

Risk review and Capital review

234	Risk profile
298	Climate risk
314	Enterprise Risk Management Framework
320	Principal risks
338	Capital review

Thousands run our 2023 marathons

In 2023, more than 160,000 elite runners, passionate amateurs and first-timers completed our sponsored marathons and races. We sponsor marathons in Singapore, Hong Kong, Taipei, Nairobi, Kuala Lumpur, Stanley (Falkland Islands) and Jersey, as well as a 10km run in Shanghai and a 5km run in London.

These events champion a range of charitable causes, including underprivileged communities, healthcare, education, and the environment. We sponsored our first marathon in 1997 in Hong Kong and will introduce our first heritage marathon in Vietnam in 2024 – our 10th annual race.

[+ Read more at **sc.com/marathons**](https://sc.com/marathons)





Risk review and Capital review

Risk Index	Annual Report and Accounts
Risk profile	
Credit risk	234
Basis of preparation	234
Credit risk overview	234
Impairment model	234
Staging of financial instruments	234
IFRS 9 expected credit loss principles and approaches	234
Summary of Performance in 2023	235
Maximum exposure to credit risk	237
Analysis of financial instrument by stage	238
Credit quality analysis	240
• Credit quality by client segment	240
• Credit quality by geographic region	248
Movement in gross exposures and credit impairment for loans and advances, debt securities, undrawn commitments and financial guarantees	248
Movement of debt securities, alternative tier one and other eligible bills	251
Analysis of Stage 2 balances	256
Credit impairment charge	257
Problem credit management and provisioning	257
• Forborne and other modified loans by client segment	257
• Forborne and other modified loans by region	258
• Credit-impaired (stage 3) loans and advances by geographic region	258
Credit risk mitigation	258
• Collateral	259
• Collateral held on loans and advances	259
• Collateral – Corporate, Commercial & Institutional Banking	259
• Collateral – Consumer, Private & Business Banking	260
• Mortgage loan-to-value ratios by geography	261
• Collateral and other credit enhancements possessed or called upon	261
• Other Credit risk mitigation	262
Other portfolio analysis	262
• Maturity analysis of loans and advances by client segment	262
• Credit quality by industry	263
• Industry and Retail Products analysis of loans and advances by geographic region	264
• Vulnerable, cyclical and high carbon sectors	265
• China commercial real estate	271
• Debt securities and other eligible bills	272
IFRS 9 expected credit loss methodology	273
Traded risk	286
Market risk movements	286
Counterparty Credit risk	289
Derivative financial instruments Credit risk mitigation	289
Liquidity and Funding risk	290
Liquidity & Funding risk metrics	290
Liquidity analysis of the Group's balance sheet	293
Interest Rate risk in the Banking Book	296
Operational and Technology risk	297
Operational and Technology risk profile	297
Other principal risks	297

Risk Index		Annual Report and Accounts
Climate risk	Managing financial and non-financial risks from climate change	298
	Assessing the resilience of our strategy using scenario analysis	309
Risk management approach	Enterprise Risk Management Framework	314
	Principal Risks	320
Capital	Capital summary	338
	• Capital ratio	338
	• Capital base	339
	Movement in total capital	340
	Risk-weighted asset	341
	Leverage ratio	343

The following parts of the Risk review and Capital review form part of these financial statements and are audited by the external auditors:

- **a) Risk review:** Disclosures marked as 'audited' from the start of Credit risk section (page 234) to the end of other principal risks in the same section (page 297); and
- **b) Capital review:** Tables marked as 'audited' from the start of 'Capital base' to the end of 'Movement in total capital', excluding 'Total risk-weighted assets' (pages 339 and 340).

Risk profile

Credit Risk (audited)

Basis of preparation

Unless otherwise stated the balance sheet and income statement information presented within this section is based on the Group's management view. This is principally the location from which a client relationship is managed, which may differ from where it is financially booked and may be shared between businesses and/or regions. This view reflects how the client segments and regions are managed internally.

Loans and advances to customers and banks held at amortised cost in this Risk profile section include reverse repurchase agreement balances held at amortised cost, per Note 16 Reverse repurchase and repurchase agreements including other similar secured lending and borrowing.

Credit Risk overview

Credit Risk is the potential for loss due to the failure of a counterparty to meet its contractual obligations to pay the Group. Credit exposures arise from both the banking and trading books.

Impairment model

IFRS 9 mandates an impairment model that requires the recognition of expected credit losses (ECL) on all financial debt instruments held at amortised cost, Fair Value through Other Comprehensive Income (FVOCI), undrawn loan commitments and financial guarantees.

Staging of financial instruments

Financial instruments that are not already credit-impaired are originated into stage 1 and a 12-month expected credit loss provision is recognised.

Instruments will remain in stage 1 until they are repaid, unless they experience significant credit deterioration (stage 2) or they become credit-impaired (stage 3).

Instruments will transfer to stage 2 and a lifetime expected credit loss provision is recognised when there has been a significant change in the Credit Risk compared to what was expected at origination.

The framework used to determine a significant increase in credit risk is set out below.

Stage 1

- 12-month ECL
- Performing

Stage 2

- Lifetime expected credit loss
- Performing but has exhibited significant increase in Credit Risk (SICR)

Stage 3

- Credit-impaired
- Non-performing

IFRS 9 expected credit loss principles and approaches

The main methodology principles and approach adopted by the Group are set out in the following table.

Title	Supplementary Information	Page
Approach for determining expected credit losses	IFRS 9 methodology	273
	Determining lifetime expected credit loss for revolving products	273
	Post model adjustments	280
Incorporation of forward-looking information	Incorporation of forward-looking information	275
	Forecast of key macroeconomic variables underlying the expected credit loss calculation and the impact of non-linearity	275
	Judgemental adjustments and sensitivity to macroeconomic variables	279
Significant increase in credit risk (SICR)	Quantitative and qualitative criteria	282
Assessment of credit-impaired financial assets	Consumer and Business Banking clients	284
	CCIB and Private Banking clients	284
	Write-offs	284
Transfers between stages	Movement in loan exposures and expected credit losses	248
Modified financial assets	Forbearance and other modified loans	257
Governance and application of expert credit judgement in respect of expected credit losses		284

Summary of performance in 2023

Loans and Advances

94 per cent (31 December 2022: 93 per cent) of the Group's gross loans and advances to customers remain in stage 1 at \$273.7 billion (31 December 2022: \$295.2 billion), reflecting our continued focus on high-quality origination.

Stage 1 loans decreased by \$21.5 billion to \$274 billion (31 December 2022: \$295 billion). For Corporate, Commercial and Institutional Banking (CCIB), stage 1 balances increased to 90 per cent of the gross loans and advances to customers (31 December 2022: 88 per cent), while there was an overall decrease due to reductions in the financing, insurance and non-banking sectors. Stage 1 balances for Consumer, Private and Business Banking (CPBB) decreased by \$5.6 billion, mainly driven by a slowdown in mortgages sales in Korea and Hong Kong, which was partly offset by new Credit Cards and Personal Loans businesses in Asia. Stage 1 balances for Central and other items decreased by \$10.8 billion due to exposure reductions to a Central Bank in the Asia region. Stage 1 cover ratio remained stable at 0.2 per cent (31 December 2022: 0.2 per cent).

Stage 2 gross loans and advances to customers decreased by \$1.8 billion to \$11.2 billion (31 December 2022: \$13 billion). This was due to CCIB exposure reductions and transfers to stage 3 in the Commercial Real Estate (CRE) sector, and exposure reductions in the Transport sector. This was partially offset by an increase in CPBB Korea and Hong Kong Mortgage portfolio and Singapore Private Banking. Higher risk exposure net increase of \$1 billion from Central and other items, was due to a short-term exposure to a Central Bank in the Africa and Middle East region, which was partly offset by exposure reductions and transfers to stage 3 in CCIB. Stage 2 cover ratio increased by 0.3 per cent to 3.7 per cent (31 December 2022: 3.4 per cent). The increase was driven by Ventures due to increased delinquencies and portfolio growth mainly in Mox Bank. The increase in CCIB cover ratio was due to a decrease in expected credit losses from exposure reductions and transfers to Stage 3. The decrease in CPBB stage 2 cover ratio was mainly due to an increase in secured portfolio exposures with relatively lower Loss Given Default.

