
<tr><td>Exposure at default</td><td>Probability of default</td><td>Loss given default</td><td>Maturity</td><td>Correlation</td></tr>
<tr><td colspan="3">EL: The EL calculation is determined making use of EAD, TTC PD and depending on being a DT EL or LR EL will make use of either the DT LGD or LR LGD respectively.
Impairment parameters: The impairment calculation makes use of EAD considering all contractual terms over the lifetime of the instrument, PD reflecting the current and future economic cycles to the extent relevant to the remaining life of the loan calculated at a PIT and a current or forward looking LGD reflecting impact of economic scenarios.</td><td></td><td></td></tr>
<tr><td colspan="4">RC parameters: The RC calculation makes use of EAD, TTC PD, DT LGD and contractual maturity.</td><td></td></tr>
<tr><td colspan="5">EC parameters: The EC calculation makes use of EAD, TTC PD, LR LGD, contractual maturity as well as asset correlation, including PD-LGD correlation.</td></tr>
</table>

Application of key risk parameters in credit risk decision-making

Credit approval	PD models are used in the approval process in both retail and wholesale portfolios. In high-volume retail portfolios, application and behaviour scorecards are frequently used as decision-making tools. In wholesale and certain retail home loan portfolios, PD models are used to direct applications to an appropriate credit sanctioning level.
Risk reward and pricing	PD, EAD and LGD metrics are used to assess the profitability of deals and portfolios and to allow for risk-adjusted pricing and strategy decisions.
Risk appetite setting and monitoring	RC and EC (including measures of earnings volatility) are used in the Group's risk appetite framework. Measures of stressed losses and capital utilisation are used in the setting of concentration risk limits.
Risk profile reporting	Credit risk reports to Board and senior management use model outputs to describe the Group's credit risk profile.

4. Credit risk

The following tables provide a detailed breakdown, per Basel asset class, of the drivers of the Group's capital requirements under the AIRB approach:

Credit risk exposures by portfolio and PD range [CR6]

	a	b	c	d	e	f	g	h	i	j	k	l
	2022											
PD scale	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF	Average CCF	EAD post CRM and post-CCF	Average PD[1]	Number of obligors	Average LGD	Average maturity	RWA	RWA density[2]	EL	Pro-visions
	Rm	Rm	%	Rm	%	#	%	%	Rm	%	Rm	Rm
Corporate												
0.00 to <0.15	81 934	62 858	23	108 740	0.11	230	29	1.72	17 439	16	31	47
0.15 to <0.25	27 514	30 579	61	46 385	0.23	109	24	1.42	9 207	20	25	36
0.25 to <0.50	38 689	24 487	28	49 133	0.36	329	24	2.05	15 618	32	44	58
0.50 to <0.75	13 504	6 957	45	16 258	0.62	135	26	1.83	6 809	42	26	27
0.75 to <2.50	68 779	34 036	36	74 937	1.43	1 438	28	1.90	48 663	65	306	394
2.50 to <10.00	7 756	3 477	33	9 003	5.43	222	36	2.16	11 516	128	185	296
10.00 to <100.00	1 187	302	53	1 350	21.41	72	28	2.46	1 980	147	83	50
100.00 (Default)	3 136	803	51	3 392	100.00	42	43	1.89	2 104	62	1 655	1 655
Sub-total	242 499	163 499	35	309 198	1.86	2 577	28	1.80	113 336	37	2 355	2 563
Specialised lending												
0.00 to <0.15	1 612	5 302	1	1 678	0.14	74	17	4.11	347	21	-	1
0.15 to <0.25	22 084	8 538	2	23 778	0.24	101	26	4.08	9 591	40	15	22
0.25 to <0.50	22 092	6 162	13	23 539	0.36	146	21	2.79	7 582	32	18	15
0.50 to <0.75	7 145	1 891	5	7 331	0.63	76	19	2.09	2 337	32	9	5
0.75 to <2.50	23 344	9 838	10	24 805	1.49	991	22	3.07	13 892	56	82	62
2.50 to <10.00	1 966	807	2	1 980	4.73	65	28	3.19	2 004	101	27	25
10.00 to <100.00	42	3	54	44	24.38	16	14	4.70	38	86	1	-
100.00 (Default)	2 889	343	-	2 889	100.00	71	31	3.03	2 644	92	946	945
Sub-total	81 174	32 884	8	86 044	4.13	1 540	23	3.21	38 435	45	1 098	1 075
SME Corporate												
0.00 to <0.15	2 613	335	67	2 907	0.08	1 591	37	1.90	298	10	1	12
0.15 to <0.25	3 870	480	35	3 070	0.23	295	22	2.30	534	17	2	2
0.25 to <0.50	11 824	4 117	51	14 248	0.41	2 538	21	2.73	3 980	28	12	20
0.50 to <0.75	8 704	2 795	54	10 552	0.64	1 208	22	3.05	3 706	35	15	22
0.75 to <2.50	64 130	15 736	60	74 234	1.62	33 816	23	3.02	35 552	48	281	796
2.50 to <10.00	10 819	2 082	65	12 403	4.77	3 444	26	2.95	8 858	71	153	185
10.00 to <100.00	3 357	414	71	3 678	26.28	1 448	30	2.68	5 128	139	289	135
100.00 (Default)	6 509	149	37	6 563	100.00	1 330	49	2.96	18 652	284	2 747	2 748
Sub-total	111 826	26 108	58	127 655	7.41	45 670	25	2.93	76 708	60	3 500	3 920
Public sector entities												
0.00 to <0.15	1 464	54	100	39	0.03	3	30	1.42	3	7	-	-
0.15 to <0.25	184	1 805	54	1 023	0.24	5	29	1.00	237	23	1	2
0.25 to <0.50	2 109	875	72	1 612	0.52	10	34	2.58	899	56	3	2
0.50 to <0.75	59	-	-	102	0.56	2	25	1.00	33	32	-	-
0.75 to <2.50	9 012	1 263	11	7 106	1.16	112	28	2.24	4 917	69	23	41
2.50 to <10.00	-	1	1 134	11	3.77	5	25	1.00	8	72	-	-
10.00 to <100.00	-	-	100	-	87.19	3	30	1.00	-	52	-	-
100.00 (Default)	992	579	84	1 242	100.00	4	28	1.00	76	6	421	422
Sub-total	13 820	4 577	33	11 135	12.00	144	29	2.02	6 173	55	448	467

[1] Total asset class average weighted PD percentage includes defaulted EADs.

[2] Post-model adjustments (PMAs) not included.

4. Credit risk

	a	b	c	d	e	f	g	h	i	j	k	l
	2022											
PD scale	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF	Average CCF	EAD post CRM and post-CCF	Average PD[1]	Number of obligors	Average LGD	Average maturity	RWA	RWA density[2]	EL	Pro-visions
	Rm	Rm	%	Rm	%	#	%	%	Rm	%	Rm	Rm
Local government and municipalities												
0.00 to <0.15	1	2	100	3	0.15	4	45	1.00	1	26	-	-
0.15 to <0.25	111	57	75	157	0.23	3	45	1.13	57	36	-	-
0.25 to <0.50	4 391	906	7	3 442	0.37	73	30	3.49	1 726	50	4	4
0.50 to <0.75	7	21	95	25	0.64	11	40	3.02	20	81	-	-
0.75 to <2.50	45	135	9	56	2.30	105	44	1.04	58	103	1	1
2.50 to <10.00	3 520	501	37	3 666	8.30	5	21	2.38	3 156	86	62	61
10.00 to <100.00	-	1	63	-	24.06	2	50	3.48	1	282	-	-
100.00 (Default)	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	8 075	1 623	24	7 349	4.34	203	26	2.87	5 019	68	67	66
Sovereign (including central government and central bank)												
0.00 to <0.15	120 156	1 428	21	122 090	0.01	32	31	3.17	8 445	7	4	2
0.15 to <0.25	-	-	100	1	0.25	4	44	1.00	-	36	-	-
0.25 to <0.50	6 886	177	38	7 065	0.40	13	30	3.00	3 436	49	9	4
0.50 to <0.75	-	-	100	-	0.62	1	30	1.00	-	41	-	-
0.75 to <2.50	344	44	100	224	2.11	35	49	1.99	288	129	2	3
2.50 to <10.00	272	27	-	272	4.45	4	44	1.00	355	131	5	7
10.00 to <100.00	74	-	100	74	12.41	2	30	4.94	125	168	3	-
100.00 (Default)	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	127 732	1 676	22	129 726	0.05	91	31	3.16	12 649	10	23	16
Banks												
0.00 to <0.15	29 811	12 266	51	31 402	0.03	93	35	1.01	2 705	9	4	18
0.15 to <0.25	55	307	87	248	0.21	6	39	1.00	76	31	-	-
0.25 to <0.50	1 024	1 053	61	465	0.38	14	19	1.75	117	25	-	-
0.50 to <0.75	1 371	2 021	24	1 677	0.60	13	28	0.90	650	39	3	1
0.75 to <2.50	4 740	1 149	97	5 259	1.70	39	34	0.91	3 657	70	27	8
2.50 to <10.00	8 410	6 603	79	11 760	7.32	37	24	0.77	10 221	87	205	69
10.00 to <100.00	104	304	115	328	18.89	8	20	0.48	338	103	12	1
100.00 (Default)	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	45 515	23 703	62	51 139	2.03	210	32	0.94	17 764	35	251	97
Securities firms												
0.00 to <0.15	3 598	131	13	4 241	0.06	16	43	1.17	627	15	1	-
0.15 to <0.25	122	548	34	531	0.25	8	45	1.07	199	37	1	1
0.25 to <0.50	246	859	-	321	0.34	13	32	1.00	102	32	-	-
0.50 to <0.75	200	62	-	209	0.60	3	35	2.38	129	62	-	1
0.75 to <2.50	266	87	87	340	1.23	26	40	1.43	261	77	2	1
2.50 to <10.00	3	1	87	4	5.38	2	45	1.00	6	144	-	-
10.00 to <100.00	-	-	-	-	-	-	-	-	-	-	-	-
100.00 (Default)	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	4 435	1 688	18	5 646	0.19	68	42	1.21	1 324	23	4	2

[1] Total asset class average weighted PD percentage includes defaulted EADs.

[2] PMAs not included.

4. Credit risk

	a	b	c	d	e	f	g	h	i	j	k	l
	2022											
PD scale	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF	Average CCF	EAD post CRM and post-CCF	Average PD[1]	Number of obligors	Average LGD	Average maturity	RWA	RWA density[2]	EL	Provisions
	Rm	Rm	%	Rm	%	#	%	%	Rm	%	Rm	Rm
Retail mortgages (including any home equity line of credit)												
0.00 to <0.15	12 529	17 647	36	19 048	0.12	49 583	12	-	622	3	3	3
0.15 to <0.25	6 017	4 180	38	7 696	0.23	15 346	12	-	437	6	2	2
0.25 to <0.50	22 691	11 491	47	28 686	0.39	58 376	14	-	2 682	9	15	17
0.50 to <0.75	24 609	6 820	58	29 297	0.66	39 973	14	-	4 037	14	27	22
0.75 to <2.50	127 121	11 523	49	135 736	1.67	172 729	15	-	36 431	27	338	380
2.50 to <10.00	63 551	7 201	11	66 209	5.30	72 802	16	-	37 418	57	566	537
10.00 to <100.00	10 865	85	47	11 076	26.09	14 535	15	-	9 740	88	433	445
100.00 (Default)	27 740	97	-	27 740	100.00	42 549	23	-	3 816	14	6 039	6 041
Sub-total	**295 123**	**59 044**	**36**	**325 488**	**11.29**	**465 893**	**15**	**-**	**95 183**	**29**	**7 423**	**7 447**
Retail revolving credit												
0.00 to <0.15	700	6 840	52	6 026	0.10	419 979	56	-	215	4	3	8
0.15 to <0.25	1 102	3 329	52	3 289	0.23	175 160	59	-	243	7	4	8
0.25 to <0.50	4 041	6 055	51	7 813	0.39	335 103	59	-	898	11	18	33
0.50 to <0.75	2 867	2 506	52	4 600	0.64	212 903	58	-	770	17	17	15
0.75 to <2.50	13 338	6 590	52	18 389	1.60	743 662	57	-	5 996	33	169	367
2.50 to <10.00	22 474	16 941	67	29 852	5.10	648 155	58	-	22 297	75	885	1 792
10.00 to <100.00	3 593	314	58	4 173	27.99	199 793	56	-	6 145	147	652	1 248
100.00 (Default)	8 313	174	2	8 325	100.00	224 577	74	-	5 508	66	5 639	5 639
Sub-total	**56 427**	**42 751**	**53**	**82 468**	**13.81**	**2 959 332**	**59**	**-**	**42 072**	**51**	**7 387**	**9 110**
SME Retail												
0.00 to <0.15	542	1 020	75	1 853	0.03	100 387	71	-	140	8	-	3
0.15 to <0.25	76	292	82	326	0.24	2 458	40	-	64	20	-	1
0.25 to <0.50	674	994	74	1 678	0.38	46 767	56	-	617	37	4	1
0.50 to <0.75	510	402	81	882	0.65	6 492	45	-	349	40	3	2
0.75 to <2.50	5 133	2 129	74	7 270	1.61	54 712	50	-	4 557	63	60	30
2.50 to <10.00	2 487	509	86	3 015	5.86	16 537	59	-	2 791	93	96	32
10.00 to <100.00	531	55	80	595	26.06	3 903	58	-	848	143	92	15
100.00 (Default)	1 111	12	40	1 090	100.00	12 137	61	-	4 145	380	413	413
Sub-total	**11 064**	**5 413**	**75**	**16 709**	**9.29**	**243 393**	**55**	**-**	**13 511**	**81**	**668**	**497**
Retail – other												
0.00 to <0.15	868	756	70	3 577	0.15	5 066	20	-	251	7	1	3
0.15 to <0.25	159	162	5	254	0.22	5 002	61	-	70	28	-	1
0.25 to <0.50	1 770	89	22	1 924	0.46	14 552	30	-	424	22	3	3
0.50 to <0.75	1 852	30	31	1 899	0.66	10 046	31	-	512	27	4	2
0.75 to <2.50	19 035	734	67	19 836	1.81	93 557	31	-	8 080	41	98	173
2.50 to <10.00	69 456	57	3	69 525	5.88	478 460	41	-	46 446	67	1 763	2 364
10.00 to <100.00	18 662	41	-	18 686	17.82	134 309	42	-	17 048	91	1 354	1 968
100.00 (Default)	17 448	24	-	17 452	100.00	143 207	48	-	3 778	22	7 865	7 865
Sub-total	**129 250**	**1 893**	**15**	**133 153**	**18.97**	**884 199**	**40**	**-**	**76 610**	**58**	**11 088**	**12 379**
Total (all portfolios)	**1 126 940**	**364 859**	**35**	**1 285 711**	**7.50**	**4 603 320**	**28**		**498 782**	**39**	**34 313**	**37 639**

[1] Total asset class average weighted PD percentage includes defaulted EADs.

[2] PMAs not included.

4. Credit risk

	a	b	c	d	e	f	g	h	i	j	k	l
						2021						
PD scale	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF	Average CCF	EAD post CRM and post-CCF	Average PD[1]	Number of obligors	Average LGD	Average maturity	RWA	RWA density[2]	EL	Pro-visions
	Rm	Rm	%	Rm	%	#	%	%	Rm	%	Rm	Rm
Corporate												
0.00 to <0.15	83 568	55 569	23	104 775	0.11	205	31	1.65	17 913	17	33	64
0.15 to <0.25	19 071	13 750	12	26 438	0.22	134	26	1.75	6 234	24	15	33
0.25 to <0.50	45 039	34 250	44	62 429	0.36	444	27	2.13	21 989	35	61	97
0.50 to <0.75	15 664	7 826	36	18 634	0.58	269	30	2.15	9 291	50	32	58
0.75 to <2.50	44 943	23 212	38	58 491	1.51	3 494	31	1.85	40 923	70	272	416
2.50 to <10.00	7 058	5 783	21	8 985	5.39	237	32	1.94	9 685	108	148	345
10.00 to <100.00	853	78	83	904	25.27	83	40	2.53	1 762	195	91	33
100.00 (Default)	2 808	478	17	2 940	100.00	45	35	1.94	1 929	66	1 371	1 371
Sub-total	219 004	140 946	30	283 596	1.78	4 911	29	2.00	109 726	39	2 023	2 417
Specialised lending												
0.00 to <0.15	326	204	42	412	0.16	49	17	4.53	79	19	-	1
0.15 to <0.25	13 913	3 241	8	14 794	0.25	74	26	4.29	6 122	41	10	17
0.25 to <0.50	7 759	1 391	8	8 043	0.39	128	22	2.92	2 700	34	7	9
0.50 to <0.75	2 944	662	3	2 964	0.60	59	22	2.69	1 099	37	4	4
0.75 to <2.50	15 823	6 129	8	17 607	1.49	864	26	2.72	10 222	58	67	74
2.50 to <10.00	4 615	767	8	4 677	5.78	51	35	2.69	6 087	130	94	152
10.00 to <100.00	130	9	38	134	31.00	28	19	4.49	133	99	8	5
100.00 (Default)	2 540	29	-	2 540	100.00	43	24	2.64	810	32	635	634
Sub-total	48 050	12 432	8	51 171	6.25	1 296	26	3.01	27 252	53	825	896
SME Corporate												
0.00 to <0.15	7 811	2 790	19	2 511	0.05	699	41	2.77	251	10	1	21
0.15 to <0.25	2 197	741	43	2 202	0.22	974	24	2.29	462	21	1	3
0.25 to <0.50	14 698	6 323	50	18 920	0.42	3 129	33	2.80	8 387	44	27	62
0.50 to <0.75	11 563	3 746	66	14 041	0.63	2 839	33	2.95	7 179	51	29	61
0.75 to <2.50	54 995	14 700	57	64 568	1.59	36 550	33	2.98	43 947	68	351	503
2.50 to <10.00	8 224	1 152	74	9 192	5.07	1 909	34	2.85	8 643	94	161	151
10.00 to <100.00	4 259	388	52	4 469	30.00	1 496	38	2.96	8 052	180	504	303
100.00 (Default)	5 568	353	27	5 679	100.00	1 039	44	2.84	7 573	133	2 449	2 450
Sub-total	109 315	30 193	53	121 582	7.15	48 635	34	2.89	84 494	69	3 523	3 554
Public sector entities												
0.00 to <0.15	585	618	1	587	0.08	6	38	2.99	150	25	-	-
0.15 to <0.25	59	721	4	267	0.24	3	29	1.01	62	23	-	-
0.25 to <0.50	3 151	3 682	17	4 068	0.50	24	29	1.99	1 758	43	6	8
0.50 to <0.75	9 066	93	100	7 064	0.56	4	28	2.45	3 286	47	11	37
0.75 to <2.50	1	10	100	9	1.49	105	25	1.23	4	46	-	-
2.50 to <10.00	19	18	100	30	4.10	8	30	1.00	27	89	-	1
10.00 to <100.00	-	-	100	-	23.45	2	23	1.00	-	112	-	-
100.00 (Default)	1 284	489	100	1 889	100.00	2	29	1.25	870	46	432	432
Sub-total	14 165	5 631	23	13 914	14.02	154	29	1.19	6 157	44	449	478

[1] Total asset class average weighted PD percentage includes defaulted EADs.
[2] PMAs not included.