Stage 3 loans decreased by \$0.6 billion to \$7.2 billion (31 December 2022: \$7.8 billion) as a result of repayments, debt sales and write-offs in CCIB. Although the portfolio reduced year on year, China CRE clients were the major inflows this year. The CCIB stage 3 cover ratio increased by 4.5 per cent to 64 per cent as a result of repayments and incremental provisions taken (31 December 2022: 60 per cent). The CPBB stage 3 cover ratio reduced by 2.2 per cent to 51 per cent (31 December 2022: 53 per cent), due to a small exposure increase mainly in Secured wealth products. Ventures stage 3 exposures increased by \$11 million to \$12 million (31 December 2022: \$1 million). The cover ratio after collateral remained stable at 76 per cent (31 December 2022: 76 per cent)



Further details can be found in the 'Analysis of financial instruments by stage' section in [pages 238 and 239](#); 'Credit quality by client segment' section in [pages 240 to 247](#); 'Credit quality by industry' section in [pages 263 and 264](#). Stage 3 cover ratio is also disclosed in the 'Stage 3 cover ratio' and 'Credit-impaired (stage 3) loans and advances by geographic region' sections in [page 258](#).

Maximum exposure

The Group's on-balance sheet maximum exposure to Credit Risk increased by \$8.6 billion to \$798 billion (31 December 2022: \$790 billion). Cash at Central bank increased by \$11.6 billion to \$70 billion (31 December 2022: \$58 billion) due to deposits placed with the US Federal Reserve. Loans to banks also increased by \$5 billion to \$45 billion (31 December 2022: \$40 billion). Fair Value through profit and loss increased by \$42 billion to \$144 billion (31 December 2022: \$103 billion), largely due to an increase in Debt Securities and Reverse Repos. This was partly offset by a \$13 billion decrease in Derivative financial instruments, and a \$23.7 billion decrease in loans and advances to customers to \$287 billion (31 December 2022: \$311 billion). Out of the \$23.7 billion decrease in loans and advances to customers, a \$10.5 billion reduction relates to reverse repos, and a \$11 billion reduction relates to Amortised Cost Debt Securities, as part of the Group's liquidity management actions. Off-balance sheet instruments increased by \$28 billion to \$257 billion (31 December 2022: \$229 billion), which was driven by new businesses.



Further details can be found in the 'Maximum exposure to Credit Risk' section in [page 237](#).

Analysis of stage 2

The key SICR driver that caused exposures to be classified as stage 2 remains increase in probability of default. The proportion of exposures in CCIB in stage 2 due to increased PD has decreased partly due to an increase in clients placed on non-purely precautionary early alert that have not breached PD thresholds. In CPBB, the proportion of loans in stage 2 loans from 30 days past due trigger decreased by 2 per cent to 6 per cent (31 December 2022: 8 per cent). 'Others' category includes exposures where origination data is incomplete and the exposures are getting allocated into stage 2.



Further details can be found in the 'Analysis of stage 2 balances' section in [page 256](#).

Credit impairment charges

The Group's ongoing credit impairment was a net charge of \$508 million (31 December 2022: \$836 million).

For CCIB, stage 1 and 2 impairment charges decreased by \$137 million to \$11 million (31 December 2022: \$148 million), as 2022 included Pakistan Sovereign downgrades and China CRE overlays, which was partly offset by a \$102 million full release of COVID-19 overlay. In 2023, \$11 million impairment charges were due to portfolio movements, including impairments on Pakistan Sovereign clients, and China CRE overlays, which was partly offset by a \$13 million net release from model and methodology updates.

CCIB stage 3 impairment charges decreased by \$165 million to \$112 million (31 December 2022: \$277 million) largely due to higher releases and lower impairments on China CRE clients. In 2023, \$112 million impairment charges were largely driven by impairments on China CRE clients, and releases across multiple clients.

For CPBB, stage 1 and 2 impairment charges decreased by \$22 million to \$129 million (31 December 2022: \$151 million). In 2023, \$129 million impairment charges were from normal flows, largely from unsecured portfolios in China, Hong Kong, India and Singapore. This was partially offset by \$21 million of COVID-19 overlay releases, including the full release of \$16 million remaining COVID-19 overlays in Bahrain.

CPBB stage 3 impairment charges increased by \$114 million to \$225 million (31 December 2022: \$111 million). The increase has been driven mainly by the unsecured business due to a mix of higher bankruptcies in Singapore, Hong Kong and Korea, and portfolio growth in digital partnerships.

For Ventures, stage 1 and 2 impairment charges increased by \$29 million to \$42 million (31 December 2022: \$13 million), mainly due to portfolio growth in Mox Bank.

Ventures stage 3 impairment charges increased by \$40 million to \$43 million (31 December 2022: \$3 million), mainly due to portfolio growth in Mox Bank, and higher bankruptcies. Mitigating actions have been taken to address these.

For Central and other items, stage 1 and 2 impairment charges decreased by \$139 million due to a net release of \$44 million (31 December 2022: \$95 million) as 2022 included Pakistan Sovereign CG12 downgrades. In 2023, \$44 million net release of impairment charges were driven by exposure reductions and shortening tenors of balances to the Pakistan Government. This was partly offset by a \$8 million charge due to Kenya Sovereign downgrade.

Central and other items stage 3 impairment charges decreased by \$28 million to \$10 million (31 December 2022: \$38 million) as Sri Lanka and Ghana exposures were downgraded to Stage 3 in 2022.



Further details can be found in the 'Credit impairment charge' section in [page 257](#).

Vulnerable and Cyclical Sectors

Total net on-balance sheet exposure to vulnerable and cyclical sectors decreased by \$3 billion to \$29 billion (31 December 2022: \$32 billion) largely due to the exit of the Aviation business and lower drawn balances particularly in the CRE sector, where on-balance sheet exposure decreased by \$1.8 billion to \$14.5 billion (31 December 2022: \$16.3 billion). Stage 2 vulnerable and cyclical sector loans decreased by \$2.3 billion to \$3.3 billion (31 December 2022: \$5.6 billion), primarily driven by a \$1.4 billion exposure reduction in the CRE sector and transfers to Stage 3. Stage 3 vulnerable and cyclical sector loans decreased by \$0.5 billion to \$3.6 billion (31 December 2022: \$4 billion), mainly due to the Oil and Gas, and Commodity sectors, which was partly offset by new inflows into the CRE sector.

The Group provides loans to CRE counterparties of which \$9.6 billion is to counterparties in the CCIB segment where the source of repayment is substantially derived from rental or sale of real estate and is secured by real estate collateral. The remaining CRE loans comprise working capital loans to real estate corporates, loans with non-property collateral, unsecured loans and loans to real estate entities of diversified conglomerates. The average LTV ratio of the performing book CRE portfolio has increased to 52 per cent (31 December 2022: 49 per cent). The proportion of loans with an LTV greater than 80 per cent has increased to 3 per cent (31 December 2022: 1 per cent).



Further details can be found in the 'Vulnerable, cyclical and high carbon sectors' section in [pages 265 to 270](#).

China commercial real estate

Total exposure to China CRE decreased by \$0.8 billion to \$2.6 billion (31 December 2022: \$3.4 billion) mainly from exposure reductions. The proportion of credit impaired exposures increased to 58 per cent (31 December 2022: 33 per cent) as market conditions continued to deteriorate during the period, and provision coverage increased to 72 per cent (31 December 2022: 56 per cent) reflecting increased provision charges during the period. The proportion of the loan book rated as Higher Risk decreased by 8 per cent to 0.3 per cent (31 December 2022: 8.4 per cent) primarily due to downgrades in the period.

The Group continues to hold a judgemental management overlay, which decreased by \$32 million to \$141 million (31 December 2022: \$173 million), reflecting changes in the portfolio and downgrades to Stage 3.

The Group is further indirectly exposed to China CRE through its associate investment in China Bohai Bank.



Further details can be found in the 'China commercial real estate' section in [page 271](#).

Management adjustments

Given the evolving nature of the risks in the China CRE sector, a management overlay of \$141 million (31 December 2022: \$173 million) has been taken by estimating the impact of further deterioration to exposures in this sector. Overlays of \$5 million (31 December 2022: \$16 million) have been applied in CPBB to capture macroeconomic environment challenges caused by sovereign defaults or heightened sovereign risk and an overlay of \$17 million (31 December 2022: nil) was applied in Central and other items, due to a temporary market dislocation in the Africa and Middle East.

The remaining COVID-19 overlay in CPBB of \$21 million that was held at 31 December 2022 has been fully released in 2023. The stage 3 overlay in CCIB of \$9 million that was held at 31 December 2022, following the Sri Lanka Sovereign default was also fully released in 2023.