4. Credit risk

	a	b	c	d	e	f	g	h	i	j	k	l
						2021						
PD scale	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF	Average CCF	EAD post CRM and post-CCF	Average PD[1]	Number of obligors	Average LGD	Average maturity	RWA	RWA density[2]	EL	Pro-visions
	Rm	Rm	%	Rm	%	#	%	%	Rm	%	Rm	Rm
Local government and municipalities												
0.00 to <0.15	10	11	93	19	0.11	13	46	1.53	5	24	-	-
0.15 to <0.25	317	95	10	325	0.24	14	21	4.55	99	31	-	1
0.25 to <0.50	6 155	1 121	15	5 376	0.42	39	26	3.20	2 291	43	6	11
0.50 to <0.75	-	15	100	9	0.57	7	16	2.89	2	25	-	-
0.75 to <2.50	50	217	36	126	2.13	144	32	1.53	99	79	1	-
2.50 to <10.00	2 191	115	16	2 209	10.00	4	21	2.48	2 106	95	46	60
10.00 to <100.00	314	1	100	324	30.00	3	10	1.00	181	56	10	2
100.00 (Default)	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	9 037	1 575	19	8 388	4.10	224	24	1.79	4 783	57	63	74
Sovereign (including central government and central bank)												
0.00 to <0.15	102 057	1 423	18	102 414	0.01	35	31	3.13	7 350	7	4	2
0.15 to <0.25	-	2	100	1	0.23	1	29	1.00	-	22	-	-
0.25 to <0.50	6 435	139	32	6 486	0.40	18	30	3.32	3 304	51	8	11
0.50 to <0.75	-	-	-	-	-	-	-	-	-	-	-	-
0.75 to <2.50	302	26	82	320	2.44	40	51	2.65	476	149	4	7
2.50 to <10.00	254	158	-	275	4.45	5	27	2.98	264	96	3	6
10.00 to <100.00	-	-	-	-	-	-	-	-	-	-	-	-
100.00 (Default)	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	109 048	1 747	18	109 496	0.05	99	31	2.09	11 394	10	19	26
Banks												
0.00 to <0.15	30 732	14 617	52	31 138	0.05	96	40	1.05	3 804	12	6	10
0.15 to <0.25	38	445	22	115	0.23	8	37	0.96	38	33	-	-
0.25 to <0.50	1 468	1 461	9	1 577	0.44	16	41	1.45	862	55	3	1
0.50 to <0.75	3	63	96	61	0.54	5	37	1.87	47	76	-	-
0.75 to <2.50	3 574	2 054	105	4 834	1.56	69	31	0.92	2 985	62	22	12
2.50 to <10.00	3 797	3 677	94	6 411	7.32	33	29	0.72	6 580	103	134	57
10.00 to <100.00	145	292	103	329	15.82	8	38	1.09	618	188	19	4
100.00 (Default)	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	39 756	22 608	61	44 464	1.39	235	38	0.77	14 934	34	184	84
Securities firms												
0.00 to <0.15	2 401	600	32	1 439	0.12	16	23	1.57	179	12	-	-
0.15 to <0.25	178	891	1	699	0.25	11	40	1.42	243	35	1	1
0.25 to <0.50	7	574	-	62	0.47	8	42	1.19	31	50	-	-
0.50 to <0.75	2	7	10	7	0.60	4	44	1.00	4	60	-	-
0.75 to <2.50	412	26	94	310	1.25	37	30	1.56	184	60	1	1
2.50 to <10.00	4	1	97	4	5.38	2	45	1.00	6	142	-	-
10.00 to <100.00	-	-	-	-	-	-	-	-	-	-	-	-
100.00 (Default)	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	3 004	2 099	11	2 521	0.31	78	29	0.88	647	26	2	2

[1] Total asset class average weighted PD percentage includes defaulted EADs.
[2] PMAs not included.

4. Credit risk

	a	b	c	d	e	f	g	h	i	j	k	l
						2021						
PD scale	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF	Average CCF	EAD post CRM and post-CCF	Average PD[1]	Number of obligors	Average LGD	Average maturity	RWA	RWA density[2]	EL	Pro-visions
	Rm	Rm	%	Rm	%	#	%	%	Rm	%	Rm	Rm
Retail mortgages (including any home equity line of credit)												
0.00 to <0.15	9 659	13 835	36	14 773	0.11	39 756	12	-	463	3	2	3
0.15 to <0.25	5 710	5 824	36	7 901	0.22	20 403	12	-	430	5	2	1
0.25 to <0.50	18 928	12 452	48	25 554	0.39	50 691	14	-	2 454	10	14	15
0.50 to <0.75	19 270	6 376	54	23 199	0.65	42 392	14	-	3 156	14	21	13
0.75 to <2.50	117 731	12 836	47	126 399	1.73	177 339	14	-	33 836	27	317	396
2.50 to <10.00	65 459	7 590	12	68 334	5.34	81 569	16	-	38 123	56	579	614
10.00 to <100.00	8 285	100	46	8 467	26.89	12 689	15	-	7 072	84	325	371
100.00 (Default)	26 660	100	-	26 660	100.00	43 200	23	-	5 010	19	5 579	5 577
Sub-total	271 702	59 113	40	301 287	11.64	468 039	15	-	90 544	30	6 839	6 990
Retail revolving credit												
0.00 to <0.15	634	6 971	51	5 993	0.10	415 703	56	-	216	4	3	9
0.15 to <0.25	881	2 812	50	2 625	0.23	131 970	59	-	195	7	4	6
0.25 to <0.50	3 488	5 955	52	7 346	0.39	356 367	58	-	827	11	17	33
0.50 to <0.75	2 541	2 486	52	4 207	0.65	191 396	58	-	705	17	16	11
0.75 to <2.50	12 082	6 581	52	16 929	1.60	729 986	57	-	5 477	32	154	345
2.50 to <10.00	19 887	16 255	63	27 201	5.03	621 083	58	-	19 899	73	786	1 585
10.00 to <100.00	3 174	355	58	3 715	27.31	187 706	56	-	5 492	148	564	1 178
100.00 (Default)	7 840	186	2	7 848	100.00	211 837	74	-	4 521	58	5 393	5 392
Sub-total	50 527	41 601	56	75 864	13.93	2 846 048	59	-	37 332	49	6 937	8 559
SME Retail												
0.00 to <0.15	1 099	1 141	96	2 422	0.04	87 956	71	-	95	4	1	88
0.15 to <0.25	269	251	78	452	0.22	10 290	28	-	57	13	-	2
0.25 to <0.50	873	1 120	93	2 082	0.39	32 017	64	-	588	28	5	39
0.50 to <0.75	851	411	87	1 244	0.63	9 277	50	-	461	37	4	7
0.75 to <2.50	7 368	2 397	96	10 148	1.57	55 578	49	-	5 053	50	83	71
2.50 to <10.00	3 257	901	95	4 310	5.96	44 102	67	-	4 258	99	164	107
10.00 to <100.00	1 157	167	98	1 364	25.91	5 798	67	-	2 350	172	236	52
100.00 (Default)	1 444	3	94	1 348	100.00	11 105	56	-	557	41	690	690
Sub-total	16 318	6 391	94	23 370	9.14	256 123	57	-	13 419	57	1 183	1 056
Retail – other												
0.00 to <0.15	1 348	969	70	4 251	0.15	16 492	26	-	349	8	1	4
0.15 to <0.25	304	239	27	463	0.22	8 577	62	-	130	28	1	1
0.25 to <0.50	2 129	157	81	2 387	0.47	19 512	38	-	659	28	4	4
0.50 to <0.75	2 417	89	23	2 500	0.65	15 199	36	-	777	31	6	4
0.75 to <2.50	23 775	1 140	61	24 936	1.79	160 008	38	-	12 306	49	154	252
2.50 to <10.00	58 817	93	34	58 925	5.51	365 056	40	-	37 132	63	1 297	1 819
10.00 to <100.00	17 279	45	12	17 309	19.93	131 728	43	-	16 694	96	1 485	1 996
100.00 (Default)	15 028	22	9	15 038	100.00	130 818	49	-	5 626	37	7 457	7 457
Sub-total	121 096	2 754	59	125 808	17.66	847 390	40	-	73 674	59	10 406	11 537
Total (all portfolios)	1 011 022	327 090	40	1 161 461	7.74	4 473 232	30		474 356	41	32 453	35 673

[1] Total asset class average weighted PD percentage includes defaulted EADs.

[2] PMAs not included.

4. Credit risk

Effect on RWA of credit derivatives used as CRM techniques [CR7]

The bank makes limited use of credit derivatives to mitigate credit risk in the banking book.

		a	b	a	b
		2022		2021	
		Pre-credit derivatives RWA Rm	Actual RWA Rm	Pre-credit derivatives RWA Rm	Actual RWA Rm
1	Corporate	113 396	113 336	109 748	109 726
2	Specialised lending	38 481	38 435	27 506	27 252
3	SME Corporate	76 708	76 708	84 494	84 494
4	PSEs	6 173	6 173	6 159	6 157
5	Local government and municipalities	5 019	5 019	4 783	4 783
6	Sovereign (including central government and central bank)	12 649	12 649	11 394	11 394
7	Banks	17 858	17 764	15 124	14 934
8	Securities firms	1 324	1 324	647	647
9	Retail mortgages (including any home equity line of credit)	95 183	95 183	90 544	90 544
10	Retail revolving credit	42 072	42 072	37 332	37 332
11	SME Retail	13 511	13 511	13 419	13 419
12	Retail - other	76 610	76 610	73 674	73 674
13	**Total**	**498 983**	**498 782**	474 824	474 356

RWA flow statements of credit risk exposures under IRB [CR8]

		a	a
		31 Dec 2022	30 Sep 2022
		RWA amounts Rm	RWA amounts Rm
1	RWA as at end of previous quarter	493 244	475 544
2	Asset size	6 286	18 958
3	Asset quality	4 724	1 307
4	Model updates	(124)	(4 293)
5	Methodology and policy	-	-
6	Acquisitions and disposals	-	-
7	Foreign exchange movements	(1 940)	2 814
8	Other[1]	2 742	(1 086)
9	RWA as at end of reporting period	504 932	493 244

[1] Other reflects RWA growth on non-performing loans due to misalignment of the definition of default between IFRS 9 impairment and regulatory capital models.

4. Credit risk

IRB: Backtesting of PD per portfolio [CR9]

The tables below provide backtesting results to validate the reliability of the Bank's IRB PD models. In particular, the tables compare the long-run average PD used in AIRB capital calculations with the realised default rate observed over a five-year period, per Basel asset class. The average historical default rate is calculated as the number of defaults in a given year, divided by the number of obligors that were performing at the start of that year (averaged over five years).

	a	b	c	d	e	f	g
	2022						
				Number of obligors			
PD range	External rating equivalent	Weighted average PD %	Arithmetic average PD by obligors %	End of previous year #	End of the year #	Defaulted obligors in the year #	Average historical annual default rate %
Corporate							
0 to <0.15	AAA, AA, A, BBB+	0.11	0.09	205	230	2	0.56
0.15 to <0.25	BBB, BBB-	0.23	0.19	134	109	–	0.19
0.25 to <0.50	BBB-, BB+	0.36	0.32	444	329	1	0.08
0.50 to <0.75	BB+, BB	0.62	0.56	269	135	1	0.32
0.75 to <2.50	BB, BB-, B+	1.43	1.14	3 494	1 438	3	0.07
2.50 to <10.00	B+, B, B-	5.43	2.07	237	222	12	0.51
10.00 to <100.0	CCC/C	21.41	17.40	83	72	2	0.81
100.00 (Default)	100.00 (Default)	100.00	100.00	45	42	19	100.00
0 to < 100.0	**AAA to CCC/C**	**0.77**	**1.41**	**4 866**	**2 535**	**21**	**0.22**
Specialised lending							
0 to <0.15	AAA, AA, A, BBB+	0.14	0.14	49	74	–	–
0.15 to <0.25	BBB, BBB-	0.24	0.24	74	101	–	–
0.25 to <0.50	BBB-, BB+	0.36	0.36	128	146	–	–
0.50 to <0.75	BB+, BB	0.63	0.54	59	76	–	–
0.75 to <2.50	BB, BB-, B+	1.49	1.10	864	991	–	–
2.50 to <10.00	B+, B, B-	4.73	2.10	51	65	3	0.22
10.00 to <100.0	CCC/C	24.38	7.62	28	16	–	1.97
100.00 (Default)	100.00 (Default)	100.00	100.00	43	71	20	100.00
0 to < 100.0	**AAA to CCC/C**	**0.80**	**1.00**	**1 253**	**1 469**	**3**	**0.30**
SME Corporate							
0 to <0.25	AAA, AA, A, BBB+, BBB, BBB-	0.16	0.17	1 673	1 886	5	1.04
0.25 to <0.50	BBB-, BB+	0.41	0.41	3 129	2 538	6	0.59
0.50 to <0.75	BB+, BB	0.64	0.59	2 839	1 208	5	0.35
0.75 to <2.50	BB, BB-, B+	1.62	1.04	36 550	33 816	44	0.60
2.50 to <10.00	B+, B, B-	4.77	2.06	1 909	3 444	258	0.29
10.00to <100.0	CCC/C	26.28	16.43	1 496	1 448	101	3.02
100.00 (Default)	100.00 (Default)	100.00	100.00	1 039	1 330	775	100.00
0 to < 100.0	**AAA to CCC/C**	**2.39**	**1.54**	**47 596**	**44 340**	**419**	**0.46**
Sovereigns							
0 to <0.15	AAA, AA, A, BBB+	0.01	0.03	35	32	–	–
0.15 to <0.25	BBB, BBB-	0.25	0.17	1	4	–	–
0.25 to <0.50	BBB-, BB+	0.40	0.27	18	13	–	–
0.50 to <0.75	BB+, BB	0.62	0.50	–	1	–	–
0.75 to <2.50	BB, BB-, B+	2.11	1.38	40	35	–	–
2.50 to <10.00	B+, B, B-	4.45	3.05	5	4	–	–
10.00 to <100.0	CCC/C	12.41	–	–	2	–	–
100.00 (Default)	100.00 (Default)	100.00	100.00	–	–	–	100.00
0 to < 100.0	**AAA to CCC/C**	**0.05**	**0.73**	**99**	**91**	**–**	**–**

4. Credit risk

	a	b	c	d	e	f	g
	2022						
				Number of obligors			
PD range	External rating equivalent	Weighted average PD %	Arithmetic average PD by obligors %	End of previous year #	End of the year #	Defaulted obligors in the year #	Average historical annual default rate %
Banks							
0 to <0.15	AAA, AA, A, BBB+	0.03	0.05	96	93	–	–
0.15 to <0.25	BBB, BBB-	0.21	0.05	8	6	–	–
0.25 to <0.50	BBB-, BB+	0.38	0.19	16	14	–	–
0.50 to <0.75	BB+, BB	0.60	0.69	5	13	–	–
0.75 to <2.50	BB, BB-, B+	1.70	0.51	69	39	–	–
2.50 to <10.00	B+, B, B-	7.32	1.11	33	37	–	–
10.00 to <100.0	CCC/C	18.89	0.52	8	8	–	–
100.00 (Default)	100.00 (Default)	100.00	100.00	–	–	–	100.00
0 to < 100.0	**AAA to CCC/C**	**2.03**	**0.39**	**235**	**210**	**–**	**–**
Retail mortgages							
0.25 to <0.50	AAA, AA, A, BBB+, BBB, BBB-, BB+	0.28	0.24	110 850	123 305	341	0.16
0.50 to <0.75	BB+, BB	0.66	0.62	42 392	39 973	386	0.36
0.75 to <2.50	BB, BB-, B+	1.67	1.46	177 339	172 729	2 665	1.23
2.50 to <10.00	B+, B, B-	5.30	4.66	81 569	72 802	4 121	3.10
10.00 to <100.0	CCC/C	26.09	24.26	12 689	14 535	3 853	24.23
100.00 (Default)	100.00 (Default)	100.00	100.00	43 200	42 549	–	100.00
0 to < 100.0	**AAA to CCC/C**	**3.03**	**2.36**	**424 839**	**423 344**	**11 366**	**2.64**
Retail revolving credit							
0.25 to <0.50	AAA, AA, A, BBB+, BBB, BBB-, BB+	0.26	0.22	904 040	930 242	6 367	0.68
0.50 to <0.75	BB+, BB	0.64	0.62	191 396	212 903	3 718	1.36
0.75 to <2.50	BB, BB-, B+	1.60	1.42	729 986	743 662	21 409	2.93
2.50 to <10.00	B+, B, B-	5.10	5.22	621 083	648 155	77 418	9.88
10.00 to <100.0	CCC/C	27.99	22.52	187 706	199 793	66 715	26.60
100.00 (Default)	100.00 (Default)	100.00	100.00	211 837	224 577	–	100.00
0 to < 100.0	**AAA to CCC/C**	**4.13**	**3.39**	**2 634 211**	**2 734 755**	**175 627**	**6.76**
SME retail							
0 to <0.0.25	AAA, AA, A, BBB+, BBB, BBB-	0.07	0.05	98 246	102 845	166	0.23
0.25 to <0.50	BBB-, BB+	0.38	0.32	32 017	46 767	53	0.22
0.50 to <0.75	BB+, BB	0.65	0.51	9 277	6 492	27	0.75
0.75 to <2.50	BB, BB-, B+	1.61	1.12	55 578	54 712	165	0.72
2.50 to <10.00	B+, B, B-	5.86	2.65	44 102	16 537	352	1.15
10.00 to <100.0	CCC/C	26.06	15.12	5 798	3 903	200	5.57
100.00 (Default)	100.00 (Default)	100.00	100.00	11 105	12 137	15 561	100.00
0 to < 100.0	**AAA to CCC/C**	**2.96**	**0.81**	**245 018**	**231 256**	**963**	**0.58**

4. Credit risk

	a	b	c	d	e	f	g
				2022			
				Number of obligors			
PD range	External rating equivalent	Weighted average PD %	Arithmetic average PD by obligors %	End of previous year #	End of the year #	Defaulted obligors in the year #	Average historical annual default rate %
Retail - other							
0 to <0.50	AAA, AA, A, BBB+, BBB, BBB-, BB+	0.26	0.24	44 581	24 620	465	1.58
0.50 to <0.75	BB+, BB	0.66	0.58	15 199	10 046	322	1.45
0.75 to <2.50	BB, BB-, B+	1.81	1.55	160 008	93 557	2 891	2.41
2.50 to <10.00	B+, B, B-	5.88	5.05	365 056	478 460	22 944	5.99
10.00 to <100.0	CCC/C	17.82	19.72	131 728	134 309	39 548	23.48
100.00 (Default)	100.00 (Default)	100.00	100.00	130 818	143 207	41	100.00
0 to < 100.0	**AAA to CCC/C**	**6.75**	**7.05**	**716 572**	**740 992**	**66 170**	**8.87**

	a	b	c	d	e	f	g
				2021			
				Number of obligors			
PD range	External rating equivalent	Weighted average PD %	Arithmetic average PD by obligors %	End of previous year #	End of the year #	Defaulted obligors in the year #	Average historical annual default rate %
Corporate							
0 to <0.15	AAA, AA, A, BBB+	0.11	0.08	243	205	-	0.08
0.15 to <0.25	BBB, BBB-	0.22	0.17	132	134	-	0.19
0.25 to <0.50	BBB-, BB+	0.36	0.32	425	444	-	0.11
0.50 to <0.75	BB+, BB	0.58	0.56	220	269	-	0.18
0.75 to <2.50	BB, BB-, B+	1.51	1.18	2 677	3 494	1	0.21
2.50 to <10.00	B+, B, B-	5.39	2.06	314	237	3	0.50
10.00 to <100.0	CCC/C	25.27	18.27	94	83	1	0.44
100.00 (Default)	100.00 (Default)	100.00	100.00	49	45	26	100.00
0 to < 100.0	AAA to CCC/C	0.75	1.32	4 105	4 866	5	0.29
Specialised lending							
0 to <0.15	AAA, AA, A, BBB+	0.16	0.14	71	49	-	-
0.15 to <0.25	BBB, BBB-	0.25	0.22	89	74	-	-
0.25 to <0.50	BBB-, BB+	0.39	0.36	124	128	-	-
0.50 to <0.75	BB+, BB	0.60	0.46	51	59	-	-
0.75 to <2.50	BB, BB-, B+	1.49	1.18	839	864	-	-
2.50 to <10.00	B+, B, B-	5.78	2.03	77	51	1	0.15
10.00 to <100.0	CCC/C	31.00	8.85	42	28	3	1.97
100.00 (Default)	100.00 (Default)	100.00	100.00	35	43	12	100.00
0 to < 100.0	AAA to CCC/C	1.36	1.17	1 293	1 253	4	0.25