Further details can be found in the 'Judgemental management overlays' section in [page 280](#). Model performance and judgemental post model adjustments are also disclosed in the 'Model performance post model adjustments' section in [page 275](#).

Maximum exposure to Credit Risk (audited)

The table below presents the Group's maximum exposure to credit risk for its on-balance sheet and off-balance sheet financial instruments as at 31 December 2023, before and after taking into account any collateral held or other credit risk mitigation.

→ Further details can be found in the 'Summary of Performance in 2023' in [pages 235 and 236](#).

	2023				2022			
	Credit risk management			Net Exposure \$million	Credit risk management			Net exposure \$million
	Maximum exposure \$million	Collateral ⁸ \$million	Master netting agreements \$million		Maximum exposure \$million	Collateral ⁸ \$million	Master netting agreements \$million	
On-balance sheet								
Cash and balances at central banks	69,905			69,905	58,263			58,263
Loans and advances to banks ¹	44,977	1,738		43,239	39,519	978		38,541
of which – reverse repurchase agreements and other similar secured lending ⁷	1,738	1,738		–	978	978		–
Loans and advances to customers ¹	286,975	118,492		168,483	310,647	135,194		175,453
of which – reverse repurchase agreements and other similar secured lending ⁷	13,996	13,996		–	24,498	24,498		–
Investment securities – Debt securities and other eligible bills ²	160,263			160,263	171,640			171,640
Fair value through profit or loss ^{3,7}	144,276	81,847	–	62,429	102,575	64,491	–	38,084
Loans and advances to banks	2,265			2,265	976			976
Loans and advances to customers	7,212			7,212	6,546			6,546
Reverse repurchase agreements and other similar lending ⁷	81,847	81,847		–	64,491	64,491		–
Investment securities – Debt securities and other eligible bills ²	52,952			52,952	30,562			30,562
Derivative financial instruments ^{4,7}	50,434	8,440	39,293	2,701	63,717	9,206	50,133	4,378
Accrued income	2,673			2,673	2,706			2,706
Assets held for sale ⁹	701			701	1,388			1,388
Other assets ⁵	38,140			38,140	39,295			39,295
Total balance sheet	798,344	210,517	39,293	548,534	789,750	209,869	50,133	529,748
Off-balance sheet⁶								
Undrawn Commitments	182,390	2,940		179,450	168,668	2,951		165,717
Financial Guarantees and other equivalents	74,414	2,590		71,824	60,410	2,592		57,818
Total off-balance sheet	256,804	5,530	–	251,274	229,078	5,543	–	223,535
Total	1,055,148	216,047	39,293	799,808	1,018,828	215,412	50,133	753,283

1. An analysis of credit quality is set out in the credit quality analysis section (page 240). Further details of collateral held by client segment and stage are set out in the collateral analysis section (page 259)

2. Excludes equity and other investments of \$992 million (31 December 2022: \$808 million). Further details are set out in Note 13 financial instruments

3. Excludes equity and other investments of \$2,940 million (31 December 2022: \$3,230 million). Further details are set out in Note 13 financial instruments

4. The Group enters into master netting agreements, which in the event of default result in a single amount owed by or to the counterparty through netting the sum of the positive and negative mark-to-market values of applicable derivative transactions

5. Other assets include Hong Kong certificates of indebtedness, cash collateral, and acceptances, in addition to unsettled trades and other financial assets

6. Excludes ECL allowances which are reported under Provisions for liabilities and charges

7. Collateral capped at maximum exposure (over-collateralised)

8. Adjusted for over-collateralisation, which has been determined with reference to the drawn and undrawn component as this best reflects the effect on the amount arising from expected credit losses

9. The amount is after ECL. Further details are set out in Note 21 Assets held for sale and associated liabilities

Analysis of financial instruments by stage (audited)

The table below presents the gross and credit impairment balances by stage for the Group's amortised cost and FVOCI financial instruments as at 31 December 2023.

→ Further details can be found in the 'Summary of Performance in 2023' in [pages 235 and 236](#).

	2023											
	Stage 1			Stage 2			Stage 3			Total		
	Gross balance¹ \$million	Total credit impairment \$million	Net carrying value \$million	Gross balance¹ \$million	Total credit impairment \$million	Net carrying value \$million	Gross balance¹ \$million	Total credit impairment \$million	Net carrying value \$million	Gross balance¹ \$million	Total credit impairment \$million	Net carrying value \$million
Cash and balances at central banks	69,313	-	69,313	207	(7)	200	404	(12)	392	69,924	(19)	69,905
Loans and advances to banks (amortised cost)	44,384	(8)	44,376	540	(10)	530	77	(6)	71	45,001	(24)	44,977
Loans and advances to customers (amortised cost)	273,692	(430)	273,262	11,225	(420)	10,805	7,228	(4,320)	2,908	292,145	(5,170)	286,975
Debt securities and other eligible bills⁵	158,314	(26)		1,860	(34)		164	(61)		160,338	(121)	
Amortised cost	56,787	(16)	56,771	103	(2)	101	120	(57)	63	57,010	(75)	56,935
FVOCI²	101,527	(10)		1,757	(32)		44	(4)		103,328	(46)	-
Accrued income (amortised cost)⁴	2,673	-	2,673	-	-	-	-	-	-	2,673	-	2,673
Assets held for sale⁴	661	(33)	628	76	(4)	72	1	-	1	738	(37)	701
Other assets	38,139	-	38,139	-	-	-	4	(3)	1	38,143	(3)	38,140
Undrawn commitments³	176,654	(52)		5,733	(39)		3	-		182,390	(91)	
Financial guarantees, trade credits and irrevocable letter of credits³	70,832	(10)		2,910	(14)		672	(112)		74,414	(136)	
Total	834,662	(559)		22,551	(528)		8,553	(4,514)		865,766	(5,601)	

1 Gross carrying amount for off-balance sheet refers to notional values

2 These instruments are held at fair value on the balance sheet. The ECL provision in respect of debt securities measured at FVOCI is held within the OCI reserve

3 These are off-balance sheet instruments. Only the ECL is recorded on-balance sheet as a financial liability and therefore there is no "net carrying amount". ECL allowances on off-balance sheet instruments are held as liability provisions to the extent that the drawn and undrawn components of loan exposures can be separately identified. Otherwise they will be reported against the drawn component

4 Stage 1 ECL is not material

5 Stage 3 gross includes \$80 million (31 December 2022: \$28 million) originated credit-impaired debt securities with impairment of \$14 million (31 December 2022: \$13 million)

	Stage 1			Stage 2			Stage 3			Total		
	Gross balance ¹ \$million	Total credit impairment \$million	Net carrying value \$million	Gross balance ¹ \$million	Total credit impairment \$million	Net carrying value \$million	Gross balance ¹ \$million	Total credit impairment \$million	Net carrying value \$million	Gross balance ¹ \$million	Total credit impairment \$million	Net carrying value \$million
Cash and balances at central banks	57,643	–	57,643	333	(8)	325	295	–	295	58,271	(8)	58,263
Loans and advances to banks (amortised cost)	39,149	(9)	39,140	337	(3)	334	59	(14)	45	39,545	(26)	39,519
Loans and advances to customers (amortised cost)	295,219	(559)	294,660	13,043	(444)	12,599	7,845	(4,457)	3,388	316,107	(5,460)	310,647
Debt securities and other eligible bills ⁵	166,103	(25)		5,455	(90)		144	(106)		171,702	(221)	
Amortised cost	59,427	(9)	59,418	271	(2)	269	78	(51)	27	59,776	(62)	59,714
FVOCI ²	106,676	(16)		5,184	(88)		66	(55)		111,926	(159)	
Accrued income (amortised cost) ⁴	2,706	–	2,706	–	–	–	–	–	–	2,706	–	2,706
Assets held for sale ⁴	1,083	(6)	1,077	262	(4)	258	120	(67)	53	1,465	(77)	1,388
Other assets	39,294	–	39,294	–	–	–	4	(3)	1	39,298	(3)	39,295
Undrawn commitments ³	162,958	(41)		5,582	(53)		128	–		168,668	(94)	
Financial guarantees, trade credits and irrevocable letter of credits ³	56,683	(11)		3,062	(28)		665	(147)		60,410	(186)	
Total	820,838	(651)		28,074	(630)		9,260	(4,794)		858,172	(6,075)	

1 Gross carrying amount for off-balance sheet refers to notional values

2 These instruments are held at fair value on the balance sheet. The ECL provision in respect of debt securities measured at FVOCI is held within the OCI reserve

3 These are off-balance sheet instruments. Only the ECL is recorded on-balance sheet as a financial liability and therefore there is no “net carrying amount”. ECL allowances on off-balance sheet instruments are held as liability provisions to the extent that the drawn and undrawn components of loan exposures can be separately identified. Otherwise they will be reported against the drawn component

4 Stage 1 ECL is not material

5 Stage 3 gross includes \$28 million originated credit-impaired debt securities with impairment of \$13 million

Credit quality analysis (audited)

Credit quality by client segment

For CCIB, exposures are analysed by credit grade (CG), which plays a central role in the quality assessment and monitoring of risk. All loans are assigned a CG, which is reviewed periodically and amended in light of changes in the borrower's circumstances or behaviour. CGs 1 to 12 are assigned to stage 1 and stage 2 (performing) clients or accounts, while CGs 13 and 14 are assigned to stage 3 (credit-impaired) clients. Consumer and Business Banking portfolios are analysed by days past due and Private Banking by the type of collateral held.