4. Credit risk

	a	b	c	d	e	f	g
				2021			
				Number of obligors			
	External rating equivalent	Weighted average PD	Arithmetic average PD by obligors	End of previous year	End of the year	Defaulted obligors in the year	Average historical annual default rate
PD range		%	%	#	#	#	%
SME Corporate							
0 to <0.25	AAA, AA, A, BBB+, BBB, BBB-	0.13	0.18	1 611	1 673	1	0.59
0.25 to <0.50	BBB-, BB+	0.42	0.35	2 842	3 129	3	0.43
0.50 to <0.75	BB+, BB	0.63	0.58	2 002	2 839	5	0.31
0.75 to <2.50	BB, BB-, B+	1.59	1.22	35 795	36 550	20	0.42
2.50 to <10.00	B+, B, B-	5.07	2.25	3 485	1 909	63	0.20
10.00to <100.0	CCC/C	30.00	10.09	1 232	1 496	78	2.57
100.00 (Default)	100.00 (Default)	100.00	100.00	836	1 039	516	100.00
0 to < 100.0	AAA to CCC/C	2.60	1.41	46 967	47 596	170	0.34
Sovereigns							
0 to <0.15	AAA, AA, A, BBB+	0.01	0.08	30	35	-	-
0.15 to <0.25	BBB, BBB-	0.23	0.23	2	1	-	-
0.25 to <0.50	BBB-, BB+	0.40	0.26	19	18	-	-
0.50 to <0.75	BB+, BB	-	0.51	1	-	-	-
0.75 to <2.50	BB, BB-, B+	2.44	1.21	42	40	-	-
2.50 to <10.00	B+, B, B-	4.45	2.41	6	5	-	-
10.00 to <100.0	CCC/C	-	-	-	-	-	-
100.00 (Default)	100.00 (Default)	100.00	100.00	-	-	-	100.00
0 to < 100.0	AAA to CCC/C	0.05	0.69	100	99	-	-
Banks							
0 to <0.15	AAA, AA, A, BBB+	0.05	0.05	95	96	-	-
0.15 to <0.25	BBB, BBB-	0.23	0.06	5	8	-	-
0.25 to <0.50	BBB-, BB+	0.44	0.09	21	16	-	-
0.50 to <0.75	BB+, BB	0.54	0.53	1	5	-	-
0.75 to <2.50	BB, BB-, B+	1.56	0.61	50	69	-	-
2.50 to <10.00	B+, B, B-	7.32	0.41	34	33	-	-
10.00 to <100.0	CCC/C	15.82	0.93	11	8	-	-
100.00 (Default)	100.00 (Default)	100.00	100.00	-	-	-	100.00
0 to < 100.0	AAA to CCC/C	1.39	0.31	217	235	-	-
Retail mortgages							
0.25 to <0.50	AAA, AA, A, BBB+, BBB, BBB-, BB+	0.28	0.31	51 316	110 850	97	0.13
0.50 to <0.75	BB+, BB	0.65	0.64	51 743	42 392	190	0.25
0.75 to <2.50	BB, BB-, B+	1.73	1.59	216 860	177 339	2 481	1.10
2.50 to <10.00	B+, B, B-	5.34	3.75	88 065	81 569	4 388	2.85
10.00 to <100.0	CCC/C	26.89	30.23	19 504	12 689	5 377	23.69
100.00 (Default)	100.00 (Default)	100.00	100.00	41 194	43 200	-	100.00
0 to < 100.0	AAA to CCC/C	3.06	2.43	427 488	424 839	12 533	2.59

4. Credit risk

	a	b	c	d	e	f	g
				2021			
				Number of obligors			
PD range	External rating equivalent	Weighted average PD %	Arithmetic average PD by obligors %	End of previous year #	End of the year #	Defaulted obligors in the year #	Average historical annual default rate %
Retail revolving credit							
0.25 to <0.50	AAA, AA, A, BBB+, BBB, BBB-, BB+	0.26	0.22	912 469	904 040	9 609	0.64
0.50 to <0.75	BB+, BB	0.65	0.62	176 011	191 396	3 059	1.28
0.75 to <2.50	BB, BB-, B+	1.60	1.42	738 542	729 986	19 968	2.81
2.50 to <10.00	B+, B, B-	5.03	5.15	606 286	621 083	63 618	9.35
10.00 to <100.0	CCC/C	27.31	22.84	202 033	187 706	69 460	25.96
100.00 (Default)	100.00 (Default)	100.00	100.00	232 562	211 837	-	100.00
0 to < 100.0	AAA to CCC/C	4.00	3.36	2 635 341	2 634 211	165 714	6.63
SME retail							
0 to <0.0.25	AAA, AA, A, BBB+, BBB, BBB-	0.07	0.05	114 858	98 246	163	0.20
0.25 to <0.50	BBB-, BB+	0.39	0.31	37 049	32 017	66	0.19
0.50 to <0.75	BB+, BB	0.63	0.50	5 069	9 277	22	0.62
0.75 to <2.50	BB, BB-, B+	1.57	1.19	58 269	55 578	95	0.61
2.50 to <10.00	B+, B, B-	5.96	2.44	32 480	44 102	380	1.16
10.00 to <100.0	CCC/C	25.91	14.38	6 494	5 798	178	5.05
100.00 (Default)	100.00 (Default)	100.00	100.00	15 984	11 105	15 151	100.00
0 to < 100.0	AAA to CCC/C	3.58	1.13	254 219	245 018	904	0.53
Retail - other							
0 to <0.50	AAA, AA, A, BBB+, BBB, BBB-, BB+	0.26	0.27	44 020	44 581	722	1.57
0.50 to <0.75	BB+, BB	0.65	0.64	21 513	15 199	450	1.46
0.75 to <2.50	BB, BB-, B+	1.79	1.60	171 224	160 008	4 038	2.42
2.50 to <10.00	B+, B, B-	5.51	5.16	346 853	365 056	22 655	5.71
10.00 to <100.0	CCC/C	19.93	19.37	129 603	131 728	37 910	22.15
100.00 (Default)	100.00 (Default)	100.00	100.00	153 131	130 818	38	100.00
0 to < 100.0	AAA to CCC/C	6.48	6.58	713 213	716 572	65 775	8.50

4.7 Counterparty credit risk (CCR) [CCRA]

CCR arises from the risk of losses due to a counterparty defaulting before meeting all their financial and contractual obligations on bilateral derivatives or securities financing transactions (SFTs). This includes failure to pay a regular cash flow, make a specific payment or deliver an asset. The credit risk relating to a derivative or SFT changes due to movement in underlying market variables. The loss to the Group is the cost of replacing or closing out the contract.

- **CCR measurement:** SA-CCR consists of two components which is replacement cost and potential future exposure (PFE) calculated per hedging set for each primary asset class.
- **Limit approval:** The principle of 'no limit, no trade' is strictly applied and all limits are to be approved by the risk sanctioning unit. All CCR limits are considered uncommitted and are revocable at any time. Break clauses are used to establish early termination rights.
- **Risk mitigants:** Cash and/or financial securities can be accepted to offset the exposure to trading positions which lead to CCR.
- **Exposure monitoring:** CCR activities are monitored through the management of limit excesses and failed trades.
- **Stress testing:** Stress testing is used to assess exposures to obligors or obligor groups and potential Bank losses under stress scenarios. Stress scenarios range from extreme but plausible events to less extreme but more probable stressed market conditions.

Wrong way risk (incorporated in the CCR profile) arises when there is adverse (positive) correlation between the obligor's PD and the Group's exposure to the obligor. Right way risk arises when an obligor's exposure is negatively correlated with the PD.

The table below provides a view of the Group's regulatory CCR exposure, effectiveness of CRM techniques and RWA consumption. The table excludes CVA charges (table [CCR2]) and exposures cleared through central counterparties (CCPs) (table [CCR8]).

4. Credit risk

Analysis of CCR exposure by approach [CCR1]

		a	b	c	d	e	f
		2022					
		Replacement cost Rm	PFE Rm	Effective expected positive exposure (EEPE) Rm	Alpha used for computing regulatory EAD Rm	EAD post-CRM Rm	RWA Rm
1	SA-CCR (for derivatives)	4 422	10 501		1.4	21 182	8 320
2	IMM (for derivatives and SFTs)			-	-	-	-
3	Simple approach for CRM (for SFTs)					-	-
4	Comprehensive approach for CRM (for SFTs)					17 513	9 476
5	VaR for SFTs					-	-
6	**Total**						**17 796**

		a	b	c	d	e	f
		2021					
		Replacement cost Rm	PFE Rm	Effective expected positive exposure (EEPE) Rm	Alpha used for computing regulatory EAD Rm	EAD post-CRM Rm	RWA Rm
1	CEM (for derivatives)	8 774	13 141		1.4	30 622	12 239
2	IMM (for derivatives and SFTs)			-	-	-	-
3	Simple approach for CRM (for SFTs)					-	-
4	Comprehensive approach for CRM (for SFTs)					9 864	2 660
5	VaR for SFTs					-	-
6	Total						14 899

CVA accounts for the risk of mark-to-market losses on over-the-counter (OTC) derivatives due to credit quality fluctuations on the derivative counterparty. A CVA capital charge is required under Basel III rules. The Group uses the SA for the calculation of CVA capital.

CVA capital charge [CCR2]

		a	b	a	b
		2022		2021	
		EAD post-CRM Rm	RWA Rm	EAD post-CRM Rm	RWA Rm
	Total portfolios subject to the Advanced CVA capital charge				
1	i. VaR component (including the 3×multiplier)		-		-
2	ii. sVaR component (including the 3×multiplier)		-		-
3	All portfolios subject to the Standardised CVA capital charge	21 182	6 480	30 622	10 203
4	Total subject to the CVA capital charge	21 182	6 480	30 622	10 203

4. Credit risk

The table below provides a view of all relevant parameters used for the calculation of CCR capital requirements under the Group's AIRB models. The table excludes CVA charges and exposures cleared through a CCP.

IRB – CCR exposures by portfolio and PD scale [CCR4]

	a	b	c	d	e	f	g
	2022						
PD scale	EAD post-CRM Rm	Average PD %	Number of obligors	Average LGD %	Average Maturity Yrs	RWA Rm	RWA density %
Corporate/SME Corporate							
0. 00 to <0.15	4 113	0.09	49	36	1.0	823	20
0.15 to <0.25	1 439	0.24	45	29	3.37	515	36
0.25 to <0.50	1 746	0.39	88	38	2.91	868	50
0.50 to <0.75	251	0.63	39	37	2.72	163	65
0.75 to <2.50	2 512	1.23	333	38	1.37	1 806	72
2.50 to <10.00	183	4.40	32	41	0.43	201	109
10.00 to <100.00	-	15.70	1	44	1.0	-	215
100.00 (Default)	30	100.0	6	26	1.78	103	341
Sub-total	10 274	0.82	593	36	1.78	4 479	44
Banks/Securities firms							
0. 00 to <0.15	16 450	0.05	45	42	0.97	2 351	14
0.15 to <0.25	1 085	0.20	4	44	1.16	330	30
0.25 to <0.50	791	0.41	12	40	1.28	422	53
0.50 to <0.75	189	0.60	3	45	1.0	115	61
0.75 to <2.50	1 419	1.66	30	44	0.71	1 212	85
2.50 to <10.00	2 955	7.30	10	44	0.94	4 681	158
10.00 to <100.00	-	20.65	2	44	1.0	1	245
100.00 (Default)	-	-	-	-	-	-	-
Sub-total	22 889	1.11	106	42	0.97	9 112	40
Total (all portfolios)	33 163	1.02	699	40	1.22	13 591	41

4. Credit risk

	a	b	c	d	e	f	g
				2021			
PD scale	EAD post-CRM	Average PD	Number of obligors	Average LGD	Average Maturity	RWA	RWA density
	Rm	%		%	Yrs	Rm	%
Corporate/SME Corporate							
0. 00 to <0.15	3 854	0.12	48	26	1.40	522	14
0.15 to <0.25	3 290	0.24	34	26	3.72	1 214	37
0.25 to <0.50	5 257	0.37	94	37	1.60	2 211	42
0.50 to <0.75	496	0.56	31	34	2.66	293	59
0.75 to <2.50	2 279	1.44	260	36	2.04	1 801	79
2.50 to <10.00	148	4.58	35	32	1.49	145	98
10.00 to <100.00	71	17.93	2	5	1.0	18	26
100.00 (Default)	143	100.0	4	20	2.04	387	270
Sub-total	15 538	1.48	508	31	2.10	6 591	42
Banks/Securities firms							
0. 00 to <0.15	17 241	0.05	37	42	1.03	2 574	15
0.15 to <0.25	1 972	0.20	5	44	0.52	540	27
0.25 to <0.50	1 361	0.41	11	45	1.16	725	53
0.50 to <0.75	-	0.72	2	44	0.19	-	55
0.75 to <2.50	2 249	1.44	40	42	1.03	1 890	84
2.50 to <10.00	740	7.0	8	44	0.45	1 104	149
10.00 to <100.00	-	20.65	1	40	1.0	-	-
100.00 (Default)	-	-	-	-	-	-	-
Sub-total	23 563	0.43	104	43	0.98	6 833	29
Total (all portfolios)	39 101	0.85	612	38	1.42	13 424	34

The table below provides a breakdown of the types of collateral posted or received by the Group to support or reduce the CCR exposure related to derivatives and SFTs, including transactions cleared through a CCP. The Group relies mainly on cash and government bonds as collateral for derivative and securities financing contracts. The value of collateral used in each leg of SFTs is depicted on a gross basis.

Composition of collateral for CCR exposure [CCR5]

	a	b	c	d	e	f
			2022			
	Collateral used in derivative transactions				Collateral used in SFTs	
	Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received	Fair value of posted collateral
	Segregated	Unsegregated	Segregated	Unsegregated		
	Rm	Rm	Rm	Rm	Rm	Rm
Cash – domestic currency	-	5 483	-	2 647	64 011	37 477
Cash – other currencies	-	6 606	-	4 255	2 278	41 786
Domestic sovereign debt	-	-	-	-	37 771	64 101
Other sovereign debt	-	-	-	-	16 234	1 452
Government agency debt	-	3 625	-	133	-	-
Corporate bonds	-	-	-	-	27 871	714
Equity securities	-	-	-	-	-	-
Other collateral	-	-	-	-	-	-
Total	-	15 714	-	7 035	148 165	145 530

4. Credit risk

	a	b	c	d	e	f
	2021					
	Collateral used in derivative transactions				Collateral used in SFTs	
	Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received	Fair value of posted collateral
	Segregated	Unsegregated	Segregated	Unsegregated		
	Rm	Rm	Rm	Rm	Rm	Rm
Cash – domestic currency	-	6 950	-	1 260	73 376	49 159
Cash – other currencies	-	5 620	-	5 652	154	30 503
Domestic sovereign debt	-	-	-	-	38 208	61 779
Other sovereign debt	-	-	-	-	376	-
Government agency debt	-	-	-	-	-	-
Corporate bonds	-	2 499	-	109	32 307	8 463
Equity securities	-	-	-	-	-	-
Other collateral	-	-	-	-	-	-
Total	-	15 069	-	7 021	144 421	149 904

The table below illustrates the extent of the Group's exposures to credit derivative transactions in the trading book broken down between protection bought and protection sold positions.

Credit derivatives exposures [CCR6]

	a	b	a	b
	2022		2021	
	Protection bought	Protection sold	Protection bought	Protection sold
	Rm	Rm	Rm	Rm
Notionals				
Single-name credit default swaps	2 532	8 445	1 260	4 027
Index credit default swaps	-	-	-	-
Total return swaps	10 228	11 182	16 514	15 125
Credit options	-	-	-	-
Other credit derivatives	-	-	-	-
Total notionals	12 760	19 627	17 774	19 152
Fair values				
Positive fair value (asset)	137	229	340	335
Negative fair value (liability)	(268)	(287)	(741)	(265)

4. Credit risk

The table below provides a comprehensive picture of the Group's exposure to qualifying CCPs. The Group has no exposure to non-qualifying CCPs. The table includes exposures due to operations, margins posted and contributions to default funds.

Exposures to CCPs [CCR8]

		a	b	a	b
		2022		2021	
		EAD post-CRM Rm	RWA Rm	EAD post-CRM Rm	RWA
1	**Exposures to qualifying central counterparty (QCCPs) (total)**		1 269		1 355
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	–	–	–	–
3	i. OTC derivatives	–	–	–	–
4	ii. Exchange-traded derivatives	6 824	674	7 168	854
5	iii. SFTs	–	–	–	–
6	iv. Netting sets where cross-product netting has been approved	–	–	–	–
7	Segregated initial margin	–		–	
8	Non-segregated initial margin	10 227	395	10 851	314
9	Pre-funded default fund contributions	62	200	55	187
10	Unfunded default fund contributions	–	–	–	–
11	**Exposures to non-QCCPs (total)**		–		–
12	Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	–	–	–	–
13	i. OTC derivatives	–	–	–	–
14	ii. Exchange-traded derivatives	–	–	–	–
15	iii. SFTs	–	–	–	–
16	iv. Netting sets where cross-product netting has been approved	–	–	–	–
17	Segregated initial margin	–		–	
18	Non-segregated initial margin	–	–	–	–
19	Pre-funded default fund contributions	–	–	–	–
20	Unfunded default fund contributions	–	–	–	–

4. Credit risk

4.8 Securitisation [SECA]

Securitisation is the financial practice of pooling various types of contractual debt such as residential and commercial mortgages, vehicle loans, or credit card debt obligations and selling their related cash flows to third party investors as securities in the form of note or bond issuances. Risk arises from the extent of credit enhancement provided to absorb losses from defaults on the underlying loans to support the required rating.

The Group engages in two securitisation transactions, namely Clover Capital (RF) (Pty) Ltd (Clover Capital) and Nqaba Finance 1 (Pty) Ltd (Nqaba). Clover Capital was established to purchase qualifying debtors of Clover SA (Pty) Ltd (Clover). Clover has provided R300m subordinated debt to Clover Capital, which ranks after all external debt provider claims and acts as first loss absorption. The notes issued by Clover Capital are rated by GCR Ratings. Nqaba was established specifically for the purpose of purchasing eligible residential mortgages originated by Eskom Finance Company (Pty) Ltd to employees of Eskom Holdings Limited. The notes issued by Nqaba are rated by Khanda Credit Rating. The table below provides a breakdown of the Group's traditional securitisation exposures in the banking book for the retail and corporate portfolios where the Group acts as originator, sponsor or investor.

Securitisation exposures in the banking book [SEC1]

	a	b	c	e	f	g	i	j	k
	2022								
	Bank acts as originator			Bank acts as sponsor			Bank acts as investor		
	Traditional Rm	Synthetic Rm	Sub-total Rm	Traditional Rm	Synthetic Rm	Sub-total Rm	Traditional Rm	Synthetic Rm	Sub-total Rm
1 Retail (total)	–	–	–	689	–	689	–	–	–
2 Residential mortgage	–	–	–	689	–	689	–	–	–
6 Wholesale (total)	–	–	–	–	–	–	358	–	358
9 Lease and receivables	–	–	–	–	–	–	358	–	358

	a	b	c	e	f	g	i	j	k
	2021								
	Bank acts as originator			Bank acts as sponsor			Bank acts as investor		
	Traditional Rm	Synthetic Rm	Sub-total Rm	Traditional Rm	Synthetic Rm	Sub-total Rm	Traditional Rm	Synthetic Rm	Sub-total Rm
1 Retail (total)	–	–	–	816	–	816	–	–	–
2 Residential mortgage	–	–	–	816	–	816	–	–	–
6 Wholesale (total)	–	–	–	–	–	–	–	–	–
9 Lease and receivables	–	–	–	–	–	–	–	–	–

4. Credit risk

Securitisation exposures in the banking book and associated RC requirements – bank acting as originator or as sponsor [SEC3]

		a	b	c	d	e
		2022				
		Exposure values (by risk-weight (RW) bands)				
		≤20% RW Rm	>20% to 50% RW Rm	50% to 100% RW Rm	>100% to <1 250% RW Rm	1 250% RW Rm
1	**Total exposures**	**–**	**–**	**689**	**–**	**–**
2	Traditional securitisation	–	–	689	–	–
3	Of which securitisation	–	–	689	–	–
4	Of which retail underlying	–	–	689	–	–
5	Of which wholesale	–	–	–	–	–
6	Of which re-securitisation	–	–	–	–	–
7	Of which senior	–	–	–	–	–
8	Of which non-senior	–	–	–	–	–
9	Synthetic securitisation	–	–	–	–	–
10	Of which securitisation	–	–	–	–	–
11	Of which retail underlying	–	–	–	–	–
12	Of which wholesale	–	–	–	–	–
13	Of which re-securitisation	–	–	–	–	–
14	Of which senior	–	–	–	–	–
15	Of which non-senior	–	–	–	–	–

		a	b	c	d	e
		2021				
		Exposure values (by risk-weight (RW) bands)				
		≤20% RW Rm	>20% to 50% RW Rm	50% to 100% RW Rm	>100% to <1 250% RW Rm	1 250% RW Rm
1	Total exposures	–	–	–	816	–
2	Traditional securitisation	–	–	–	816	–
3	Of which securitisation	–	–	–	816	–
4	Of which retail underlying	–	–	–	816	–
5	Of which wholesale	–	–	–	–	–
6	Of which re-securitisation	–	–	–	–	–
7	Of which senior	–	–	–	–	–
8	Of which non-senior	–	–	–	–	–
9	Synthetic securitisation	–	–	–	–	–
10	Of which securitisation	–	–	–	–	–
11	Of which retail underlying	–	–	–	–	–
12	Of which wholesale	–	–	–	–	–
13	Of which re-securitisation	–	–	–	–	–
14	Of which senior	–	–	–	–	–
15	Of which non-senior	–	–	–	–	–

Following the implementation of the new securitization framework on 1 October 2022 the measurement approach for securitisations changed from the IRB approach to the standardised approach.

4. Credit risk

f	g	h	i	j	k	l	m	n	o	p	q
2022											
Exposure values (by regulatory approach)				RWA (by regulatory approach)				Capital charge after cap			
IRB RBA[1] (incl. IAA[2])	IRB SFA[3]	SA[4]/SSFA[5]	1 250%	IRB RBA (incl. IAA)	IRB SFA	SA/SSFA	1 250%	IRB RBA (incl. IAA)	IRB SFA	SA/SSFA	1 250%
Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm
–	–	689	–	–	–	535	–	–	–	43	–
–	–	689	–	–	–	535	–	–	–	43	–
–	–	689	–	–	–	535	–	–	–	43	–
–	–	689	–	–	–	535	–	–	–	43	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
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–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–

f	g	h	i	j	k	l	m	n	o	p	q
2021											
Exposure values (by regulatory approach)				RWA (by regulatory approach)				Capital charge after cap			
IRB RBA[1] (incl. IAA[2])	IRB SFA[3]	SA[4]/SSFA[5]	1 250%	IRB RBA (incl. IAA)	IRB SFA	SA/SSFA	1 250%	IRB RBA (incl. IAA)	IRB SFA	SA/SSFA	1 250%
Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm
816	–	–	–	3 937	–	–	–	315	–	–	–
816	–	–	–	3 937	–	–	–	315	–	–	–
816	–	–	–	3 937	–	–	–	315	–	–	–
816	–	–	–	3 937	–	–	–	315	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
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–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–

[1] RBA: ratings-based approach.
[2] IAA: Internal assessment approach.
[3] SFA: supervisory formula approach.
[4] SA: standardised approach.
[5] SSFA: simplified supervisory formula approach.

4. Credit risk

Securitisation exposures in the banking book and associated RC requirements – bank acting as investor [SEC4]

		a	b	c	d	e
		2022				
		Exposure values (by risk-weight (RW) bands)				
		≤20% RW Rm	>20% to 50% RW Rm	50% to 100% RW Rm	>100% to <1 250% RW Rm	1 250% RW Rm
1	**Total exposures**	**358**	**–**	**–**	**–**	**–**
2	Traditional securitisation	358	–	–	–	–
3	Of which securitisation	358	–	–	–	–
4	Of which retail underlying	–	–	–	–	–
5	Of which wholesale	358	–	–	–	–
6	Of which re-securitisation	–	–	–	–	–
7	Of which senior	–	–	–	–	–
8	Of which non-senior	–	–	–	–	–
9	Synthetic securitisation	–	–	–	–	–
10	Of which securitisation	–	–	–	–	–
11	Of which retail underlying	–	–	–	–	–
12	Of which wholesale	–	–	–	–	–
13	Of which re-securitisation	–	–	–	–	–
14	Of which senior	–	–	–	–	–
15	Of which non-senior	–	–	–	–	–

		a	b	c	d	e
		2021[1]				
		Exposure values (by risk-weight (RW) bands)				
		≤20% RW Rm	>20% to 50% RW Rm	50% to 100% RW Rm	>100% to <1 250% RW Rm	1 250% RW Rm
1	Total exposures	–	–	–	–	–
2	Traditional securitisation	–	–	–	–	–
3	Of which securitisation	–	–	–	–	–
4	Of which retail underlying	–	–	–	–	–
5	Of which wholesale	–	–	–	–	–
6	Of which re-securitisation	–	–	–	–	–
7	Of which senior	–	–	–	–	–
8	Of which non-senior	–	–	–	–	–
9	Synthetic securitisation	–	–	–	–	–
10	Of which securitisation	–	–	–	–	–
11	Of which retail underlying	–	–	–	–	–
12	Of which wholesale	–	–	–	–	–
13	Of which re-securitisation	–	–	–	–	–
14	Of which senior	–	–	–	–	–
15	Of which non-senior	–	–	–	–	–

[1] No comparative data for December 2021 due to the reclassification of a traditional securitization scheme investment from the BA 200 to the BA 500 effected in the March 2022 reporting period.

4. Credit risk

f	g	h	i	j	k	l	m	n	o	p	q
2022											
Exposure values (by regulatory approach)				RWA (by regulatory approach)				Capital charge after cap			
IRB RBA[1] (incl. IAA[2])	IRB SFA[3]	SA[4]/SSFA[5]	1 250%	IRB RBA (incl. IAA)	IRB SFA	SA/SSFA	1 250%	IRB RBA (incl. IAA)	IRB SFA	SA/SSFA	1 250%
Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm
–	–	358	–	–	–	42	–	–	–	3	–
–	–	358	–	–	–	42	–	–	–	3	–
–	–	358	–	–	–	42	–	–	–	3	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	358	–	–	–	42	–	–	–	3	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–

f	g	h	i	j	k	l	m	n	o	p	q
2021											
Exposure values (by regulatory approach)				RWA (by regulatory approach)				Capital charge after cap			
IRB RBA[1] (incl. IAA[2])	IRB SFA[3]	SA[4]/SSFA[5]	1 250%	IRB RBA (incl. IAA)	IRB SFA	SA/SSFA	1 250%	IRB RBA (incl. IAA)	IRB SFA	SA/SSFA	1 250%
Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm	Rm
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
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–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–

[1] RBA: ratings-based approach.
[2] IAA: Internal assessment approach.
[3] SFA: supervisory formula approach.
[4] SA: standardised approach.
[5] SSFA: simplified supervisory formula approach.

4. Credit risk

4.9 Equity investment risk

Equity investment risk refers to the risk of adverse changes in the value of listed and unlisted equity investments. These investments are longer-term investments held in the banking book for non-trading purposes.

The Group's governance of equity investments is based on the following fundamental principles:

- A formal approval governance process.
- Key functional specialists reviewing investment proposals.
- Adequate monitoring and control after the investment decision has been implemented.
- Implementation of best practice standards based on current market trends, hurdle rates and benchmarks.

Criteria considered for transactions cover a comprehensive set of financial, commercial, legal and technical (where required) considerations. The performance of these investments is monitored relative to the portfolio's objectives.

The Group uses the market-based simple risk-weight approach for the calculation of RC on its equity positions and look-through approach for equity investments in funds.

Equities under the simple risk-weight method [CR10]

	2022				
	On-balance sheet amount Rm	Off-balance sheet amount Rm	Risk weight %	Exposure amount Rm	RWA Rm
Exchange-traded equity exposures	213		300	213	602
Private equity exposures	2 628		400	2 628	11 031
Total	**2 841**			**2 841**	**11 633**

	2021				
	On-balance sheet amount Rm	Off-balance sheet amount Rm	Risk weight %	Exposure amount Rm	RWA Rm
Exchange-traded equity exposures	496		300	496	1 611
Private equity exposures	2 731		400	2 731	11 585
Total	3 227			3 227	13 196

5. Market risk

5. Market risk

Market risk is the risk of the Group's earnings or capital being adversely impacted due to changes in the level or volatility of prices affecting the positions across the Group.

5.1 Governance

5.1.1 Structure

Market risk is structured by asset class for South Africa and geographically for ARO with assigned analysts responsible for ensuring trading activity occurs within approved limits and that VaR results are accurate. The RTO for market risk is responsible for oversight of all market risk across the Group.

The market risk function interacts daily with the product control group (reporting into the CIB Chief Financial Officer and responsible for daily profit and loss, profit and loss attribution and independent price testing), the front office traders and desk heads and credit risk or country risk analysts (where appropriate). Daily reports are sent to the CIB CRO and front office detailing limit utilisation, limit breaches, VaR/sVaR and commentary, where relevant.

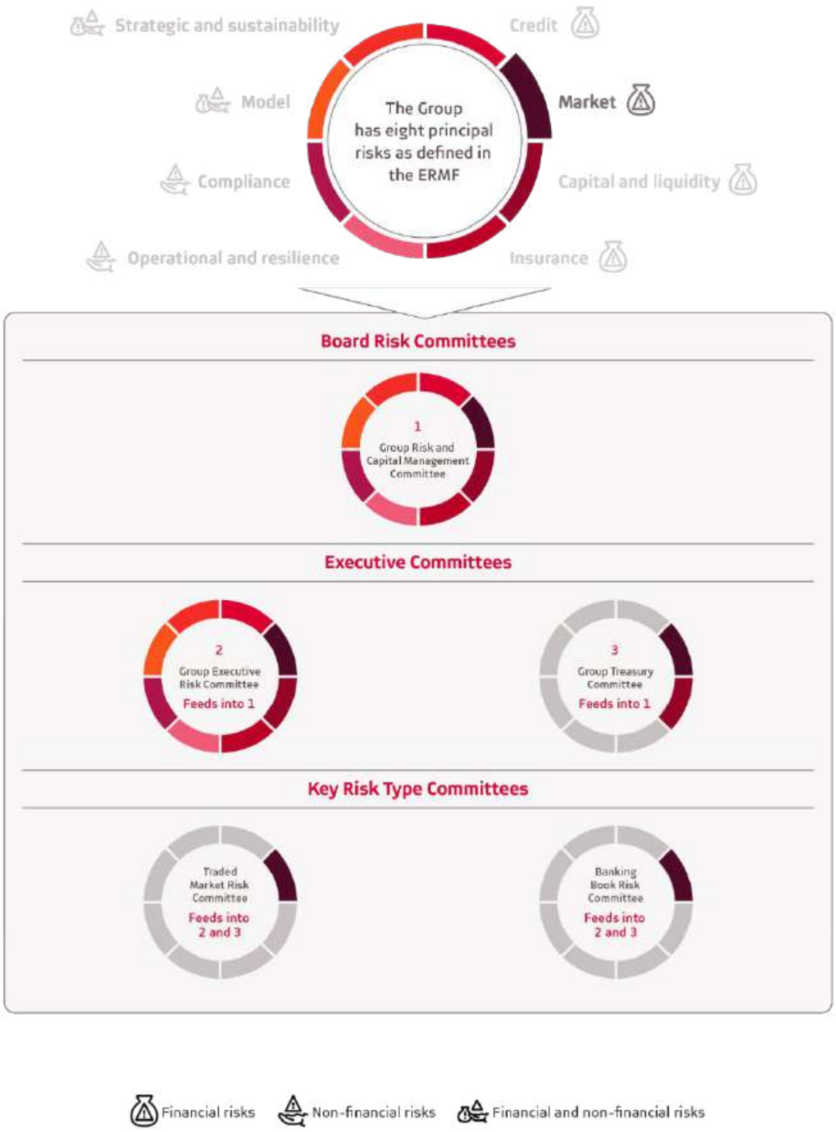
The TMRC provides oversight of the Group's market risk profile and reports into the ERC. The TMRC has the capacity and mandate to act as a forum where committee members ensure that both risk coverage and limit frameworks remain appropriate.

The GCRO presents the Group's market risk profile, alongside the other risk types as specified by the ERMF, to the GRCMC.

5.1.2 Committees

Market risk committees operate at business unit and group-level. These committees set secondary limits and review actual exposure from positions, risks, stresses, EC, EaR, RWA and capital across all asset classes against these limits. A risk summary is then presented at the TMRC including the risk profile report tabled at the GRCMC meeting.

The key committees involved in the governance of market risk are depicted below:



5. Market risk

5.2 Trading book risk

Trading book risk is the market risk resulting from trading activities booked in trading books across the Group in accordance with regulatory requirements.

5.2.1 Review of current reporting period

Key risk metrics	2022	2021
Average traded market risk – 99% value at risk (VaR) (Rm)	56.5	51.9
Traded market risk EC (Rbn)	5.1	6.5
Trading book risk RWA (Rbn)	38.9	39.2

- The increase in average VaR was caused by increased volatility in the time series over the year and reduced liquidity, which primarily affected interest rate products. This was caused by uncertainty in the market as inflation continued to rise, central banks acting aggressively in raising interest rates, and reducing market liquidity.
- The EC model was enhanced at the beginning of 2022 to align with the Group's EC standard, specifically introducing diversification into the model and improving the default risk charge modelling assumptions. In addition, a reduction in ARO portfolio risk decreased the default risk charge, resulting in a further reduction in the EC.
- RWAs reduced in line with lower holdings of sovereign bonds by ARO, which are capitalised under the standardised approach. ARO countries reduced their inventory as higher inflation increased yields and the uncertainty around central banks' ability to repay debt.

5.2.2 Priorities

- Monitor and manage daily risk-taking and loss thresholds in volatile and often illiquid markets, which continue to face events that could cause a significant economic impact in a short period.
- Increase focus on market liquidity and ensuring limits align with the ability to exit risk.
- Manage capital demand within the Group's risk appetite through close engagement with business.
- Conduct business and product impact assessments and engagement with industry and regulatory forums to assess the impact of the Basel Standard: Minimum Capital Requirements for market risk (also known as the FRTB), issued in January 2019.
- Maintain the momentum of the FRTB project to prepare the Group for meeting the regulatory reporting deadline of 1 January 2024 in South Africa.

5.2.3 General information about market risk [MRA and MRB]

5.2.3.1 Risk identification and management

The market risk RTO reports to the GCRO and is responsible for establishing the Market Risk framework and overseeing market risk across the Group. The market risk teams are responsible for the setting and monitoring of market risk limits for the business units, in line with the Group risk appetite and Market Risk Framework and report directly to the market risk RTO. These teams ensure that risks are managed within set limits and thresholds, including VaR, sensitivity, loss threshold and stress testing. Aggregate limits and thresholds are reviewed and set at the Group level and allocated to business units at least annually. The first line of defence for market risk management resides with the respective business unit heads. Governance committees include the market risk committee (TMRC) and the Group Non – Traded Market Risk committee (GNTMRC).

Market risk management objectives are to:

- Embed appropriate models to measure risk.
- Ensure risk is managed within the Group's risk appetite by monitoring risk against the limit and appetite framework.
- Understand risk sensitivity and the impact of volatility on the portfolio.
- Understand concentration risk, market liquidity, risk correlations and basis risk across the portfolio.
- Utilise stress testing and empirical analytics to supplement model-based risk management.

The Group aims to manage market risk in a way that limits earnings volatility and ensures risk utilisation is within the Group's allocated risk appetite. The Group takes on market risk to support the needs of its customers to facilitate market liquidity as a market maker and leverage short-term market mispricing. Market risk is controlled by risk management frameworks, polices and standards, supported by daily limit monitoring.

Several techniques are used to measure and control market risk. These include:

- VaR-based measures including sVaR, supported by model backtesting.
- Tail metrics.
- Position and sensitivity metrics.
- Stress testing.
- EAD risk monitoring.
- Standardised general and specific risk.
- EC and EaR.
- Valuation control, independent price and bid-offer testing conducted by the independent valuation control team within product control.

A limit structure is in place for each of the above metrics. These are set and reviewed at least annually to control the Group's trading activities, in line with the allocated risk appetite. The criteria for allocating risk limits to businesses include relevant market analysis, market liquidity and business strategy.

5. Market risk

VaR[1]

VaR is an estimate of the potential loss that may arise from unfavourable market movements if current positions were to be held unchanged for one business day.

The Group uses an internal VaR model based on the historical simulation method to derive the quantitative market risk measures under normal conditions. The VaR model utilises a two-year data history of unweighted historical price and rate data and a holding period of one day with a confidence interval of 99%. Market and position data inputs are updated daily. The model uses both absolute and relative approaches to simulating potential movements in risk factors. The model is approved by the PA to calculate the RC for all trading book exposures, including foreign exchange and commodity risk in the banking book. The approval covers general position risk across interest rate, foreign exchange, commodity, equity and traded credit products risks. VaR is scaled up to the 10-day holding period (via a scalar assuming no autocorrelation to increase the holding period time horizon). The PA assigns a model multiplier to be used in the calculation of RC.

The historical simulation methodology can be split into three parts:

- Calculate hypothetical daily profit or loss for each position over the most recent two years, using observed daily market moves.
- Sum of all hypothetical profits or losses for day one across all positions, giving one total profit or loss. Repeated for all other days in the two-year history.
- VaR is the 99th percentile loss selected from the resultant two-year historically simulated strip of daily hypothetical net profits and losses.

While VaR is an important market risk measurement and control tool, it has a number of known limitations, namely:

- The historical simulation assumes that the past is a good representation of the future[2], which might not always be the case.
- The assumed time horizon does not fully capture the market risk of positions that cannot be closed out or hedged within this time horizon.
- The VaR may underestimate the severity of potential losses.
- The VaR is based on positions at the close of the business day. The intra-day risk or the risk from a position being bought and sold on the same day is not captured.
- Prudent valuation practices are used in the VaR calculation when it is difficult to obtain historical rates/price information.

Because of these limitations, tail risk metrics, stress testing and position and sensitivity measures are used to complement VaR in the management of market risk.

Backtesting[1]

The performance of the model is regularly assessed for continuous suitability. The main technique employed is backtesting, which counts the number of days where the daily trading losses exceed the corresponding VaR estimate. Backtesting measures the daily losses against VaR assuming a one-day holding period and a 99% level of confidence. Backtesting reports are monitored daily. Daily losses in excess of the VaR figure are likely to occur, on average, up to five times over the two-year period.

The Group conducts backtesting of the VaR risk measurement model against:

- The theoretical profit and loss representing the change in the value of the portfolio assuming that the portfolio holdings remain constant for the holding period.
- The actual profit and loss representing the actual daily trading outcome from price moves only (excluding fees, commissions, provisions, net interest income (NII) and the time value of money), as required for regulatory backtesting purposes.

Stressed value at risk (sVaR)[1]

The sVaR is an estimate of the potential loss arising from a 12-month period of significant financial stress. The sVaR internal model is approved by the PA to calculate the RC for all trading book exposures, including certain banking book exposures. The PA assigns a sVaR model multiplier to be used in the calculation of RC. The sVaR methodology is the same as that used to calculate VaR but is based on inputs calibrated to historical data from the chosen 12-month stress period. A regular process is applied to assess the stress period most relevant to the Bank's portfolio in accordance with the approved methodology. The sVaR RC requirement is calculated daily and is disclosed for the reporting period. Regulatory coverage and reporting of sVaR follows the same approach as VaR (refer to the disclosure above). The sVaR historical period remained 2008/2009.

Stress testing

Stress testing provides an indication of the potential size of losses that could occur in extreme conditions. Stress testing assists in identifying risk concentrations across business lines and assists senior management in making capital planning decisions. The Group performs two main types of stress/scenario testing:

- Risk factor stress testing is conducted by applying historical stress moves to each of the main risk categories (interest rate, equity, foreign exchange, commodity and credit spread risks) and is an estimate of potential losses that might arise from extreme market moves or scenarios to key liquid and illiquid risk factors.
- The trading book is subjected to multi-factor scenarios that simulate past periods of significant market disturbance and hypothetical extreme, yet plausible, events that may impact the market risk exposure across liquid and illiquid risk factors at the same time.

These are reported based on the concurrent aggregation of all risk factors including cross-risk factor effects. Scenarios are reviewed at least annually. A full revaluation approach is applied to undertake stress testing for South Africa's trading books and a sensitivity-based approach is used for ARO. The results are monitored against approved limits and thresholds.

Tail risk metrics

Tail risk metrics highlight the risk beyond the percentile selected for VaR. The two tail risk metrics chosen for daily monitoring, using the current portfolio and two years of unweighted historical market moves, are:

- The average of the worst three hypothetical losses from the historical simulation.
- Expected shortfall (also referred to as expected tail loss). This is the average of all hypothetical losses from the historical simulation beyond the 99th percentile used for the VaR.

[1] In line with regulatory requirements for public disclosures on the IMA, the sections on VaR, backtesting, tail metrics and sVaR specifically relate to the internal model used for the calculation of South Africa market risk RC.

[2] It is assumed the distribution of historical returns is the same as the distribution of future returns.

5. Market risk

Risk sensitivities and exposures

The risk sensitivity reporting covers non-statistical measures for calculating and monitoring risk sensitivities and exposures as well as gross notional limits, issuer risk limits and concentration exposure where appropriate. All asset classes and product types have risk sensitivity reporting and limit monitoring. These limits are aligned to VaR limits, but do not bear a direct linear relationship.

Standardised approach

General risk for ARO is quantified using standardised rules using the maturity method for general interest rate risk. In addition, the regulatory SA is used to calculate RC for any new products, which have not yet met PA requirements for inclusion within the approved internal model. This approach applies to CVA, asian and gap risk options and issuer-specific risk exposures.

Aggregation for capital calculation purposes

The Group uses the IMA to calculate capital for all products for which the PA granted approval. New products, or products for which PA approval has not been obtained, are capitalised under the SA for general risk.