Mapping of credit quality

The Group uses the following internal risk mapping to determine the credit quality for loans.

Credit quality description	Corporate, Commercial & Institutional Banking			Private Banking ¹	Consumer & Business Banking ⁵
	Internal grade mapping	S&P external ratings equivalent	Regulatory PD range (%)	Internal ratings	Internal grade mapping
Strong	1A to 5B	AAA/AA+ to BBB-/BB+ ²	0 to 0.425	Class I and Class IV	Current loans (no past dues nor impaired)
Satisfactory	6A to 11C	BB+/BB to B-/CCC+ ³	0.426 to 15.75	Class II and Class III	Loans past due till 29 days
Higher risk	Grade 12	CCC+ to C ⁴	15.751 to 99.999	Stressed Assets Group (SAG) managed	Past due loans 30 days and over till 90 days

1 For Private Banking, classes of risk represent the type of collateral held. Class I represents facilities with liquid collateral, such as cash and marketable securities. Class II represents unsecured/partially secured facilities and those with illiquid collateral, such as equity in private enterprises. Class III represents facilities with residential or commercial real estate collateral. Class IV covers margin trading facilities

2 Banks' rating: AAA/AA+ to BB+. Sovereigns' rating: AAA to BB+

3 Banks' rating: BB to "CCC+ to C". Sovereigns' rating: BB+/BB to B-/CCC+

4 Banks' rating: CCC+ to C. Sovereigns' rating: CCC+ to "CCC+ to C"

5 Medium enterprise clients within Business Banking are managed using the same internal credit grades as CCIB

The table below sets out the gross loans and advances held at amortised cost, expected credit loss provisions and expected credit loss coverage by business segment and stage. Expected credit loss coverage represents the expected credit loss reported for each segment and stage as a proportion of the gross loan balance for each segment and stage.

→ Further details can be found in the 'Summary of Performance in 2023' in [pages 235 and 236](#).

Loans and advances by client segment (audited)

	2023							
	Customers						Undrawn commitments \$million	Financial Guarantees \$million
Amortised cost	Banks \$million	Corporate, Commercial & Institutional Banking \$million	Consumer, Private & Business Banking \$million	Ventures \$million	Central & other items \$million	Customer Total \$million		
Stage 1	44,384	120,886	123,486	1,015	28,305	273,692	176,654	70,832
– Strong	35,284	84,248	118,193	1,000	27,967	231,408	162,643	47,885
– Satisfactory	9,100	36,638	5,293	15	338	42,284	14,011	22,947
Stage 2	540	7,902	2,304	54	965	11,225	5,733	2,910
– Strong	55	1,145	1,761	34	–	2,940	1,090	830
– Satisfactory	212	5,840	206	7	–	6,053	4,169	1,823
– Higher risk	273	917	337	13	965	2,232	474	257
Of which (stage 2):								
– Less than 30 days past due	–	78	206	7	–	291	–	–
– More than 30 days past due	–	10	337	13	–	360	–	–
Stage 3, credit-impaired financial assets	77	5,508	1,484	12	224	7,228	3	672
Gross balance¹	45,001	134,296	127,274	1,081	29,494	292,145	182,390	74,414
Stage 1	(8)	(101)	(314)	(15)	–	(430)	(52)	(10)
– Strong	(3)	(34)	(234)	(14)	–	(282)	(31)	(2)
– Satisfactory	(5)	(67)	(80)	(1)	–	(148)	(21)	(8)
Stage 2	(10)	(257)	(141)	(21)	(1)	(420)	(39)	(14)
– Strong	(1)	(18)	(65)	(14)	–	(97)	(5)	–
– Satisfactory	(2)	(179)	(22)	(3)	–	(204)	(23)	(7)
– Higher risk	(7)	(60)	(54)	(4)	(1)	(119)	(11)	(7)
Of which (stage 2):								
– Less than 30 days past due	–	(2)	(22)	(3)	–	(27)	–	–
– More than 30 days past due	–	(1)	(54)	(4)	–	(59)	–	–
Stage 3, credit-impaired financial assets	(6)	(3,533)	(760)	(12)	(15)	(4,320)	–	(112)
Total credit impairment	(24)	(3,891)	(1,215)	(48)	(16)	(5,170)	(91)	(136)
Net carrying value	44,977	130,405	126,059	1,033	29,478	286,975		
Stage 1	0.0%	0.1%	0.3%	1.5%	0.0%	0.2%	0.0%	0.0%
– Strong	0.0%	0.0%	0.2%	1.4%	0.0%	0.1%	0.0%	0.0%
– Satisfactory	0.1%	0.2%	1.5%	6.7%	0.0%	0.4%	0.1%	0.0%
Stage 2	1.9%	3.3%	6.1%	38.9%	0.1%	3.7%	0.7%	0.5%
– Strong	1.8%	1.6%	3.7%	41.2%	0.0%	3.3%	0.5%	0.0%
– Satisfactory	0.9%	3.1%	10.7%	42.9%	0.0%	3.4%	0.6%	0.4%
– Higher risk	2.6%	6.5%	16.0%	30.8%	0.1%	5.3%	2.3%	2.7%
Of which (stage 2):								
– Less than 30 days past due	0.0%	2.6%	10.7%	42.9%	0.0%	9.3%	0.0%	0.0%
– More than 30 days past due	0.0%	10.0%	16.0%	30.8%	0.0%	16.4%	0.0%	0.0%
Stage 3, credit-impaired financial assets (S3)	7.8%	64.1%	51.2%	100.0%	6.7%	59.8%	0.0%	16.7%
Cover ratio	0.1%	2.9%	1.0%	4.4%	0.1%	1.8%	0.0%	0.2%
Fair value through profit or loss								
Performing	32,813	58,465	13	–	–	58,478	–	–
– Strong	28,402	38,014	13	–	–	38,027	–	–
– Satisfactory	4,411	20,388	–	–	–	20,388	–	–
– Higher risk	–	63	–	–	–	63	–	–
Defaulted (CG13-14)	–	33	–	–	–	33	–	–
Gross balance (FVTPL)²	32,813	58,498	13	–	–	58,511	–	–
Net carrying value (incl FVTPL)	77,790	188,903	126,072	1,033	29,478	345,486	–	–

1. Loans and advances includes reverse repurchase agreements and other similar secured lending of \$13,996 million under Customers and of \$1,738 million under Banks, held at amortised cost

2. Loans and advances includes reverse repurchase agreements and other similar secured lending of \$51,299 million under Customers and of \$30,548 million under Banks, held at fair value through profit or loss