Specific risk is calculated using the SA for all entities.

RC is calculated as a simple summation of the IMA and SA capital charges. No diversification between the methodologies is permitted.

5.2.3.2 Reporting

5.2.3.1 Risk reporting: Trading book risk

The Group's market risk function produces several daily and monthly market risk reports. The reports detail the positions, sensitivities and exposures, stress testing losses, VaR/sVaR, RWA and capital across all asset classes for the trading book. A risk summary is also presented at the TMRC and other governance committee meetings, as required, including the risk profile report tabled at the GRCMC meeting.

Market risk under SA [MR1]

		a 2021 RWA Rm	a 2021 RWA Rm
	Outright products		
1	Interest rate risk (general and specific)58F[1]	17 990	18 435
2	Equity risk (general and specific)	65	113
3	Foreign exchange risk	600	807
4	Commodity risk	-	-
	Options		
5	Simplified approach	-	-
6	Delta-plus method	260	338
7	Scenario approach	-	-
8	Securitisation	-	-
9	Total	18 915	19 693

Market risk under the IMA

This section relates to the trading books for which IMA approval is in place for the current and previous reporting period.

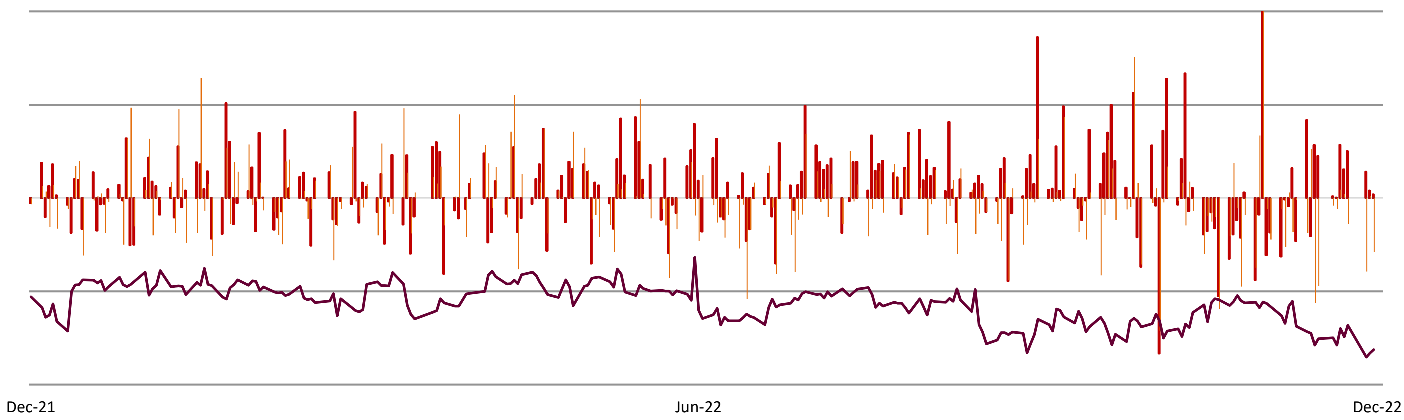
Comparison of VaR estimates with trading revenues

The following graph compares the total VaR estimates over a one-day holding period at a 99% confidence level with the daily revenues generated by the trading units. Actual profit and loss include fair value adjustments and reserves, which relate to instruments held at fair value according to IFRS 13, but excludes new deals, intra-day trading profit and loss, commissions and fees. Hypothetical profit and loss is calculated by the risk system holding positions static and revaluing them using the change in market rates, prices and volatilities across two days. The model covers 100% of the internal models approach capital requirement.

[1] General and specific risks are calculated separately as standalone charges without diversification.

5. Market risk

The Group's trading book revenue backtested against regulatory VaR (Rm) [MR4]



One hypothetical and two actual back testing exceptions occurred during the period. These were caused by heightened interest rate volatility and yield curve changes as central banks attempt to maintain inflation within their policy bands by aggressively raising interest rates.

RWA flow statements of market risk exposures under IMA [MR2]

		a	b	c	d	e	f
		2022					
		VaR Rm	sVaR Rm	IRC[1] Rm	CRM Rm	Other Rm	Total RWA Rm
1	RWA at previous quarter end	8 749	8 688	-	-	-	17 437
2	Movements in risk levels	943	1 587	-	-	-	2 530
3	Model updates/changes	-	-	-	-	-	-
4	Methodology and policy	-	-	-	-	-	-
5	Acquisitions and (disposals)	-	-	-	-	-	-
6	Other	-	-	-	-	-	-
7	RWA at end of reporting period	9 692	10 275	-	-	-	19 967

		a	b	c	d	e	f
		2021					
		VaR Rm	sVaR Rm	IRC[1] Rm	CRM Rm	Other Rm	Total RWA Rm
1	RWA at previous quarter end	8 749	8 688	-	-	-	17 437
2	Movements in risk levels	430	(660)	-	-	-	(229)
3	Model updates/changes	-	-	-	-	-	-
4	Methodology and policy	-	-	-	-	-	-
5	Acquisitions and (disposals)	-	-	-	-	-	-
6	Other	-	-	-	-	-	-
7	RWA at end of reporting period	8 244	11 245	-	-	-	19 490

[1]IRC: incremental risk charge.

5. Market risk

IMA values for trading portfolios [MR3]

		a 2022 Rm	a 2021 Rm
VaR (10 day 99%)60F[1]			
1	Maximum value	270	264
2	Average value	179	164
3	Minimum value	101	97
4	Period end	257	168
Stressed VaR (10 day 99%)[1]			
5	Maximum value	345	385
6	Average value	204	249
7	Minimum value	108	152
8	Period end	238	206
Incremental risk charge (IRC) (99.9%)			
9	Maximum value	-	-
10	Average value	-	-
11	Minimum value	-	-
12	Period end	-	-
Comprehensive risk capital charge (99.9%)			
13	Maximum value	-	-
14	Average value	-	-
15	Minimum value	-	-
16	Period end	-	-
17	Floor (standardised measurement method)	-	-

[1] One-day VaR scaled to 10 days by multiplying the one-day VaR by square root of 10. The same approach is applied for sVaR.

5. Market risk

5.2.3.2 Additional disclosures

Analysis of market risk exposure

The following table reflects the VaR and expected shortfall statistics for trading book activities as measured by the IMA for general trading position risk:

Trading book management VaR summary[1]

	2022				2021			
	Average Rm	High[2] Rm	Low[2] Rm	At the reporting date Rm	Average Rm	High[2] Rm	Low[2] Rm	At the reporting date Rm
Interest rate risk	67	135	40	97	57	175	26	63
Foreign exchange risk	15	38	4	38	22	59	5	14
Equity risk	15	28	6	11	11	31	3	17
Commodity risk	1	3	-	1	1	5	-	1
Inflation risk	48	74	24	68	36	118	13	44
Credit spread risk	9	12	5	5	10	12	8	9
Diversification effect	(99)	-	-	(140)	(85)	-	-	(94)
Total VaR[3]	56	85	32	81	52	83	31	54
Expected shortfall	92	309	60	111	81	222	42	70
Regulatory VaR[4]	56	85	32	81	52	83	31	53
Regulatory sVaR[3]	65	109	34	75	79	122	48	65

The increase in average VaR was caused by increased volatility in the timeseries over the year and reduced liquidity, primarily affecting interest rate products. This was caused by uncertainty in the market as inflation continued to rise, central banks acted aggressively in raising interest rates and market liquidity reduced.

[1] VaR at 99% confidence level and a two-year historical time series for businesses with IMA approval.

[2]The high and low VaR figures reported for each category did not necessarily occur on the same day as the high (and low) total VaR. Consequently, a diversification effect number for the high (and low) VaR figures would not be meaningful and is therefore omitted.

[3]The analysis includes trading books for which internal model approval was obtained.

[4]Regulatory VaR and sVaR are reported with a one-day holding period at a 99% confidence level. The sVaR period is subject to quarterly reviews for appropriateness.

5. Market risk

5.3 Banking book risk

Banking book risk is the risk that the Group's current or projected financial condition and resilience might be adversely affected by changes in interest rate levels, yield curves and spreads. This risk arises in the banking book, due to re-pricing differences between assets, liabilities and equity, and also includes funding spread risk and foreign exchange rate risk.

5.3.1 Review of current reporting period

Key risk metrics	2022	2021
Banking book net interest income (NII) sensitivity for a 2% increase shock in interest rates (Rm)	1 099	1 216
South Africa	629	414
ARO	470	802
Banking book NII sensitivity for a 2% downward shock in interest rates (Rm)	(1 527)	(1 668)
South Africa	(614)	(700)
ARO	(913)	(968)
Banking book risk EC (Rbn)	7.8	7. 7[1]

- The Group remained positively positioned for an increase in policy rates post the discipline of proactively hedging its structural, fixed and margin risks to reduce NII volatility where possible.
- Group interest rate risk sensitivity for a 200bps rate hike was reported at R1.1bn in December 2022 (31 December 2021: R1.2bn).
- The overall reduction in NII sensitivity was ascribed to the changes in balance sheet composition within ARO.
- In South Africa NII sensitivity increased by a smaller degree following growth in overnight repricing rate sensitive assets, and the maturity of once off interest rate derivative hedges that were executed during COVID-19 to protect business units against extremely low levels of policy rates.

5.3.2 Priorities

- Continue to proactively manage interest rate risk within the organisation's risk appetite.
- Deliver margin stability through sound risk management processes, such as the structural hedge programme in South Africa, and through appropriate asset and liability management processes in ARO.
- Assess and prepare the Group for the changes in the interest rate risk profile due to benchmark reforms efforts in South Africa.
- Embed the new regulatory Basel III finalisation metrics and prepare the Group for future disclosure requirements.

5.3.3 General information about banking book risk [IRRBBA]

Banking book risk is the risk that the Group's financial position might be adversely affected by changes in interest rate levels, yield curves and spreads. This risk arises in the banking book due to repricing differences between assets, liabilities and equity, originating from the provision of retail and wholesale banking products and services (considered core banking activities), together with certain rate-insensitive exposures in the balance sheet. This risk impacts both the earnings and economic value of the Group.

The Group's objective for the management of banking book risk is to ensure a higher degree of interest rate margin stability and reduced interest rate risk over an interest rate cycle. This is achieved by transferring the interest rate risk from the business to local treasury or Group Treasury, which is mandated to hedge material net exposures with the external market. This allows risk to be managed centrally and holistically for the Group.

These risk positions are managed mainly through the use of derivative instruments such as interest rate swaps, or appropriate balance sheet optimisation. Residual interest rate risk may remain in treasury due to risks that are not viable to hedge in external markets. A limit framework is in place to ensure that the retained risk remains within approved risk appetite.

The techniques used to measure and monitor banking book risk include:

- Repricing profiles
- Annual earnings at risk (EaR)/NII sensitivity
- VaR and other tail metrics
- Economic capital
- Economic value of equity (EVE) sensitivity
- Stress testing

VaR, supporting metrics and stresses are reported daily for Group Treasury and the ARO businesses, with the exception of two businesses where reporting is done monthly. The repricing profiles, EaR, EVE sensitivity and stress results are reported monthly for both Group Treasury and ARO. Limits are set and monitored through the formal governance process.

Repricing profiles

To generate repricing profiles, instruments are allocated to time periods with reference to the earlier of the next contractual interest rate repricing date and the maturity date. The repricing profiles considers the assumed behavioural profile of structural product balances.

[1] The December 2021 metric was restated to correct an error identified in the previously reported number.

5. Market risk

EaR/NII sensitivity

EaR/NII sensitivity measures the sensitivity of NII over the next 12 months to a specified shock in interest rates. EaR is monitored against approved internal limits. Foreign exchange risk arising on the banking book is transferred from business to treasury and hedged in the external market.

VaR

VaR calculated at a 99% confidence level is used for measuring banking book risk. The VaR is monitored against approved internal limits and is used as a complementary metric to EaR. The VaR is supplemented by non-VaR, stress and tail metrics.

EVE sensitivity

EVE sensitivity measures the sensitivity of the present value of the banking book at a specific point in time to a specified shock to the yield curve. EVE sensitivity is measured against regulatory guidelines and approved internal limits.

Stress testing

Stress testing is tailored to each banking book and consists of a combination of stress scenarios and historical stress movements applied to the respective banking books.

Impact on earnings

The following table depicts the impact on EaR/NII for 100 and 200bps up and down movements in market interest rates for the Group's banking books. Assuming no management action is taken in response to market interest rate movements, a hypothetical, immediate and sustained parallel decrease of 200 bps in all market interest rates would, at the reporting date, result in a pre-tax reduction in projected 12-month NII of R1.527bn (2021: R1.688bn). A similar increase would result in an increase in projected 12-month NII of R1 098m (2021: R1 216m). On this basis, EaR expressed as sensitivity to a 200bps parallel decrease in all market interest rates decreased to 2.5% of the Group's NII.

EaR for 100 and 200bps changes in market interest rates

	2022			
	200 bps decrease	100 bps decrease	100 bps increase	200 bps increase
South Africa90F (Rm) 90F[1]	(614)	(296)	318	629
ARO (Rm)[2]	(913)	(380)	235	470
Total (Rm)	(1 527)	(676)	553	1 099
Percentage of the Group's NII (%)	(2.5)	(1.5)	0.9	1.8
Percentage of the Group's equity (%)	(1.0)	(0.5)	0.4	0.7

	2021			
	200 bps decrease	100 bps decrease	100 bps increase	200 bps increase
South Africa[1] (Rm)	(700)	(290)	209	414
ARO[2] (Rm)	(968)	(506)	401	802
Total (Rm)	(1 688)	(796)	610	1 216
Percentage of the Group's NII (%)	(3.2)	(1.5)	1.2	2.3
Percentage of the Group's equity (%)	(1.1)	(0.5)	0.4	0.8

[1] Includes exposures held in the CIB banking book.

[2] ARO interest rate sensitivities are shown on a 100% (rather than actual) shareholding basis.

6. Capital and liquidity risk

6. Capital and liquidity risk

Capital and liquidity risk is the risk and related constraints, which support the effective management of the Group's financial resources, among others, capital, liquidity and pension, critical to meeting the Group's strategic objectives. This includes pension risk as a risk in the event that a capital injection is required with respect to defined benefit plans.

6.1 Overview of capital and liquidity risk management and key prudential metrics

The approach to managing capital and liquidity risk is aligned to the principles defined in the Enterprise Risk Management Framework. The second line of defence is responsible for preparing the policies that detail responsibilities, activities and governance arrangements for managing and mitigating capital and liquidity risk. It also sets the risk appetite and monitors the capital and liquidity risk profile for Group Treasury and first line of defence activities.

The Group Treasury Committee/ARO Treasury Committee review and approve the capital and liquidity risk appetite at least annually. In addition, capital and liquidity risk appetite statements classified as Board level are submitted to the Group GRCMC for review and recommended to the Board for final approval. The ERC reviews and approves allocations of capital and liquidity risk appetite to risk types, legal entities and business areas.

Risk metrics are forecast as part of the annual integrated planning cycle or when necessary to ensure that the Group has adequate financial resources to support its strategic objectives. The metrics are monitored dynamically and in line with the nature of each of the underlying risks. Capital and liquidity buffers are informed by internal stress tests conducted by finance, treasury and risk functions to test the resilience of business, capital and funding plans against adverse events and scenarios, together with daily monitoring of active portfolios (e.g. the liquid asset portfolio and structural hedge).

Risk management and mitigation activities are monitored by the appropriate executive oversight committee and include:

- Proactive management of the amount, tenor and composition of capital and funding for strategy execution.
- Daily monitoring of active portfolios (e.g. the liquid asset portfolio and structural hedge).

6. Capital and liquidity risk

6.1.1 Key BCBS metrics (at consolidated **Group** level) [KM1][1, 2]

		a	b	c	d	e
		31 December 2022	30 September 2022	30 June 2022	31 March 2022	31 December 2021
Available capital (Rm)						
1	CET1	120 374	115 240	112 630	110 721	114 080
2	Tier 1	136 619	130 587	129 460	126 582	131 059
3	Total capital	158 767	153 444	149 576	146 583	153 534
RWA (Rm)						
4	Total RWA	1 007 993	1 002 540	948 670	923 058	931 524
Risk-based capital ratios as a percentage of RWA (%)						
5	CET1 ratio	11.9	11.5	11.9	12.0	12.2
6	Tier 1 ratio	13.6	13.0	13.6	13.7	14.1
7	Total capital ratio	15.8	15.3	15.8	15.9	16.5
Additional CET1 buffer requirements as a percentage of RWA (%)						
8	Capital conservation buffer requirement (2.5% from 2019)	2.5	2.5	2.5	2.5	2.5
9	Countercyclical buffer requirement[3]	–	–	–	–	–
10	Global systemically important banks (G-SIB) and/or domestic systemically important banks (D-SIB) additional requirements	1.0	1.0	1.0	1.0	1.0
11	Total of bank CET1 specific buffer requirements (Row 8 + row 9 + row 10)	3.5	3.5	3.5	3.5	3.5
12	CET1 available after meeting the bank's minimum capital requirements	3.4	3.0	3.4	3.5	4.2
Basel III leverage ratio						
13	Total Basel III leverage ratio exposure measure (Rm)	1 848 607	1 883 283	1 829 289	1 705 152	1 716 289
14	Basel III leverage ratio (%) (row 2 / row 13)	7.4	6.9	7.1	7.4	7.6
LCR						
15	Total high-quality liquid assets (HQLA) (Rm)	240 876	241 373	220 072	211 840	206 880
16	Total net cash outflow (Rm)	193 299	186 811	181 679	177 802	177 075
17	LCR (%)	124.6	129.2	121.1	119.1	116.8
NSFR						
18	Total ASF (Rm)	1 081 483	1 058 319	1 030 521	973 930	1 003 311[4]
19	Total RSF (Rm)	954 103	947 805	911 668	855 523	864 061[4]
20	NSFR (%)	113.4	111.7	113.0	113.8	116.1

[1] The fully loaded accounted ECL basis has been fully transitioned in.

[2] The numbers are excluding unappropriated profits.

[3] The countercyclical buffer in South Africa is currently zero.

[4] The December 2021 NSFR ASF and RSF was restated to reflect a change in the Bank's statement of financial position.