2022

	Customers							
	Banks \$million	Corporate, Commercial & Institutional Banking \$million	Consumer, Private & Business Banking \$million	Ventures \$million	Central & other items \$million	Customer Total \$million	Undrawn commitments \$million	Financial Guarantees \$million
Amortised cost								
Stage 1	39,149	126,261	129,134	691	39,133	295,219	162,958	56,683
– Strong	27,941	89,567	124,734	685	39,133	254,119	148,303	39,612
– Satisfactory	11,208	36,694	4,400	6	–	41,100	14,655	17,071
Stage 2	337	11,355	1,670	18	–	13,043	5,582	3,062
– Strong	148	2,068	1,215	10	–	3,293	1,449	522
– Satisfactory	119	7,783	146	4	–	7,933	3,454	2,134
– Higher risk	70	1,504	309	4	–	1,817	679	406
Of which (stage 2):								
– Less than 30 days past due	5	109	148	4	–	261	–	–
– More than 30 days past due	6	23	310	4	–	337	–	–
Stage 3, credit-impaired financial assets	59	6,143	1,453	1	248	7,845	128	665
Gross balance¹	39,545	143,759	132,257	710	39,381	316,107	168,668	60,410
Stage 1	(9)	(143)	(406)	(10)	–	(559)	(41)	(11)
– Strong	(3)	(43)	(332)	(10)	–	(385)	(28)	(3)
– Satisfactory	(6)	(100)	(74)	–	–	(174)	(13)	(8)
Stage 2	(3)	(323)	(120)	(1)	–	(444)	(53)	(28)
– Strong	–	(30)	(62)	(1)	–	(93)	(6)	–
– Satisfactory	(2)	(159)	(17)	–	–	(176)	(42)	(15)
– Higher risk	(1)	(134)	(41)	–	–	(175)	(5)	(13)
Of which (stage 2):								
– Less than 30 days past due	–	(2)	(17)	–	–	(19)	–	–
– More than 30 days past due	–	(1)	(41)	–	–	(42)	–	–
Stage 3, credit-impaired financial assets	(14)	(3,662)	(776)	(1)	(18)	(4,457)	–	(147)
Total credit impairment	(26)	(4,128)	(1,302)	(12)	(18)	(5,460)	(94)	(186)
Net carrying value	39,519	139,631	130,955	698	39,363	310,647		
Stage 1	0.0%	0.1%	0.3%	1.4%	0.0%	0.2%	0.0%	0.0%
– Strong	0.0%	0.0%	0.3%	1.5%	0.0%	0.2%	0.0%	0.0%
– Satisfactory	0.1%	0.3%	1.7%	0.0%	0.0%	0.4%	0.1%	0.0%
Stage 2	0.9%	2.8%	7.2%	5.6%	0.0%	3.4%	0.9%	0.9%
– Strong	0.0%	1.5%	5.1%	10.0%	0.0%	2.8%	0.4%	0.0%
– Satisfactory	1.7%	2.0%	11.6%	0.0%	0.0%	2.2%	1.2%	0.7%
– Higher risk	1.4%	8.9%	13.3%	0.0%	0.0%	9.6%	0.7%	3.2%
Of which (stage 2):								
– Less than 30 days past due	0.0%	1.8%	11.5%	0.0%	0.0%	7.3%	0.0%	0.0%
– More than 30 days past due	0.0%	4.3%	13.2%	0.0%	0.0%	12.5%	0.0%	0.0%
Stage 3, credit-impaired financial assets (\$3)	23.7%	59.6%	53.4%	100.0%	7.3%	56.8%	0.0%	22.1%
Cover ratio	0.1%	2.9%	1.0%	1.7%	0.0%	1.7%	0.1%	0.3%
Fair value through profit or loss								
Performing	24,930	44,461	28	–	2,557	47,046	–	–
– Strong	21,451	36,454	27	–	2,409	38,890	–	–
– Satisfactory	3,479	8,007	1	–	148	8,156	–	–
– Higher risk	–	–	–	–	–	–	–	–
Defaulted (CG13-14)	–	37	–	–	–	37	–	–
Gross balance (FVTPL)²	24,930	44,498	28	–	2,557	47,083	–	–
Net carrying value (incl FVTPL)	64,449	184,129	130,983	698	41,920	357,730	–	–

1. Loans and advances includes reverse repurchase agreements and other similar secured lending of \$24,498 million under Customers and of \$978 million under Banks, held at amortised cost

2. Loans and advances includes reverse repurchase agreements and other similar secured lending of \$40,537 million under Customers and of \$23,954 million under Banks, held at fair value through profit or loss

Loans and advances by client segment credit quality analysis

			Corporate, Commercial & Institutional Banking							
			2023							
Credit grade	Regulatory 1 year PD range (%)	S&P external ratings equivalent	Gross				Credit impairment			
			Stage 1 \$million	Stage 2 \$million	Stage 3 \$million	Total \$million	Stage 1 \$million	Stage 2 \$million	Stage 3 \$million	Total \$million
Strong			84,248	1,145	-	85,893	(34)	(18)	-	(52)
1A-2B	0 – 0.045	A+ and above	10,891	81	-	10,972	(1)	-	-	(1)
3A-4A	0.046 – 0.110	A/A- to BBB+/BBB	31,974	558	-	32,532	(3)	-	-	(3)
4B-5B	0.111 – 0.425	BBB to BBB-/BB+	41,383	506	-	41,889	(30)	(18)	-	(48)
Satisfactory			36,638	5,840	-	42,478	(67)	(179)	-	(246)
6A-7B	0.426 – 1.350	BB+/BB to BB-	24,296	1,873	-	26,169	(38)	(77)	-	(115)
8A-9B	1.351 – 4.000	BB-/B+ to B	8,196	2,273	-	10,469	(13)	(90)	-	(103)
10A-11C	4.001 – 15.75	B/B- to B-/CCC+	4,146	1,694	-	5,840	(16)	(12)	-	(28)
Higher risk			-	917	-	917	-	(60)	-	(60)
12	15.751 – 99.999	CCC+/C	-	917	-	917	-	(60)	-	(60)
Defaulted			-	-	5,508	5,508	-	-	(3,533)	(3,533)
13-14	100	Defaulted	-	-	5,508	5,508	-	-	(3,533)	(3,533)
Total			120,886	7,902	5,508	134,296	(101)	(257)	(3,533)	(3,891)

			Corporate, Commercial & Institutional Banking							
			2022							
Credit grade	Regulatory 1 year PD range (%)	S&P external ratings equivalent	Gross				Credit impairment			
			Stage 1 \$million	Stage 2 \$million	Stage 3 \$million	Total \$million	Stage 1 \$million	Stage 2 \$million	Stage 3 \$million	Total \$million
Strong			89,567	2,068	-	91,635	(43)	(30)	-	(73)
1A-2B	0 – 0.045	A+ and above	8,247	117	-	8,364	(4)	-	-	(4)
3A-4A	0.046 – 0.110	A/A- to BBB+/BBB	36,379	321	-	36,700	(5)	-	-	(5)
4B-5B	0.111 – 0.425	BBB to BBB-/BB+	44,941	1,630	-	46,571	(34)	(30)	-	(64)
Satisfactory			36,694	7,783	-	44,477	(100)	(159)	-	(259)
6A-7B	0.426 – 1.350	BB+/BB to BB-	23,196	2,684	-	25,880	(67)	(94)	-	(161)
8A-9B	1.351 – 4.000	BB-/B+ to B	9,979	3,116	-	13,095	(20)	(35)	-	(55)
10A-11C	4.001 – 15.75	B/B- to B-/CCC+	3,519	1,983	-	5,502	(13)	(30)	-	(43)
Higher risk			-	1,504	-	1,504	-	(134)	-	(134)
12	15.751 – 99.999	CCC+/C	-	1,504	-	1,504	-	(134)	-	(134)
Defaulted			-	-	6,143	6,143	-	-	(3,662)	(3,662)
13-14	100	Defaulted	-	-	6,143	6,143	-	-	(3,662)	(3,662)
Total			126,261	11,355	6,143	143,759	(143)	(323)	(3,662)	(4,128)

			Corporate lending ¹ - Asia							
			2023							
Credit grade	Regulatory 1 year PD range (%)	S&P external ratings equivalent	Gross				Credit impairment			
			Stage 1 \$million	Stage 2 \$million	Stage 3 \$million	Total \$million	Stage 1 \$million	Stage 2 \$million	Stage 3 \$million	Total \$million
Strong			36,959	802	-	37,761	(12)	(15)	-	(27)
1A-2B	0 – 0.045	A+ and above	3,550	24	-	3,574	-	-	-	-
3A-4A	0.046 – 0.110	A/A- to BBB+/BBB	12,634	400	-	13,034	(1)	-	-	(1)
4B-5B	0.111 – 0.425	BBB to BBB-/BB+	20,775	378	-	21,153	(11)	(15)	-	(26)
Satisfactory			22,581	2,534	-	25,115	(35)	(137)	-	(172)
6A-7B	0.426 – 1.350	BB+/BB to BB-	14,740	739	-	15,479	(28)	(68)	-	(96)
8A-9B	1.351 – 4.000	BB-/B+ to B	5,243	1,134	-	6,377	(5)	(66)	-	(71)
10A-11C	4.001 – 15.75	B/B- to B-/CCC+	2,598	661	-	3,259	(2)	(3)	-	(5)
Higher risk			-	231	-	231	-	(19)	-	(19)
12	15.751 – 99.999	CCC+/C	-	231	-	231	-	(19)	-	(19)
Defaulted			-	-	2,870	2,870	-	-	(2,014)	(2,014)
13-14	100	Defaulted	-	-	2,870	2,870	-	-	(2,014)	(2,014)
Total			59,540	3,567	2,870	65,977	(47)	(171)	(2,014)	(2,232)

¹ Corporate loans and advances to customers excludes loans to "Financing, insurance and non-banking" and "Government" counterparties

Corporate lending¹ - Asia

			2022							
			Gross				Credit impairment			
			Stage 1 \$million	Stage 2 \$million	Stage 3 \$million	Total \$million	Stage 1 \$million	Stage 2 \$million	Stage 3 \$million	Total \$million
Strong			40,402	1,361	–	41,763	(28)	(21)	–	(49)
1A-2B	0 – 0.045	A+ and above	3,857	52	–	3,909	(3)	–	–	(3)
3A-4A	0.046 – 0.110	A/A- to BBB+/BBB	14,694	250	–	14,944	(2)	(1)	–	(3)
4B-5B	0.111 – 0.425	BBB to BBB-/BB+	21,851	1,059	–	22,910	(23)	(20)	–	(43)
Satisfactory			22,064	3,859	–	25,923	(55)	(99)	–	(154)
6A-7B	0.426 – 1.350	BB+/BB to BB-	14,512	1,285	–	15,797	(47)	(81)	–	(128)
8A-9B	1.351 – 4.000	BB-/B+ to B	5,091	1,451	–	6,542	(7)	(7)	–	(14)
10A-11C	4.001 – 15.75	B/B- to B-/CCC+	2,461	1,123	–	3,584	(1)	(11)	–	(12)
Higher risk			–	463	–	463	–	(106)	–	(106)
12	15.751 – 99.999	CCC+/C	–	463	–	463	–	(106)	–	(106)
Defaulted			–	–	3,063	3,063	–	–	(1,748)	(1,748)
13-14	100	Defaulted	–	–	3,063	3,063	–	–	(1,748)	(1,748)
Total			62,466	5,683	3,063	71,212	(83)	(226)	(1,748)	(2,057)

1 Corporate loans and advances to customers excludes loans to “Financing, insurance and non-banking” and “Government” counterparties

			Corporate lending ¹ - Africa & Middle East							
			2023							
			Gross				Credit impairment			
Credit grade	Regulatory 1 year PD range (%)	S&P external ratings equivalent	Stage 1 \$million	Stage 2 \$million	Stage 3 \$million	Total \$million	Stage 1 \$million	Stage 2 \$million	Stage 3 \$million	Total \$million
Strong			7,756	43	–	7,799	(1)	(2)	–	(3)
1A-2B	0 – 0.045	A+ and above	358	–	–	358	–	–	–	–
3A-4A	0.046 – 0.110	A/A- to BBB+/BBB	1,952	–	–	1,952	–	–	–	–
4B-5B	0.111 – 0.425	BBB to BBB-/BB+	5,446	43	–	5,489	(1)	(2)	–	(3)
Satisfactory			2,801	492	–	3,293	(18)	(13)	–	(31)
6A-7B	0.426 – 1.350	BB+/BB to BB-	1,512	82	–	1,594	(2)	(3)	–	(5)
8A-9B	1.351 – 4.000	BB-/B+ to B	587	175	–	762	(4)	(7)	–	(11)
10A-11C	4.001 – 15.75	B/B- to B-/CCC+	702	235	–	937	(12)	(3)	–	(15)
Higher risk			–	515	–	515	–	(37)	–	(37)
12	15.751 – 99.999	CCC+/C	–	515	–	515	–	(37)	–	(37)
Defaulted			–	–	1,435	1,435	–	–	(1,079)	(1,079)
13-14	100	Defaulted	–	–	1,435	1,435	–	–	(1,079)	(1,079)
Total			10,557	1,050	1,435	13,042	(19)	(52)	(1,079)	(1,150)

1 Corporate loans and advances to customers excludes loans to “Financing, insurance and non-banking” and “Government” counterparties

Corporate lending¹ - Africa & Middle East

			2022							
			Gross				Credit impairment			
Credit grade	Regulatory 1 year PD range (%)	S&P external ratings equivalent	Stage 1 \$million	Stage 2 \$million	Stage 3 \$million	Total \$million	Stage 1 \$million	Stage 2 \$million	Stage 3 \$million	Total \$million
Strong			6,268	311	–	6,579	–	–	–	–
1A-2B	0 – 0.045	A+ and above	338	6	–	344	–	–	–	–
3A-4A	0.046 – 0.110	A/A- to BBB+/BBB	2,049	23	–	2,072	–	–	–	–
4B-5B	0.111 – 0.425	BBB to BBB-/BB+	3,881	282	–	4,163	–	–	–	–
Satisfactory			4,389	642	–	5,031	(32)	(41)	–	(73)
6A-7B	0.426 – 1.350	BB+/BB to BB-	1,454	218	–	1,672	(11)	(3)	–	(14)
8A-9B	1.351 – 4.000	BB-/B+ to B	2,361	320	–	2,681	(11)	(24)	–	(35)
10A-11C	4.001 – 15.75	B/B- to B-/CCC+	574	104	–	678	(10)	(14)	–	(24)
Higher risk			–	653	–	653	–	(26)	–	(26)
12	15.751 – 99.999	CCC+/C	–	653	–	653	–	(26)	–	(26)
Defaulted			–	–	1,735	1,735	–	–	(1,344)	(1,344)
13-14	100	Defaulted	–	–	1,735	1,735	–	–	(1,344)	(1,344)
Total			10,657	1,606	1,735	13,998	(32)	(67)	(1,344)	(1,443)

1 Corporate loans and advances to customers excludes loans to “Financing, insurance and non-banking” and “Government” counterparties

			Corporate lending ¹ - Europe & Americas							
			2023							
Credit grade	Regulatory 1 year PD range (%)	S&P external ratings equivalent	Gross				Credit impairment			
			Stage 1 \$million	Stage 2 \$million	Stage 3 \$million	Total \$million	Stage 1 \$million	Stage 2 \$million	Stage 3 \$million	Total \$million
Strong			9,283	198	-	9,481	(11)	-	-	(11)
1A-2B	0 – 0.045	A+ and above	528	-	-	528	-	-	-	-
3A-4A	0.046 – 0.110	A/A- to BBB+/BBB	4,413	124	-	4,537	(1)	-	-	(1)
4B-5B	0.111 – 0.425	BBB to BBB-/BB+	4,342	74	-	4,416	(10)	-	-	(10)
Satisfactory			4,778	1,621	-	6,399	(5)	(22)	-	(27)
6A-7B	0.426 – 1.350	BB+/BB to BB-	3,912	768	-	4,680	(4)	(2)	-	(6)
8A-9B	1.351 – 4.000	BB-/B+ to B	596	821	-	1,417	(1)	(15)	-	(16)
10A-11C	4.001 – 15.75	B/B- to B-/CCC+	270	32	-	302	-	(5)	-	(5)
Higher risk			-	77	-	77	-	(7)	-	(7)
12	15.751 – 99.999	CCC+/C	-	77	-	77	-	(7)	-	(7)
Defaulted			-	-	980	980	-	-	(345)	(345)
13-14	100	Defaulted	-	-	980	980	-	-	(345)	(345)
Total			14,061	1,896	980	16,937	(16)	(29)	(345)	(390)

1 Corporate loans and advances to customers excludes loans to “Financing, insurance and non-banking” and “Government” counterparties