6. Capital and liquidity risk

6.1.2 Key BCBS metrics (at consolidated **Bank** level) [KM1][1]

		a	b	c	d	e
		31 December 2022	30 September 2022	30 June 2022	31 March 2022	31 December 2021
Available capital (Rm)						
1	CET1	**79 249**	75 009	75 582	75 821	74 819
2	Tier 1	**94 334**	88 666	90 797	90 215	90 248
3	Total capital	**112 887**	108 002	106 806	107302	109 967
RWA (Rm)						
4	Total RWA	**662 093**	654 895	628 228	628 390	629 980
Risk-based capital ratios as a percentage of RWA (%)						
5	CET1 ratio	**12.0**	11.5	12.0	12.1	11.9
6	Tier 1 ratio	**14.2**	13.5	14.5	14.4	14.3
7	Total capital ratio	**17.0**	16.5	17.0	17.1	17.5
Additional CET1 buffer requirements as a percentage of RWA (%)						
8	Capital conservation buffer requirement (2.5% from 2019)	**2.5**	2.5	2.5	2.5	2.5
9	Countercyclical buffer requirement66F[2]					
10	Global systemically important banks (G-SIB) and/or domestic systemically important banks (D-SIB) additional requirements	**1.0**	1.0	1.0	1.0	1.0
11	Total of bank CET1 specific buffer requirements (Row 8 + row 9 + row 10)	**3.5**	3.5	3.5	3.5	3.5
12	CET1 available after meeting the bank's minimum capital requirements	**3.5**	3.0	3.5	3.6	3.4
Basel III leverage ratio						
13	Total Basel III leverage ratio exposure measure (Rm)	**1 543 179**	1 558 417	1 537 928	1 450 804	1 435 823
14	Basel III leverage ratio (%) (row 2 / row 13)	**6.1**	5.7	5.9	6.2	6.3
LCR						
15	Total high-quality liquid assets (HQLA) (Rm)	**208 117**	212 724	191 019	186 662	182 584
16	Total net cash outflow (Rm)	**161 347**	160 215	155 817	152 760	146 705
17	LCR (%)	**129.0**	132.8	122.6	122.2	124.5
NSFR						
18	Total ASF (Rm)	**895 668**	871 027	857 843	814 099	821 600[3]
19	Total RSF (Rm)	**825 800**	814 313	790 522	751 037	746 370[3]
20	NSFR (%)	**108.5**	107.0	108.5	108.4	110.1

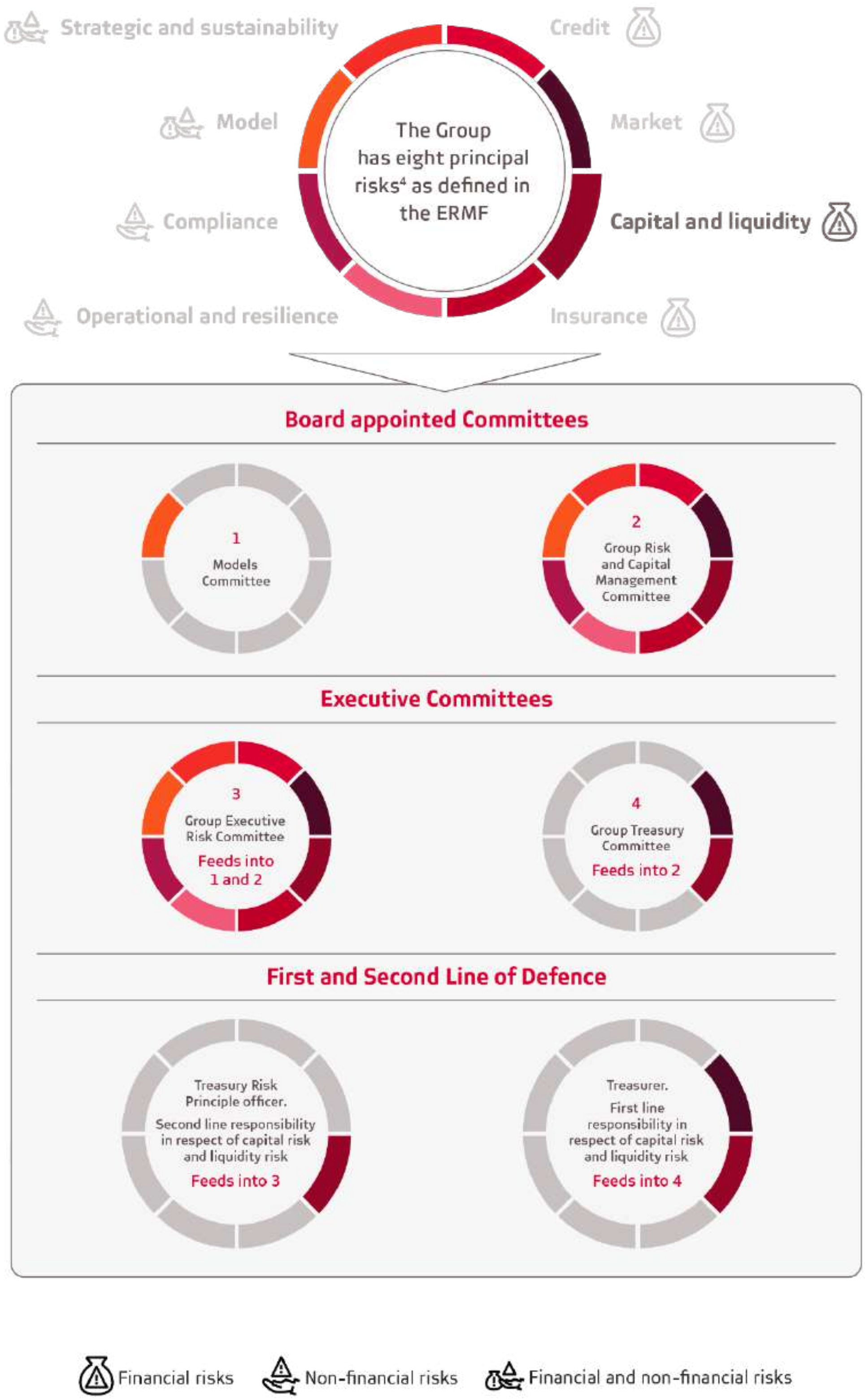
[1] The fully loaded accounted ECL basis has been fully transitioned in.
[2] The countercyclical buffer in South Africa is currently zero.
[3] The December 2021 NSFR ASF and RSF was restated to reflect a change in the Bank's statement of financial position.

6. Capital and liquidity risk

6.1.3 Governance

A set of policies and standards, with an overarching framework, is used with the ERMF to manage and govern capital and liquidity risks. The Capital and Liquidity Risk Framework includes key control objectives that must be met. The liquidity, capital risk and pension risk policies outline a minimum set of standards and requirements that should be maintained for the management of these risks, encompassing planning, limit setting, stress testing, contingency and recovery planning.

The committee structure used to govern decisions relating to capital and liquidity risk is outlined below:



6. Capital and liquidity risk

6.2 Capital risk

Capital risk is the risk that the Group has an insufficient level or inappropriate composition of capital to support its normal business activities and to remain within its Board-approved capital target ranges under normal operating conditions or above regulatory capital requirements under stressed conditions.

6.2.1 Review of the current reporting period

Key risk metrics	2022	2021
Total EC (Rbn)	108.7	103.9[1]
Total RWA (Rbn)	1 008.0	931.5
CET1 capital adequacy ratio (%)[2]	12.8	12.8
EC coverage	1.6	1.5
Leverage ratio (%)[2]	7.8	7.9
Cost of equity (CoE) (%)[3]	14.5	14.5

- The Group's capital position remained strong, with CET1 above the upper end of the Board target range of 11.0% to 12.5%, and well above minimum regulatory requirements, as at 31 December 2022 (including the reinstatement of the Pillar 2A requirement from 1 January 2022, which added 100bps to the minimum capital requirement).
- Robust balance sheet growth, resulted in an RWA increase of R76.5bn.
- The Group called:
  - Additional Tier 1 capital instruments amounting to R1.5bn and issued additional Tier 1 amounting to R2.0bn.
  - Tier 2 capital instruments amounting to R2.2bn and issued a Tier 2 qualifying green bond amounting to R1.9bn.
- ARO entities were adequately capitalised and remained above local minimum regulatory requirements.
- The leverage ratio remained above its Board target range and growth in Tier 1 capital supported year-on-year leverage exposure growth in the balance sheet.
- Following an assessment of the financial market landscape, the Group's cost of equity remained unchanged at 14.5%.

6.2.2 Priorities

- Create sustainable value for shareholders while maintaining sufficient capital supply for growth, with capital ratios within the Board-approved risk appetite and above minimum levels of regulatory capital.
- Remain above the minimum Board capital targets and maintain a sustainable dividend pay-out-ratio.
- Monitor and assess upcoming regulatory developments that may affect the capital position, including Basel III finalisation, along with FRTB; the proposed amendments to the regulations relating to banks; the Resolution Framework; and the Financial Conglomerate Supervisory Framework in South Africa.
- Prioritise the issuance of first loss after capital instruments following the promulgation of the Financial Sector Laws Amendment Bill.
- Appropriately deploy and repatriate capital to and from subsidiaries.
- Monitor and execute opportunities to raise tier 2 capital and/or additional tier 1 instruments in domestic and/or international markets to optimise the level and mix of capital resources.

6.2.3 General information about capital risk

6.2.3.1 Risk identification and management

The Group's capital management strategy, which supports and aligns with the Group's strategy, is to create sustainable value for shareholders within approved risk appetite through effective financial resource management.

The Group's capital management objectives are to:

- Maintain an adequate level of capital resources in excess of regulatory requirements and within capital targets, by optimising capital resources and raising capital where required.
- Ensure efficient deployment of capital to legal entities in the Group.
- Assess, manage and efficiently implement regulatory changes to optimise capital usage.

Various processes play a role in ensuring that the Group's capital management objectives are met, including ICAAP, stress testing and recovery and resolution planning.

[1] The December 2021 metric was restated to correct an error identified in the previously reported number.

[2] Includes unappropriated profits.

[3] The CoE is based on the capital asset pricing model.

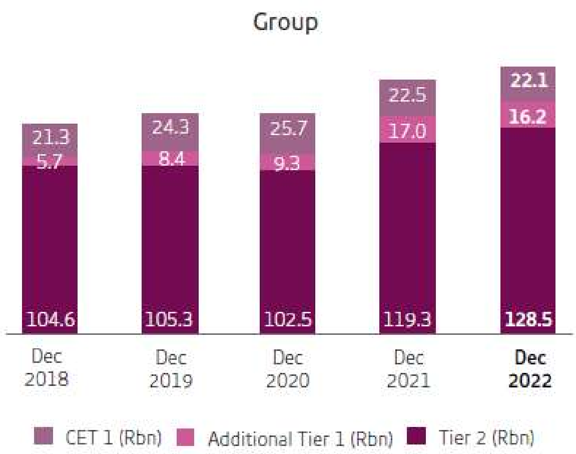
6. Capital and liquidity risk

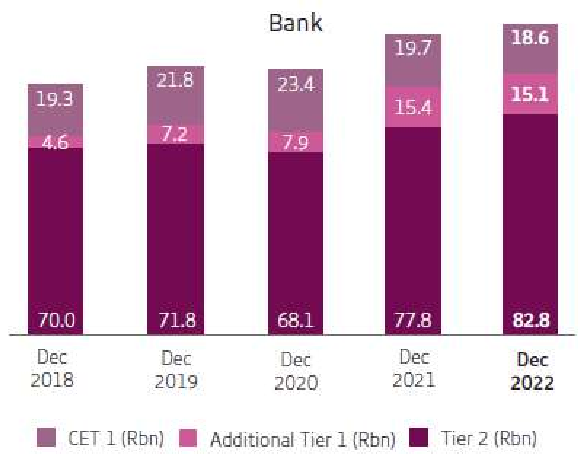
6.2.3.2 Reporting

Capital adequacy

	Board target ranges[1]	Minimum RC requirements[2]	2022 Group performance	2021 Group performance	2022 Bank performance	2021 Bank performance
Statutory capital ratios (includes unappropriated profits) (%)						
CET1	11.0 – 12.5		12.8	12.8	12.5	12.4
Tier 1	>12.0		14.4	14.6	14.8	14.8
Total CAR	>14.5		16.6	17.0	17.6	17.9
Leverage	5.5 – 7.5		7.8	7.9	6.3	6.5
Regulatory capital ratios (excludes unappropriated profits) (%)						
CET1		8.0	11.9	12.2	12.0	11.9
Tier 1		10.3	13.6	14.1	14.2	14.3
Total CAR		12.5	15.8	16.5	17.0	17.5
Leverage		4.0	7.4	7.6	6.1	6.3

Qualifying capital (including unappropriated profits)





Group[3] 2018	2019	2020	2021	2022		Bank 2018	2019	2020	2021	2021
12.8	12.1	11.2	12.8	12.8	CET1 ratio (%)	12.3	11.9	10.6	12.4	12.5
16.1	15.8	15.0	17.0	16.6	Total capital adequacy ratio (%)	16.5	16.7	15.6	17.9	17.6

[1] Capital ratios (including unappropriated profits) are managed against Board capital target ranges. The Absa Bank Limited CET1 Board target range is 10.5% to 12.0%.

[2] The 2022 minimum total regulatory capital adequacy requirement of 12.5% includes the capital conservation buffer, Pillar 2A and the D-SIB add-on but excludes the bank specific individual capital requirement (Pillar 2B add-on) as required by regulatory guidance.

[3] The historical normalised Group CET1 ratios were 11.8% in December 2019, 12% in December 2018, and the historical normalised Bank CET1 ratios were 11.4% in December 2019, 11.2% in December 2018.

6. Capital and liquidity risk

Capital adequacy ratios of legal entities

		2022			
Operations	Regulator	Total qualifying capital Rm	Tier 1 ratio %	Total capital adequacy %	Total regulatory minimum %
Local entities (South Africa)					
Group	SARB				
Including unappropriated profits		167 905	14.4	16.6	
Excluding unappropriated profits		158 767	13.6	15.8	12.5[1]
Absa Bank[2]	SARB				
Including unappropriated profits		116 433	14.8	17.6	
Excluding unappropriated profits		112 887	14.2	17.0	12.5[1]
Foreign banking entities[3]					
Absa Bank Mozambique	Banco de Mozambique	1 982	20.2	20.0	13.0
Absa Bank Botswana	Bank of Botswana	4 900	13.9	22.0	12.5
Absa Bank Ghana	Bank of Ghana	3 328	19.4	21.4	13.0
Absa Bank Kenya	Central Bank of Kenya	9 675	14.4	18.5	14.5
Absa Bank Mauritius	Bank of Mauritius	6 511	16.6	17.2	14.0
National Bank of Commerce	Bank of Tanzania	2 259	16.0	17.8	14.5
Absa Bank Tanzania	Bank of Tanzania	1 162	20.6	22.0	14.5
Absa Bank Uganda	Bank of Uganda	2 702	21.3	24.2	12.0
Absa Bank Seychelles	Bank of Seychelles	888	12.5	17.3	12.0
Absa Bank Zambia	Bank of Zambia	2 169	13.3	15.4	10.0
Insurance entities					
Absa Life Limited	Prudential Authority	5 505		1.42xSCR[4]	1.0xSCR[4]
Absa Insurance Company Limited	Prudential Authority	1 258		1.44xSCR[4]	1.0x SCR[4]

[1] The 2022 minimum total regulatory capital adequacy requirement of 12.5% includes the capital conservation buffer, Pillar 2A was reinstated at 1% percent and the D-SIB add-on but excludes the bank specific individual capital requirement (Pillar 2B add-on).

[2] The Bank includes subsidiary undertakings, special-purpose entities, joint ventures, associates and offshore holdings.

[3] The 2022 foreign banking entity disclosures are unaudited.

[4] Solvency capital requirement (SCR): calibrated to correspond to the VaR of an insurer's qualifying capital at a confidence level of 99.5% over a one-year period, as prescribed by the Financial Soundness Standards for Insurers (FSI).

6. Capital and liquidity risk

		2021			
Operations	Regulator	Total qualifying capital Rm	Tier 1 ratio %	Total capital adequacy %	Total regulatory minimum %
Local entities (South Africa)					
Group	SARB				
Including unappropriated profits		158 717	14.6	17.0	
Excluding unappropriated profits		153 534	14.1	16.5	11.5[1]
Absa Bank[2]	SARB				
Including unappropriated profits		112 981	14.8	17.9	
Excluding unappropriated profits		109 998	14.3	17.5	11.5[1]
Foreign banking entities[3]					
Absa Bank Mozambique	Banco de Mozambique	1 822	20.0	19.6	12.0
Absa Bank Botswana	Bank of Botswana	4 389	12.5	18.7	12.5
Absa Bank Ghana	Bank of Ghana	4 189	16.2	18.2	13.0
Absa Bank Kenya	Central Bank of Kenya	8 072	14.8	17.4	14.5
Absa Bank Mauritius	Bank of Mauritius	6 270	17.3	21.1	13.4
National Bank of Commerce	Bank of Tanzania	1 959	17.1	19.1	14.5
Absa Bank Tanzania	Bank of Tanzania	954	20.3	21.9	14.5
Absa Bank Uganda	Bank of Uganda	2 421	21.1	24.1	12.0
Absa Bank Seychelles	Bank of Seychelles	799	13.5	18.3	12.0
Absa Bank Zambia	Bank of Zambia	1 583	11.2	14.8	10.0
Insurance entities					
Absa Life Limited	Prudential Authority	4 877		1.43xSCR[4]	1.0xSCR[4]
Absa Insurance Company Limited	Prudential Authority	1 159		1.48xSCR[4]	1.0x SCR[4]

Capital supply

Breakdown of qualifying capital

	2022		2021	
Group	Rm	%[5]	Rm	%[5]
CET1	120 374	11.9	114 080	12.2
Additional Tier 1 capital	16 245	1.6	16 979	1.8
Tier 1 capital	136 619	13.6	131 059	14.1
Tier 2 capital	22 148	2.2	22 475	2.4
Total qualifying capital (excluding unappropriated profits)	158 767	15.8	153 534	16.5
Qualifying capital (including unappropriated profits)				
CET1 including unappropriated profits	128 512	12.8	119 263	12.8
CET1	120 374	11.9	114 080	12.2
Unappropriated profits	8 138	0.8	5 183	0.6
Additional Tier 1 capital	16 245	1.6	16 979	1.8
Tier 1 capital	144 757	14.4	136 242	14.6
Tier 2 capital	22 148	2.2	22 475	2.4
Total qualifying capital (including unappropriated profits)	166 905	16.6	158 717	17.0

[1] The 2021 minimum total regulatory capital adequacy requirement of 11.5% includes the capital conservation buffer, Pillar 2A at zero percent and the D-SIB add-on but excludes the bank specific individual capital requirement (Pillar 2B add-on).

[2] The Bank includes subsidiary undertakings, special-purpose entities, joint ventures, associates and offshore holdings.

[3] The 2021 foreign banking entity disclosures are unaudited.

[4] Solvency capital requirement (SCR): calibrated to correspond to the VaR of an insurer's qualifying capital at a confidence level of 99.5% over a one-year period, as prescribed by the Financial Soundness Standards for Insurers (FSI).

[5] Percentage of capital to RWAs.

6. Capital and liquidity risk

Bank[1]	2022 Rm	2022 %[2]	2021 Rm	2021 %[2]
CET1	79 249	12.0	74 851	11.9
Additional Tier 1 capital	15 085	2.3	15 428	2.4
Tier 1 capital	94 334	14.2	90 279	14.3
Tier 2 capital	18 553	2.8	19 719	3.1
Total qualifying capital (excluding unappropriated profits)	112 887	17.0	109 998	17.5
Qualifying capital (including unappropriated profits)				
CET1 including unappropriated profits	82 795	12.5	77 834	12.4
CET1	79 249	12.0	74 851	11.9
Unappropriated profits	3 546	0.5	2 983	0.5
Additional Tier 1 capital	15 085	2.3	15 428	2.4
Tier 1 capital	97 880	14.8	93 262	14.8
Tier 2 capital	18 553	2.8	19 719	3.1
Total qualifying capital (including unappropriated profits)	116 433	17.6	112 981	17.9

Economic capital adequacy

EC provides a common basis upon which to aggregate and compare different risks using a forward-looking, single measure of risk. It is a critical input into the internal capital adequacy assessment process (ICAAP) and in capital allocation decisions, which supports shareholder value creation. EC considers risk types that not only lead to potential operating losses but can also result in lower-than-expected earnings.

In the table below, EC demand is presented at a 99.9% confidence level, aligned with the ERMF principal risks. EC demand is compared with the available financial resources (AFR) – also referred to as EC supply – to evaluate the total EC surplus. The Group ensures there is sufficient AFR to meet this minimum demand requirement under severe yet plausible stress conditions.

Economic capital	2022 Rm	2021 Rm
Credit risk[3]	69 982	64 391
Market risk	12 934	14 166
Trading book risk	5 138	6 510
Banking book risk	7 796	7 656[4]
Insurance risk	5 709	5 381[4]
Strategic and sustainability risk	7 039	5 999
Model risk	1 644	3 289
Operational and resilience risk[5]	11 413	10 701
Total EC requirement	108 721	103 927[4]
IFRS total EC AFR	168 632	158 877
IFRS total EC surplus	59 911	54 950[4]
IFRS EC coverage ratio	1.6	1.5

[1] Absa Bank Limited includes subsidiary undertakings, special-purpose entities, joint ventures, associates, and offshore holdings.

[2] Percentage of capital to RWAs.

[3] Credit risk includes equity risk, CCR, CVA and securitisation.

[4] The December 2021 metric has been restated to correct an error identified in the previously reported number.

[5] Operational and resilience risk includes fixed asset risk, non-customer assets and compliance risk.

6. Capital and liquidity risk

6.3 Liquidity risk

Liquidity risk is the risk that the Group is unable to meet its contractual or contingent liquidity obligations or that it does not have the appropriate amount, tenor and composition of funding to support its assets.

6.3.1 Review of the current reporting period

Key risk metrics	2022	2021
Sources of liquidity (Rbn)	292.8	301.2
NSFR (%)	113.4	116.1
LCR (%)[1]	124.6	116.8
Loan-to-deposit ratio (%)[2]	84.2	84.2
Loans and advances to customers and banks (Rbn)	1 156.4	1 060.6
South Africa	1 000.6	925.1
ARO	155.8	135.5
Deposits from customers and banks (including debt securities) (Rbn)	1 373.9	1 258.9
South Africa	1 156.4	1 076.7
ARO	217.5	182.2

- Liquidity risk position:
  - The Group's liquidity risk position remained healthy and key liquidity metrics were within risk appetite and above the minimum regulatory requirements.
  - The Group maintained a high-quality liquid asset (HQLA) buffer in excess of the minimum regulatory requirements.
  - Asset growth continued to strengthen as core deposit growth regained momentum over the second half of 2022.
  - The Group's foreign currency liquidity position remained robust, with adequate diversified United States dollar (USD) funding available to support the USD asset base and planned asset growth.
  - All banking subsidiaries remained self-sufficient in terms of local currency liquidity, with limited reliance on Absa Bank for USD working capital support required from the Group.
- Long-term balance sheet structure:
  - The Group continued to strengthen and diversify its funding sources to maintain a sustainable funding structure.
  - Debt capital market issuances for 2022 comprised R9.1bn senior debt, of which R2.6bn was the Group's inaugural Green Bond Issuance, R1.9bn Tier 2 inaugural green subordinated debt issuance and R2bn Additional Tier 1. In addition, Absa Bank raised an inaugural R2bn social loan with the International Finance Corporation specifically earmarked for affordable housing. USD funding growth included the Group's inaugural Sustainability-Linked Loan Facility of $400m. The overall reliance on wholesale funding was managed appropriately to support asset growth.
  - The cost of wholesale funding reduced over the second half of 2022 following the full phase-in of the Monetary Policy Implementation Framework, which introduced additional liquidity into the market and resulted in a reduction in liquidity premiums.
- Short-term balance sheet structure and liquidity buffers:
  - The Group's sources of liquidity of R292.8bn (December 2021: R301.2bn) amounted to 26.3% (December 2021: 28.0%) of deposits to customers. The Group continued to maintain a diversified HQLA portfolio, thereby maintaining a 90-day average HQLA at R240.9bn (December 2021: R206.9bn).
  - Loan growth was funded by growth in customer deposits and supported by raising wholesale funding, of appropriate tenor, ensuring a sustainable and diverse funding base.
  - The Group consistently maintained an LCR buffer above 100%, despite the relief measures provided by the South African Reserve Bank (SARB) through the reduction of the minimum LCR to 80% reverting back to 100% from 1 April 2022.
  - The Group used its Internal Liquidity Stress Metric Framework to determine the amount of HQLA required to be held to meet internally defined stress requirements.
- Diversification:
  - The Group had a well-diversified deposit base and concentration risk was managed within appropriate internal and regulatory guidelines.
  - The Group managed funding sources to maintain a wide diversity of depositors, products, tenors and currencies.

[1] The Group LCR reflects an aggregation of the Bank LCR and the ARO LCR. For this purpose, a simple average of the relevant three month-end data points is used in ARO, noting that the ARO LCR is capped at 100% per the minimum regulatory requirements. For the Bank, the LCR was calculated as a simple average of 90 calendar-day LCR observations.

[2] The methodology used to calculate the loan-to-deposit ratio includes loans and advances to banks and is based on average balances and not spot balances as disclosed per the Group financial statements.

6. Capital and liquidity risk

6.3.2 Priorities

- Preserve the Group's liquidity position in line with risk appetite.
- Preserve the Group's liquidity position in line with risk appetite.
- Focus on growing core retail, relationship bank, corporate and public sector deposits.
- Manage the funding and HQLA position in line with the Board-approved framework and ensure compliance with regulatory requirements.
- Continue to lengthen and diversify the funding base to support asset growth and other strategic initiatives while optimising funding costs.
- Collaborate with the regulatory authorities and other stakeholders on SARB's approach to resolution planning and depositor insurance schemes in South Africa.

6.3.3 General information about liquidity risk [LIQA]

Liquidity risk is monitored at Group level under a single comprehensive Capital and Liquidity Risk Framework. The Capital and Liquidity Risk Framework was designed to deliver an appropriate tenor structure and composition of funding consistent with the risk appetite set by the Board. This framework is delivered through a combination of policy formation, review and governance, analysis, stress testing, limit setting and monitoring.

6.3.3.1 Risk identification and management

The efficient management of liquidity is essential for safeguarding the Group's depositors, preserving market confidence and maintaining the Group's reputation. The Group considers sustainable access to appropriate liquidity for each of its entities to be vital. Liquidity risk is managed under the Liquidity Risk Policy in line with the Capital and Liquidity Risk Framework to:

- Maintain liquidity resources that are sufficient in amount and quality together with a funding profile that is appropriate to meet the risk appetite as expressed by the Board.
- Maintain market confidence.
- Set limits to manage liquidity risk within and across lines of business and legal entities.
- Price liquidity costs accurately and incorporate these into product pricing and performance measurement.
- Monitor early warning indicators (EWIs) to immediately identify the emergence of increased liquidity risk or vulnerabilities including events that would impair access to liquidity resources.
- Fully project over an appropriate set of time horizons cash flows arising from assets, liabilities and off-balance sheet items.
- Maintain a recovery plan that incorporates a contingent funding plan (CFP) that is comprehensive and proportionate to the nature, scale and complexity of the business and regularly tested to ensure it is operationally robust.

The liquidity risk management processes are summarised in the table below:

Funding planning	Liquidity risk monitoring	Execution and intra-day liquidity risk	Contingent funding planning	Regulatory compliance
• Funding plan • Concentration risk • Customer behaviour • Pricing liquidity risk through funds transfer pricing	• Capital and Liquidity Risk Framework and policies • Internal liquidity stress metrics • Stress testing • Limits and metrics • Intra-day liquidity risk monitoring • Monitoring other contingent liquidity risks • New product review • Debt buyback monitoring	• Liquidity buffers • Funding execution • Daily clearing and settlement • Contingent liquidity risks in transaction documentation	• EWIs • Liquidity simulations • Contingency planning and Recovery planning	• Cash reserving • Liquid assets • Regulatory reporting • LCR • NSFR

6. Capital and liquidity risk

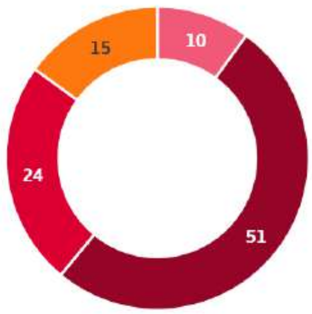
Funding structure

Funding is sourced from a variety of depositors representing a diversity of economic sectors, with a wide range of products and maturities.

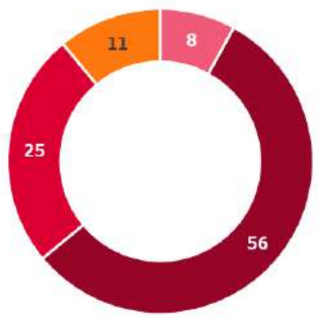
Funding sources by product

The graphs below show the Group's funding sources:

2022 (%)



2021 (%)



NSFR

The NSFR aims to promote the resilience in the banking sector by requiring banks to maintain a stable funding profile in relation to the composition of their assets and off-balance sheet activities on an ongoing structural basis.

	Absa Group		Absa Bank	
	2022	2021	2022	2021
	NSFR Rm	NSFR Rm	NSFR Rm	NSFR[1] Rm
ASF (Rm)[1]	1 081 483	1 003 311	895 668	821 600
RSF (Rm)[1]	954 103	864 061	825 800	746 370
Actual NSFR (%)	113.4	116.1	108.5	110.1
Required NSFR (%)	100	100	100	100

Diversification

The Group maintained a well-diversified deposit base. Concentration risk is managed within appropriate guidelines. Sources of funding were managed to maintain a diversity of depositors, products, tenors and currencies.

The Group's foreign currency funding position remains robust, with diversified funding facilities from international banks and appropriate tenors to meet term asset growth.

Each geographic entity in the Group is required to ensure funding diversification is taken into account in its business planning process and to maintain a funding plan. This takes into account market conditions and the changes in factors that affect the entity's ability to raise funds.

Stress and scenario testing

Under the Capital and Liquidity Risk Framework, the Group established the ILSM, which sets the level of liquidity risk the Group chooses to take to achieve its business objectives and in meeting its regulatory requirements. It is measured with reference to the anticipated stressed net contractual and contingent outflows for a variety of stress scenarios and is used to determine the appropriate size of the liquidity pool, along with the LCR.

Each entity in the Group undertakes a range of stress tests appropriate to its business. Stress tests consider both name-specific and market-wide scenarios. The results of the stress tests are used to determine the liquid asset buffer, to develop the CFP which is a component of the Group's recovery plan. Stress testing results are also considered when setting limits for the management of liquidity risk and the business planning process.

As part of stress and scenario testing, the relevant liquid assets portfolio serves as the main source of liquidity under stress. Liquidity value is also assigned to unsecured funding lines, readily marketable investment securities and price-sensitive overnight loans.

Contingency funding planning

Each banking entity in the Group maintains its own CFP, which includes, inter alia:

- The roles and responsibilities of senior management in a crisis.
- Authorities for invoking the plan.
- Communications strategy.
- An analysis of a realistic range of market-wide and Group-specific liquidity stress tests.
- Scenario analyses and the extent to which each stress test and scenario can be mitigated by the management of the balance sheet.
- A range of EWIs, which assist in informing management when deciding whether the CFP should be invoked.

[1] The December 2021 NSFR ASF and RSF were restated to reflect a change in the Bank's statement of financial position.

6. Capital and liquidity risk

Each banking entity in the Group must establish local processes and procedures to manage local liquidity stresses that are consistent with the Group's plan. The CFPs set out the specific requirements to be undertaken locally in a crisis. This could include monetising the liquidity pool, slowing the extension of credit, increasing the tenor of funding and securitising or selling assets. For the Bank the CFP was merged with the recovery plan.

6.3.3.2 Reporting

Short-term liquidity stress

The Group's sources of liquidity

	2022 Rm	2021 Rm
Total Group sources of liquidity	292 845	301 156
HQLA69F[1]	202 401	188 022
Other liquid assets (ARO)	69 772	80 349
Other sources of liquidity	20 672	32 785

LCR[2]

The LCR aims to ensure banks maintain an adequate stock of HQLA to survive a significant stress scenario lasting 30 days. The table below represents the average LCR for the quarter:

	Group		Bank	
	2022 Rm	2021 Rm	2022 Rm	2021 Rm
HQLA (Rm)	240 876	206 880	208 117	182 584
Net cash outflows (Rm)	193 299	177 075	161 347	146 705
LCR (%)	124.6	116.8	129.0	124.5
Required LCR (%)	100	80	100	80

HQLA

Each bank holds a stock of HQLA to meet any unexpected liquidity outflows. In the majority of locations, local regulators impose rules on the quantum of reserve liquidity to be held.

The HQLA portfolio is well diversified and consists of cash and cash equivalents, deposits with central banks, government debt, and other qualifying instruments under the Basel III framework. Each entity in the Group maintains and demonstrates constant access to the relevant underlying asset market to avoid undue price movement if liquid assets need to be sold. Each operation ensures its buffer can be liquidated at short notice.

Composition of liquid assets by country (%)

[1] The values disclosed represent the spot values of HQLA.

[2] The Group LCR reflects an aggregation of the Bank LCR and the ARO LCR. For this purpose, a simple average of the relevant three month-end data points is used in ARO, noting that the ARO LCR is capped at 100% per the minimum regulatory requirements. For the Bank, the LCR was calculated as a simple average of 90 calendar-day LCR observations.

7. Operational and resilience risk

7. Operational and resilience risk

Operational and resilience risk is the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events

7.1 Review of current reporting period

Key risk metrics	2022	2021
Total operational risk losses as a percentage of gross income (%)	(0.02)	1.04
Total operational risk losses (Rm)	(18)	893
Operational risk EC (Rbn)[1]	11.4	10.7
Total operational risk RWA (Rbn)	159.1	149.4
Operational risk (Rbn)	132.0	122.7
Non-customer assets (Rbn)	27.1	26.7

- The Group continued to navigate the dynamic impacts of the operating environment, including the effects of loadshedding in South Africa, global macro-economic volatility, COVID-19 and climate changes and maintained its operational resilience in delivering substantially uninterrupted services to customers.
- In pursuit of its commitment to maintain a robust control environment that delivers operational resilience, the Group continued to adapt, enhance and optimise its controls. Key areas of focus included:
  - Fraud prevention and detection capabilities in response to the increasing level of fraud attempts, while minimising disruption to authentic customers and transactions.
  - Information security and cyber controls, within the Group and its third parties, considering the increasing sophistication of threats.
  - Digitisation and automation of manual processes.
  - Reducing reliance on legacy network infrastructure and applications.
- The Group improved the implementation of the Operational and Resilience Risk Management Framework by:
  - Enhancing the risk appetite framework and establishing a qualitative statement that is supported by metrics with defined thresholds.
  - Developing and implementing a data-informed stress testing model.
  - Deploying self-service risk reporting and analytics capabilities to process owners.
  - Piloting AI capabilities focused on the analysis of events and losses.
  - Progressing the implementation of the New Standardised Approach requirements per Basel III finalisation.
- Operational risk losses decreased to a net gain of R18m (2021: R893m), reflecting the combined impact of the effectiveness of controls and recoveries of R474m relating to prior period events.
- RWA increased to R159.1bn (December 2021: 149.4bn) due to the growth in revenue and changes in the foreign exchange rates of the ARO countries.
- EC increased to R11.4bn (December 2021: R10.7bn) reflective of the combined effect of an improved risk profile and growth in revenue.

7.2 Priorities

- Maintain a robust control environment that continues to deliver operational resilience; focus areas include:
  - Ongoing refinement of business continuity responses and scenario planning.
  - Continuous enhancement and optimisation of fraud and information security and cyber controls.
  - Further digitisation and automation of manual processes.
  - Ensuring the continuity of services from third parties.
- Progress the implementation of the new Standardised Approach per Basel III finalisation requirements, which come into effect on 1 January 2024.

7.3 General information about operational and resilience risk

Operational and resilience risk occurs in the natural course of business activity. Therefore, it is not possible to eliminate all operational and resilience risk exposure. Operational and resilience risk is recognised as a principal risk type and the Operational Risk Management Framework (ORRMF) establishes a set of inter-related quantitative and qualitative tools and processes to identify, assess, measure, mitigate, monitor, and remediate risks within a defined appetite.

The leveraging of operational processes and capabilities is pivotal to the achievement of the Group's strategy and objectives and the management of operational and resilience risk aims to ensure these processes and capabilities are safeguarded and resilient.

7.3.1 Approach to the management of operational and resilience risk

The Group's objectives in the management of operational and resilience risk are to:

- Articulate and cascade an appropriate level of risk appetite for operational and resilience risk, which supports the business strategy.
- Manage risk and control effectively, thus maintaining the operational and resilience risk profile within appetite.
- Embed a positive risk culture across the organisation.
- Minimise the impact of losses suffered in the normal course of business (expected losses) and to avoid or reduce the likelihood of suffering an extreme or unexpected loss.

The management of operational and resilience risk aligns to the three lines of defence model as set out in the ERMF with the primary responsibility (i.e., first line of defence) for the management of operational and resilience risk residing with the business and infrastructure functional units where the risk arises. The

[1] Operational risk EC includes fixed asset risk, non-customer assets and pension risk.

7. Operational and resilience risk

heads of these businesses and infrastructure functional units are required to implement appropriate organisational structures and processes in line with the ORRMF to identify, assess, measure, mitigate, monitor, and remediate risks in their respective areas within an agreed appetite. Business-aligned operational and resilience risk heads (second line of defence), reporting to the business unit CROs, are responsible for the management of the risk profile of their respective portfolios within risk appetite as defined within the ORRMF.

Enterprise-wide specialist risk type owners (second line of defence), reporting to RTOs define the risk type strategy and framework and facilitate the group-wide governance to effectively enable risk type appetite, aggregation of risk type profiles, oversight, and challenge processes. Group operational and resilience risk (second line of defence) is accountable for the Group-wide management of operational and resilience risk, establishing strategic direction and Group risk appetite, ownership of the ORRMF and its supporting policies and enterprise-wide standards, and independent oversight over businesses and functions.

7.3.2 Governance of operational and resilience risk

The key committees involved in the governance of operational and resilience risk are depicted below:

7. Operational and resilience risk

The GCRO appoints the Operational Risk RTO, who is accountable for the design, implementation, and maintenance of an effective, efficient and regulatory compliant ORRMF.

A Group Operational and Resilience Risk Management Committee (ORRMC) chaired by the RTO is in place, thereby providing an aggregation and challenge viewpoint of the Group's operational and resilience risk profile across the three lines of defence, prior to submission to the ERC. Additionally, it serves as the vehicle to drive development, implementation and embedment of the framework, policies, and Group-wide standards.

The GCRO presents the Group's operational and resilience risk profile, alongside the other risk types as specified by the ERMF, to the GRCMC, as well as the GACC.

Business and infrastructure functional unit risk committees monitor risk management and control effectiveness, with progress reporting to the ERC by the respective executive.

7.3.3 Management of operational and resilience risk

The suite of risks considered within the remit of operational and resilience risk include:

- Fraud
- Transaction processing and management
- People
- Physical assets
- Supplier
- Financial reporting
- Taxation
- Legal
- Cyber and information security
- Technology
- Change
- Business continuity
- Data and records management

While conduct, reputational, financial crime, and sustainability are managed individually under the umbrella of compliance risk, they are incorporated into operational and resilience risk for capital requirement and measurement purposes.

To address the wide remit of operational and resilience risk, the ORRMF establishes a suite of management techniques applicable to its underlying risk types. These include:

7.3.3.1 Critical process assessments (CPAs)

CPA is an integrated assessment that enables the Group to focus on processes which are essential to executing on strategy and delivering for customers and stakeholders. This approach ensures that material risks and rewards are holistically understood and decisively managed, resulting in consistent monitoring of the operational and resilience risk profile in the context of business objectives and appetite. It requires the assessment of risks and controls in critical processes on an end-to-end basis, enabling a view across functions and supporting enablers, such as systems and suppliers. This approach promotes performance and service efficiencies through using key indicators that monitor risks, controls, and process performance.

Further, a comprehensive understanding of all business enablers is obtained by considering all supporting dependencies and the end-to-end resilience of processes and capabilities. CPA enables management of the prioritised enablers and a focus on the most material risks and key controls. The outcome of CPA is a consolidated view of all material risks in the critical business processes and information on the drivers of risk, such as risk events, root causes, indicators, issues and management responses.

7.3.3.2 Internal risk events

An operational and resilience risk event is any circumstance where there is a potential or actual impact to the Group resulting from inadequately controlled or failed internal processes, people and systems, or from an external event. The definition includes situations where a loss could have been incurred, but a gain was realised, as well as incidents resulting in customer, legal, reputational, conduct or regulatory impacts. Operational losses incurred from internal risk events must be captured on the Group operational and resilience risk management system. Boundary events, such as operational and resilience risk materialising within credit risk, are also tracked. The analysis of internal risk events assists the Group in identifying areas of improvements to processes or controls, to reduce the likelihood of recurrence and/or magnitude of risk events.

The analysis of risk events assists the Group in identifying control deficiencies to prevent future losses. In addition, it aids monitoring of a changing risk.

7.3.3.3 External risk events

Applicable external loss information is regularly considered to support and inform risk identification, assessment, and measurement, and provide management with insight into possible emerging risks. External data is used to provide insight into the magnitude of events/losses emanating from scenarios and risks which Absa has never experienced and are complex to quantify. The Group's primary source of external data is through membership of the Operational Risk Data Exchange (ORX), a non-profit association of international banks formed to share anonymous loss data information.

7.3.3.4 Risk mitigation

It is not always possible or cost effective to eliminate all operational and resilience risks, nor is this the objective of operational and resilience risk management. Achieving the correct balance of focus and effort is pivotal to the Group's operational and resilience risk management strategy. This is underpinned by a defined risk appetite, established governance and oversight structures, monitoring and escalation criteria, clarity of roles across the three lines of defence and clear direction and tone from the top driving a transparent and accountable risk culture in the organisation. Operational and resilience risk is managed in accordance with the Group Risk Appetite Framework that formalises and articulates how risk appetite is established, communicated, cascaded, governed, and monitored across the organization. It provides a common and consistent platform for how risk appetite is managed.

7. Operational and resilience risk

The mitigation of residual risks (i.e., risks post-consideration of existing controls), depending on their likelihood and impact, is achieved by one or a combination of the following response strategies:

- **Accept:** Maintain the control environment.
- **Mitigate the risk:** Implement actions and strategies to reduce the residual risk level to within acceptable levels.
- **Avoid the risk:** Do not take the risk and stop the related activity.
- **Transfer the risk:** This involves a third party sharing some part of the risk or taking over all the risk. This could be in the form of insurance, partnerships, outsourcing or joint ventures

7.3.3.5 Lessons learnt reviews

Lessons learnt is a targeted root cause analysis of significant risk events experienced in the Group with the outcomes of such reviews including:

- Establishing what went wrong.
- Early detection and prevention of systemic issues.
- Address of thematic concerns.
- Determining whether cultural, operating model, governance or risk practices may have contributed to the risk event.