			Corporate lending ¹ - Europe & Americas							
			2022							
Credit grade	Regulatory 1 year PD range (%)	S&P external ratings equivalent	Gross				Credit impairment			
			Stage 1 \$million	Stage 2 \$million	Stage 3 \$million	Total \$million	Stage 1 \$million	Stage 2 \$million	Stage 3 \$million	Total \$million
Strong			10,033	225	-	10,258	(13)	-	-	(13)
1A-2B	0 – 0.045	A+ and above	575	-	-	575	-	-	-	-
3A-4A	0.046 – 0.110	A/A- to BBB+/BBB	4,065	8	-	4,073	(1)	-	-	(1)
4B-5B	0.111 – 0.425	BBB to BBB-/BB+	5,393	217	-	5,610	(12)	-	-	(12)
Satisfactory			4,498	2,077	-	6,575	(4)	(25)	-	(29)
6A-7B	0.426 – 1.350	BB+/BB to BB-	3,867	1,376	-	5,243	(4)	(25)	-	(29)
8A-9B	1.351 – 4.000	BB-/B+ to B	537	636	-	1,173	-	-	-	-
10A-11C	4.001 – 15.75	B/B- to B-/CCC+	94	65	-	159	-	-	-	-
Higher risk			-	387	-	387	-	(1)	-	(1)
12	15.751 – 99.999	CCC+/C	-	387	-	387	-	(1)	-	(1)
Defaulted			-	-	1,230	1,230	-	-	(398)	(398)
13-14	100	Defaulted	-	-	1,230	1,230	-	-	(398)	(398)
Total			14,531	2,689	1,230	18,450	(17)	(26)	(398)	(441)

1 Corporate loans and advances to customers excludes loans to “Financing, insurance and non-banking” and “Government” counterparties

	Consumer, Private & Business Banking												
	2023												
	Asia				Africa & Middle East				Europe & Americas				Total \$million
	Mort- gages \$million	Credit Cards \$million	Others \$million	Total \$million	Mort- gages \$million	Credit Cards \$million	Others \$million	Total \$million	Mort- gages \$million	Credit Cards \$million	Others \$million	Total \$million	
Stage 1													
Gross													
Strong	77,270	6,234	30,027	113,531	974	263	2,471	3,708	335	–	619	954	118,193
Satisfactory	659	113	2,418	3,190	158	11	121	290	1,812	–	1	1,813	5,293
Total	77,929	6,347	32,445	116,721	1,132	274	2,592	3,998	2,147	–	620	2,767	123,486
ECL													
Strong	(5)	(25)	(181)	(211)	(2)	(7)	(13)	(22)	–	–	(1)	(1)	(234)
Satisfactory	–	(57)	(19)	(76)	–	–	(2)	(2)	(2)	–	–	(2)	(80)
Total	(5)	(82)	(200)	(287)	(2)	(7)	(15)	(24)	(2)	–	(1)	(3)	(314)
Coverage %	0%	1%	1%	0%	0%	3%	1%	1%	0%	0%	0%	0%	0%
Stage 2													
Gross													
Strong	1,014	124	583	1,721	17	8	15	40	–	–	–	–	1,761
Satisfactory	122	14	29	165	4	1	9	14	27	–	–	27	206
Higher risk	161	39	118	318	5	3	11	19	–	–	–	–	337
Total	1,297	177	730	2,204	26	12	35	73	27	–	–	27	2,304
ECL													
Strong	(1)	(12)	(43)	(56)	(1)	(1)	(7)	(9)	–	–	–	–	(65)
Satisfactory	–	(14)	(7)	(21)	–	–	(1)	(1)	–	–	–	–	(22)
Higher risk	(1)	(17)	(34)	(52)	–	(1)	(1)	(2)	–	–	–	–	(54)
Total	(2)	(43)	(84)	(129)	(1)	(2)	(9)	(12)	–	–	–	–	(141)
Coverage %	0%	24%	12%	6%	4%	17%	26%	16%	0%	0%	0%	0%	6%
Stage 3													
Gross credit impaired	382	53	841	1,276	53	3	59	115	85	–	8	93	1,484
ECL	(84)	(36)	(566)	(686)	(25)	(2)	(33)	(60)	(14)	–	–	(14)	(760)
Coverage %	22%	68%	67%	54%	47%	67%	56%	52%	16%	0%	0%	15%	51%
Total													
Gross													
Strong	78,284	6,358	30,610	115,252	991	271	2,486	3,748	335	–	619	954	119,954
Satisfactory	781	127	2,447	3,355	162	12	130	304	1,839	–	1	1,840	5,499
Higher risk	161	39	118	318	5	3	11	19	–	–	–	–	337
Credit-Impaired	382	53	841	1,276	53	3	59	115	85	–	8	93	1,484
Total	79,608	6,577	34,016	120,201	1,211	289	2,686	4,186	2,259	–	628	2,887	127,274
ECL													
Strong	(6)	(37)	(224)	(267)	(3)	(8)	(20)	(31)	–	–	(1)	(1)	(299)
Satisfactory	–	(71)	(26)	(97)	–	–	(3)	(3)	(2)	–	–	(2)	(102)
Higher risk	(1)	(17)	(34)	(52)	–	(1)	(1)	(2)	–	–	–	–	(54)
Credit-Impaired	(84)	(36)	(566)	(686)	(25)	(2)	(33)	(60)	(14)	–	–	(14)	(760)
Total	(91)	(161)	(850)	(1,102)	(28)	(11)	(57)	(96)	(16)	–	(1)	(17)	(1,215)
Coverage %	0%	2%	2%	1%	2%	4%	2%	2%	1%	0%	0%	1%	1%

	2022												
	Asia				Africa & Middle East				Europe & Americas				
	Mort- gages \$million	Credit cards \$million	Others \$million	Total \$million	Mort- gages \$million	Credit cards \$million	Others \$million	Total \$million	Mort- gages \$million	Credit cards \$million	Others \$million	Total \$million	Total \$million
Stage 1													
Gross													
Strong	81,738	5,781	32,297	119,816	1,004	281	2,590	3,875	397	–	646	1,043	124,734
Satisfactory	1,155	145	1,378	2,678	189	9	71	269	1,372	–	81	1,453	4,400
Total	82,893	5,926	33,675	122,494	1,193	290	2,661	4,144	1,769	–	727	2,496	129,134
ECL													
Strong	–	(49)	(233)	(282)	(3)	(6)	(37)	(46)	(2)	–	(2)	(4)	(332)
Satisfactory	(6)	(37)	(27)	(70)	(1)	–	(1)	(2)	(2)	–	–	(2)	(74)
Total	(6)	(86)	(260)	(352)	(4)	(6)	(38)	(48)	(4)	–	(2)	(6)	(406)
Coverage %	0%	1%	1%	0%	0%	2%	1%	1%	0%	0%	0%	0%	0%
Stage 2													
Gross													
Strong	576	88	388	1,052	112	2	46	160	1	–	2	3	1,215
Satisfactory	75	10	14	99	43	1	3	47	–	–	–	–	146
Higher risk	150	34	63	247	12	3	13	28	34	–	–	34	309
Total	801	132	465	1,398	167	6	62	235	35	–	2	37	1,670
ECL													
Strong	(2)	(26)	(27)	(55)	(3)	(1)	(3)	(7)	–	–	–	–	(62)
Satisfactory	(1)	(9)	(7)	(17)	–	–	–	–	–	–	–	–	(17)
Higher risk	(2)	(6)	(28)	(36)	–	(1)	(4)	(5)	–	–	–	–	(41)
Total	(5)	(41)	(62)	(108)	(3)	(2)	(7)	(12)	–	–	–	–	(120)
Coverage %	1%	31%	13%	8%	2%	33%	11%	5%	0%	0%	0%	0%	7%
Stage 3													
Gross credit impaired	368	48	783	1,199	111	10	56	177	77	–	–	77	1,453
ECL	(97)	(35)	(524)	(656)	(76)	(7)	(30)	(113)	(7)	–	–	(7)	(776)
Coverage %	26%	73%	67%	55%	68%	70%	54%	64%	9%	0%	0%	9%	53%
Total													
Gross													
Strong	82,314	5,869	32,685	120,868	1,116	283	2,636	4,035	398	–	648	1,046	125,949
Satisfactory	1,230	155	1,392	2,777	232	10	74	316	1,372	–	81	1,453	4,546
Higher risk	150	34	63	247	12	3	13	28	34	–	–	34	309
Credit-Impaired	368	48	783	1,199	111	10	56	177	77	–	–	77	1,453
Total	84,062	6,106	34,923	125,091	1,471	306	2,779	4,556	1,881	–	729	2,610	132,257
ECL													
Strong	(2)	(75)	(260)	(337)	(6)	(7)	(40)	(53)	(2)	–	(2)	(4)	(394)
Satisfactory	(7)	(46)	(34)	(87)	(1)	–	(1)	(2)	(2)	–	–	(2)	(91)
Higher risk	(2)	(6)	(28)	(36)	–	(1)	(4)	(5)	–	–	–	–	(41)
Credit-Impaired	(97)	(35)	(524)	(656)	(76)	(7)	(30)	(113)	(7)	–	–	(7)	(776)
Total	(108)	(162)	(846)	(1,116)	(83)	(15)	(75)	(173)	(11)	–	(2)	(13)	(1,302)
Coverage %	0%	3%	2%	1%	6%	5%	3%	4%	1%	0%	0%	0%	1%

Credit quality by geographic region

The following table sets out the credit quality for gross loans and advances to customers and banks, held at amortised cost, by geographic region and stage.