This process enables sustained and shared learning across the organisation, promoting stronger risk management.

7.3.3.6 Key indicators

Key indicators are metrics used to monitor the Group's operational and resilience risk profile. They include measurable thresholds that reflect the risk appetite of the business and are designed to monitor risk, control and business factors that influence the operational and resilience risk profile. Key indicators serve as alerts to management when risk levels exceed acceptable ranges and drive timeous decision-making and actions.

7.3.4 Measurement of operational and resilience risk

The Group assesses its operational and resilience risk capital requirements using the AMA which involves estimating the potential range of losses that could be incurred in a year from operational and resilience risk events, using statistical distributions. The BIA or TSA is used in certain operations outside South Africa and joint ventures and associates where the Group is not able to apply the AMA model.

The potential frequency and severity of losses is estimated for each risk in the suite of operational and resilience risks (refer to 7.3.3) based on internal loss data, extreme scenarios (from the key risk scenario process) as well as external loss data from ORX. The capital calculation also considers the possibility of correlations between operational and resilience risk losses occurring in a year.

RC requirements are set to cover 99.9% of estimated unexpected losses with EC requirements covering estimated losses that exceed the expected losses.

7.3.4.1 Key risk scenarios

Key risk scenarios are a summary of the extreme potential risk exposure for each risk in the suite of operational and resilience risks (refer 7.3.3) and includes quantitative and qualitative assessments of the potential frequency of risk events, the average size of losses and extreme scenarios. The assessments consider internal and external loss experiences, key indicators, CPAs and other relevant risk information.

Factors incorporated into the analysis of potential extreme scenarios include:

- The circumstances and contributing factors that could lead to an extreme event.
- The potential financial and non-financial impacts (e.g., reputational damage).
- The controls and other mitigants that seek to limit the likelihood of such an event occurring, and the actions that would be taken if the event were to occur (e.g., crisis management procedures, business continuity or disaster recovery plans, etc.).

7.3.5 Insurance

The Group utilises insurance to mitigate certain operational and resilience risks. However, it is not used to offset operational and resilience risk capital requirements. The cover and associated cost are regularly reviewed and are presented annually to the GRCMC.

8. Model risk

8. Model risk

Model risk is the risk of potential adverse consequences from financial assessments or decisions based on incorrect or misused model outputs and reports.

8.1 Review of current reporting period

Key risk metrics	2022	2021
Model risk EC (Rbn)	1.6	3.3

- Ongoing improvement in the accuracy and robustness of models, focusing on regulatory credit capital models.
- Enhanced the model risk control environment by:
  - Refreshing the Model Risk Framework, policy and standards.
  - Refining the model risk appetite assessment and the model risk EC methodology.
  - Enhancing the model performance tests used in model monitoring and independent model validation.
  - Automating the model performance monitoring on the South Africa retail portfolio for regulatory credit capital and credit impairment models.
  - Deploying improved model development methodologies and standardising currently used methodologies.
  - Enhancing the model risk management workflow system.
- The above improvements led to a commensurate reduction in the model risk EC.

8.2 Priorities

- Strengthen the Group's capabilities to manage the increasing quantity and complexity of models.
- Optimise the architecture and capabilities of the model development, validation and implementation technology platforms.
- Embed technological solutions for model risk management, including the use of machine learning techniques.
- Continue updates to models in accordance with business priorities and the outcomes of the independent model validations.
- Implement newly developed models efficiently and effectively.
- Automate model performance monitoring, leading to an increase in frequency and consistency of model performance assessments and earlier detection of non-performance.
- Reduce critical staff dependencies and retain staff through talent pipeline development, succession planning, staff retention initiatives, broadened career opportunities and ongoing training and development.
- Maintain the regulatory credit capital model development book of work at a business-as-usual state.
- Increase focus on the credit decisioning, impairments and recovery models in the current macro-economic environment.

8.3 General information about model risk

8.3.1 Risk identification and management

A model is a quantitative method, system or approach that applies statistical, economic, financial or mathematical theories, techniques, parameters and assumptions to process input data into outputs. A model is comprised of risk driver inputs, methodology, parameters and calculations that produce outputs. A model is considered an end-to-end concept, including the sourcing of risk driver input data, the selection and specification of methodology, the calibration of parameters, the implementation of the model and the usage of the outputs. The use of models invariably presents model risk, defined as the potential adverse consequences from financial assessments or decisions based on incorrect or misused model outputs and reports. Model risk may lead to financial loss, poor business and strategic decision-making, or damage to the Group's reputation.

Model risk is a principal risk managed under the Group's ERMF. The model risk RTO oversees the Model Risk Management Framework, established to manage model risk in accordance with the Group's tolerances. Through its policies and standards, the Model Risk Management Framework identifies risks and specifies controls in order to establish a consistent approach to the management of model risk across the Group. Compliance to controls is assessed through key risk assessments (KRAs) and control testing is conducted to provide assurance around the effective design and operation of controls.

All models are governed by the GMRP, which specifies the model lifecycle, together with the control activities to be conducted at each stage thereof; assigns stakeholder responsibilities and accountabilities for the management of model risk; mitigates model risk through controlled model design, development, implementation, use and change processes; and institutionalises independent validation and approval of models. The GMRP is supported by the following detailed standards:

- Model development and documentation
- Independent model validation
- Model performance monitoring
- Model implementation and decommissioning
- Model owner review
- Post model adjustment, management adjustment and model override
- Model risk appetite and economic capital

Model risk appetite is defined as the types and amount of risk that the Group, it's business units and legal entities are prepared to accept to meet strategic objectives. It explicitly defines the risk boundaries within which management is expected to operate under business-as-usual and stressed conditions when pursuing the business strategy. As the Group does not actively seek model risk, its appetite is expressed in terms of risk tolerance thresholds and does not have a target range. The Group holds economic capital in respect of model risk, based on the outcome of the model risk appetite assessment against the risk tolerance thresholds.

The model risk second line of defence is comprised of the Model Governance and Control (MGC) team, the IVU – incorporating the central model monitoring team, the model methodology team and the model risk processing centre (MRPC).

The MGC team develops the framework, policy and standards to manage model risk, sets limits consistent with the Group's risk appetite and monitors performance of the model ownership areas against these limits. It performs regular conformance reviews to provide assurance around control effectiveness.

8. Model risk

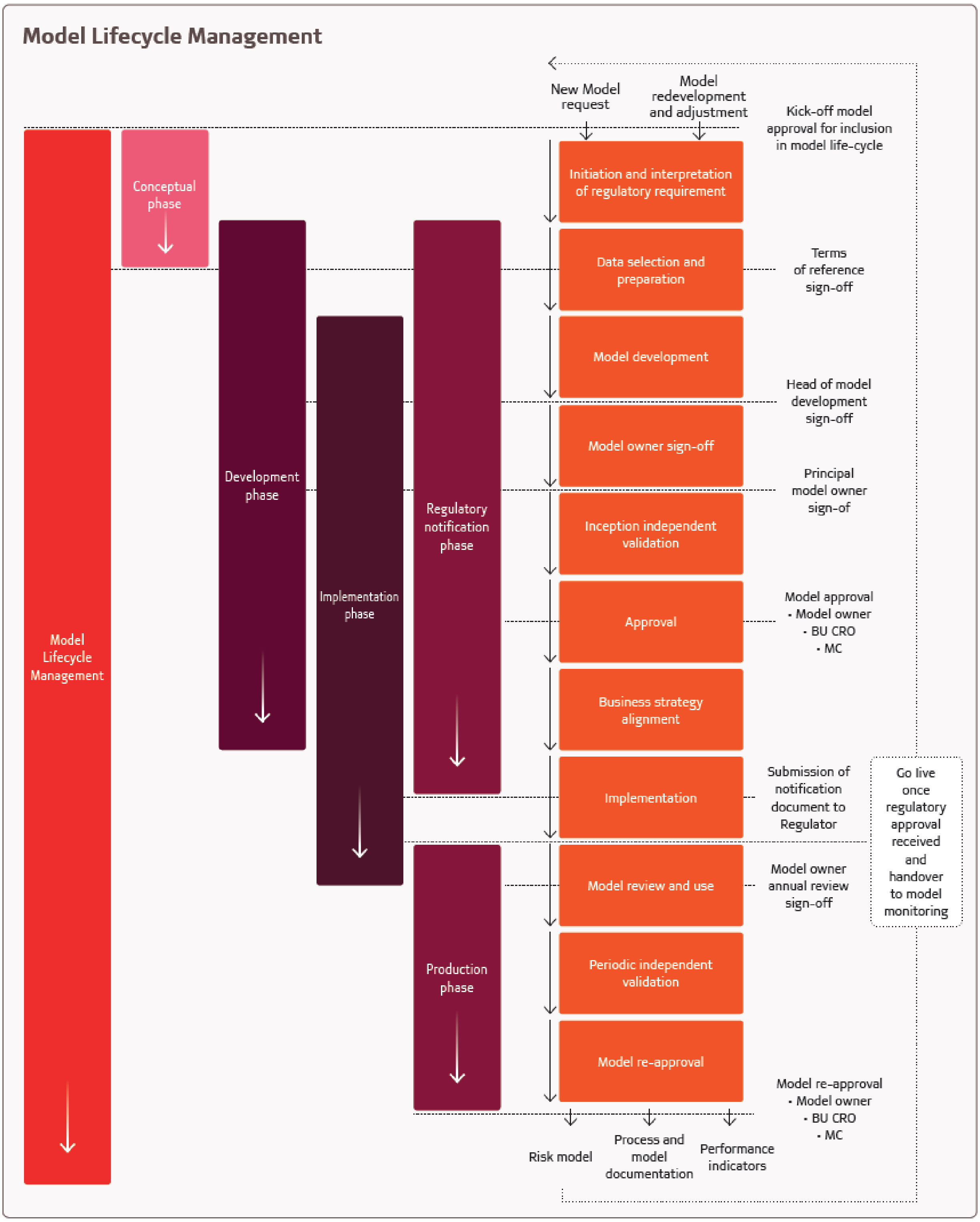
IVU is responsible for the independent validation of models (developed by the model development teams residing in the business units), prior to the initial approval thereof and at regular intervals thereafter (including any subsequent model changes). The independent validation is an assessment of a model across multiple dimensions (e.g., performance, regulatory compliance, etc.), in the context of the model's objectives. The IVU also conducts the ongoing independent performance monitoring for regulatory capital and their feeder models (e.g. behavioural scorecards and application/sanctioning models) as well as credit impairment models.

The model methodology team assists with developing and aligning model methodology across the Group. It also facilitates the technical training of the modelling resources throughout the Group.

MRPC oversees model implementation controls, maintains a central implementation/processing environment for behavioural scorecard, credit impairment and regulatory credit capital models and executes these models within the impairment and regulatory credit capital reporting processes.

8.3.2 Governance

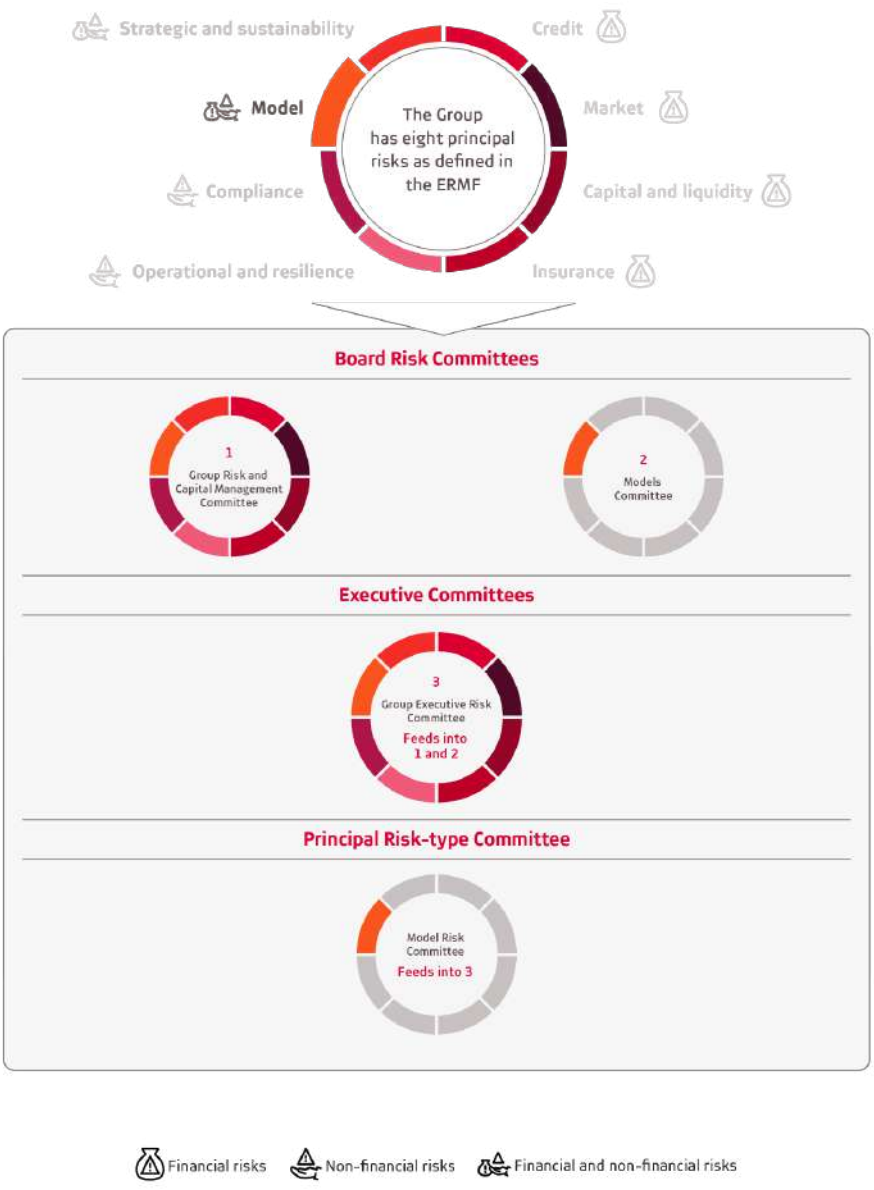
The model lifecycle and associated controls are depicted in the diagram below.



8. Model risk

The model approvers are assigned based on the materiality of models. Material models are routed to the Group Models Committee (Board committee) for approval, and models of lesser materiality are approved by the business unit CROs through business unit model approval forums. Overall model ownership vests with the business units that use the output of models to quantify risk.

The key committees involved in the governance of model risk are depicted below:



8.3.3 Reporting

A monthly model risk group and cluster report is produced by the MGC team and submitted to the committees and forums attended by senior management, the MC and the ERC. The report covers:

- Progress on regulatory and other model development.
- Adherence to policy and standards including any model related audit findings and control issues.
- Models in governance coverage, i.e., models monitored, reviewed and validated.
- Individual model's risk assessment (high, medium or low).
- Model risk appetite status.

Model development and implementation progress update reports are produced by the business units, to be tabled at the Model Risk Committee.

A report on the status of resolution of material control gaps and the existing dispensations, waivers and breaches is also tabled at the Model Risk Committee.

9. Abbreviations and acronyms

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A

ACCC	Absa CIB Credit Committee
AFR	available financial resources
AIRB	advanced internal ratings-based approach
AMA	advanced measurement approach
ARO	Absa Regional Operations
ASF	available stable funding
AVM	automated valuation model

B

Bank	Absa Bank Limited
Basel	Basel Capital Accord
BCBS	Basel Committee on Banking Supervision
BIA	basic indicator approach
bps	basis points

C

CAR	capital adequacy requirement
CCF	credit conversion factor
CCP	central counterparty
CCR	counterparty credit risk
CEM	current exposure method
CET1	common equity tier 1
CFP	contingent funding plan
CIB	Corporate and Investment Banking
CLF	committed liquidity facility
CLR	credit loss ratio
CoE	cost of equity
CPA	critical process assessment
CRM	credit risk mitigation
CRMF	Credit Risk Management Framework
CRO	Chief Risk Officer
CVA	credit valuation adjustment

D

D-SIBs	domestic systemically important banks
dpd	days past due
DT	downturn

E

EAD	exposure at default
EaR	earnings at risk
EC	economic capitalG
ECL	expected credit loss
Edcon	Edcon Store Card Portfolio
EEPE	effective expected positive exposure
EL	expected loss
ERC	Absa Group Executive Risk Committee
ERMF	Enterprise Risk Management Framework
EVE	economic value of equity
EWIs	early warning indicators
Exco	Executive Committee

F

FIRB	foundation internal ratings-based
FRTB	fundamental review of the trading book
FVAL	fair value assets and liabilities

G

GACC	Group Audit and Compliance Committee
GCC	Group Credit Committee
GCRC	Group Credit Risk Committee
GCCO	Group Chief Credit Officer
GCIC	Group Credit Impairment Committee
GCRO	Group Chief Risk Officer
GMD	Group model database
GMRP	Group model risk policy
GRCMC	Group Risk and Capital Management Committee
Group	Absa Group Limited
G-SIBs	global systemically important banks

H

HQLA	high-quality liquid assets

I

IAA	internal assessment approach
ICAAP	internal capital adequacy assessment process
IFRS	International Financial Reporting Standards
ILSM	internal liquidity stress metric
IMA	internal models approach
IMM	internal model method
IRB	internal ratings-based
IRBA	internal ratings-based approach
IRC	incremental risk charge
IT	information technology
ITC	Information Technology Committee
IVU	independent validation unit

K

KCI	key control indicator
KPI	key performance indicator
KRA	key risk assessment
KRI	key risk indicator

L

LCR	liquidity coverage ratio
LGD	loss given default
LR	long run

M

M	maturity
MC	Models Committee
MCA	management control approach
MCC	model governance and control
MRG	model risk governance
MRPC	model risk processing centre

N

NII	net interest income
NPL	non-performing loan
NSFR	net stable funding ratio

O

ORRMC	Operational and Resilience Risk Management Committee
ORRMF	Operational and Resilience Risk Management Framework

9. Abbreviations and acronyms

ORX	operational risk data exchange
OTC	over-the-counter
P	
PA	Prudential Authority
PD	probability of default
PF	project finance
PFE	potential future exposure
PIT	point-in-time
PMAs	post-model adjustments
PnL	profit and loss
PQR	portfolio quality review
PSEs	public sector entities
PVA	prudent valuation adjustments
Q	
QCCP	qualifying central counterparty
R	
RBA	ratings-based approach
RBB	Retail and Business Banking
RC	regulatory capital
RDARR	risk data aggregation and risk reporting
RemCo	Group Remuneration Committee
RMC	Risk Management Committee
RoE	return on equity
RoRWA	return on average risk-weighted assets
RSF	required stable funding
RTO	risk type officer
RW	risk-weight
RWA	risk-weighted assets
S	
SA	standardised approach
SA-CCR	standardised approach for counterparty credit risk
SAM	Solvency Assessment and Management
SARB	South African Reserve Bank
SC	Separation Oversight Committee
SCR	solvency capital requirement
SEC	securitisation
SFA	supervisory formula approach
SFTs	securities financing transactions
SME	small and medium-sized enterprises
SSFA	simplified supervisory formula approach
sVaR	stressed value at risk
T	
TLAC	total loss-absorbing capacity
TMRC	Traded Market Risk Committee
TSA	the standard approach
TTC	through-the-cycle
V	
VAF	vehicle and asset finance
VaR	value at risk

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Contact information

Absa Group Limited
Incorporated in the Republic of South Africa
Registration number: 1986/003934/06
JSE share code: ABG
ISIN: ZAE000255915

Registered office
7th Floor, Absa Towers West
15 Troye Street, Johannesburg, 2001
PO Box 7735, Johannesburg, 2000
+27 11 350 4000

Head: Investor Relations
Alan Hartdegen
+27 11 350 2598

Group Company Secretary
Nadine Drutman
+27 11 350 5347

Head: Financial Control
John Annandale
+27 11 350 3946

Queries
Investor relations ir@absa.africa
Media groupmedia@absa.africa
Absa Group shares web.queries@computershare.co.za
groupsec@absa.africa
General queries absa@absa.africa

Transfer secretary
Computershare Investor Services (Pty) Ltd
+27 11 370 5000 | computershare.com

Sponsors
Lead independent sponsor
J.P. Morgan Equities South Africa (Pty) Ltd
+27 11 507 0300 | jpmorgan.com/ZA/en/about-us

Joint sponsor
Absa Bank Limited (Corporate and Investment Bank)
+27 11 895 6843 | equitysponsor@absacapital.com

Auditors
PricewaterhouseCoopers Inc.
+27 11 797 4000 | pwc.co.za

KPMG Inc.
+27 11 647 7111 | home.kpmg/za/en/home