Loans and advances to customers

	2023				2022			
	Asia \$million	Africa & Middle East \$million	Europe & Americas \$million	Total \$million	Asia \$million	Africa & Middle East \$million	Europe & Americas \$million	Total \$million
Amortised cost								
Gross (stage 1)	229,289	17,536	26,867	273,692	248,625	17,553	29,041	295,219
Provision (stage 1)	(363)	(39)	(28)	(430)	(454)	(73)	(32)	(559)
Gross (stage 2)	6,660	3,276	1,289	11,225	8,302	3,122	1,619	13,043
Provision (stage 2)	(321)	(70)	(29)	(420)	(337)	(104)	(3)	(444)
Gross (stage 3)	4,604	2,273	351	7,228	4,562	2,725	558	7,845
Provision (stage 3)	(2,734)	(1,387)	(199)	(4,320)	(2,483)	(1,765)	(209)	(4,457)
Net loans¹	237,135	21,589	28,251	286,975	258,215	21,458	30,974	310,647

¹ Includes reverse repurchase agreements and other similar secured lending

Loans and advances to banks

	2023				2022			
	Asia \$million	Africa & Middle East \$million	Europe & Americas \$million	Total \$million	Asia \$million	Africa & Middle East \$million	Europe & Americas \$million	Total \$million
Amortised cost								
Gross (stage 1)	35,338	2,803	6,243	44,384	21,806	3,818	13,525	39,149
Provision (stage 1)	(7)	–	(1)	(8)	(3)	(4)	(2)	(9)
Gross (stage 2)	17	311	212	540	212	116	9	337
Provision (stage 2)	(2)	(8)	–	(10)	(2)	(1)	–	(3)
Gross (stage 3)	73	–	4	77	59	–	–	59
Provision (stage 3)	(2)	–	(4)	(6)	(14)	–	–	(14)
Net loans¹	35,417	3,106	6,454	44,977	22,058	3,929	13,532	39,519

¹ Includes reverse repurchase agreements and other similar secured lending

Movement in gross exposures and credit impairment for loans and advances, debt securities, undrawn commitments and financial guarantees (audited)

The tables overleaf set out the movement in gross exposures and credit impairment by stage in respect of amortised cost loans to banks and customers, undrawn commitments, financial guarantees and debt securities classified at amortised cost and FVOCI. The tables are presented for the Group, debt securities and other eligible bills.

Methodology

The movement lines within the tables are an aggregation of monthly movements over the year and will therefore reflect the accumulation of multiple trades during the year. The credit impairment charge in the income statement comprises the amounts within the boxes in the table below, less recoveries of amounts previously written off. Discount unwind is reported in net interest income and related to stage 3 financial instruments only.

The approach for determining the key line items in the tables is set out below.

- **Transfers** - transfers between stages are deemed to occur at the beginning of a month based on prior month closing balances.
- **Net remeasurement from stage changes** - the remeasurement of credit impairment provisions arising from a change in stage is reported within the stage that the assets are transferred to. For example, assets transferred into stage 2 are remeasured from a 12-month to a lifetime expected credit loss, with the effect of remeasurement reported in stage 2. For stage 3, this represents the initial remeasurement from specific provisions recognised on individual assets transferred into stage 3 in the year.
- **Net changes in exposures** - new business written less repayments in the year. Within stage 1, new business written will attract up to 12 months of expected credit loss charges. Repayments of non-amortising loans (primarily within CCIB) will have low amounts of expected credit loss provisions attributed to them, due to the release of provisions over the term to maturity. In stages 2 and 3, the net change in exposures reflect repayments although stage 2 may include new facilities where clients are on non-purely precautionary early alert, are CG 12, or when non-investment grade debt securities are acquired.

- **Changes in risk parameters** – for stages 1 and 2, this reflects changes in the probability of default (PD), loss given default (LGD) and exposure at default (EAD) of assets during the year, which includes the impact of releasing provisions over the term to maturity. It also includes the effect of changes in forecasts of macroeconomic variables during the year. In stage 3, this line represents additional specific provisions recognised on exposures held within stage 3.
- **Interest due but not paid** – change in contractual amount of interest due in stage 3 financial instruments but not paid, being the net of accruals, repayments and write-offs, together with the corresponding change in credit impairment.

Changes to ECL models, which incorporate changes to model approaches and methodologies, are not reported as a separate line item as these have an impact over a number of lines and stages.

Movements during the year

Stage 1 gross exposures increased by \$3.8 billion to \$724 billion (31 December 2022: \$720 billion). CCIB exposure increased by \$21.8 billion to \$337 billion (31 December 2022: \$315 billion) due to off-balance sheet exposures, which was partly offset by a decrease in loans and advances to customers. CPBB decreased by \$2.2 billion to \$191 billion (31 December 2022: \$193 billion) which was largely driven by the mortgage portfolio in Korea and Hong Kong. Stage 1 debt securities decreased by \$7.8 billion to \$158 billion (31 December 2022: \$166 billion) due to liquidity management and maturities.

Total stage 1 provisions decreased by \$119 million to \$526 million (31 December 2022: \$645 million). CCIB provisions decreased by \$43 million to \$151 million (31 December 2022: \$194 million), primarily due to new originations, which was partly offset by model updates. Debt securities provisions was stable at \$26 million (31 December 2022: \$25 million). CPBB decreased by \$88 million to \$325 million (31 December 2022: \$413 million), mainly driven by the release of the judgemental non-linearity post model adjustment and overlay releases, both of which are reported in 'Changes in risk parameters'.

Stage 2 gross exposures decreased by \$5.2 billion to \$22 billion (31 December 2022: \$27 billion), primarily driven by a net reduction in exposures in CCIB, particularly in the CRE and Transport sectors. CPBB exposures increased by \$0.7 billion to \$2.5 billion (31 December 2022: \$1.8 billion), of which \$0.4 billion was from the Secured portfolio. Debt securities decreased by \$3.6 billion to \$1.9 billion (31 December 2022: \$5.5 billion).

Stage 2 provisions decreased by \$101 million to \$517 million (31 December 2022: \$618 million). CCIB provisions decreased by \$93 million to \$318 million (31 December 2022: \$411 million) from releases due to exposure reductions, transfers to stage 3 for China CRE exposures and model updates. This was partly offset by a further downgrade of Pakistan sovereign clients within stage 2. CPBB provisions increased by \$22 million to \$140 million (31 December 2022: \$118 million) due to higher delinquencies. This was partly offset by the release of judgemental non-linearity post model adjustment and overlay releases which are reported within 'Changes in risk parameters' due to underlying factors not being valid any more. Debt Securities decreased by \$56 million to \$34 million (31 December 2022: \$90 million) largely due to exposure reductions and shortening of tenors, particularly in Pakistan.

The impact of model and methodology updates in 2023 reduced stage 1 and 2 provisions by \$15 million, of which \$10 million was in CCIB and Central and other items, while \$5 million was in CPBB.

Stage 3 gross loans for CCIB decreased by \$0.7 billion to \$6.3 billion (31 December 2022: \$7 billion) as repayments and write-offs were partly offset by the downgrade of China CRE clients. CCIB provisions decreased by \$171 million to \$3.7 billion (31 December 2022: \$3.8 billion) as charges from new downgrades were offset by releases due to repayments and write-offs. CPBB stage 3 loans was stable at \$1.5 billion (31 December 2022: \$1.5 billion) but provisions decreased by \$17 million to \$0.8 billion (31 December 2022: \$0.8 billion). Debt security gross assets increased by \$20 million to \$164 million (31 December 2022: \$144 million).

All segments (audited)

Amortised cost and FVOCI	Stage 1			Stage 2			Stage 3 ⁵			Total		
	Gross balance ³ \$million	Total credit impairment \$million	Net \$million	Gross balance ³ \$million	Total credit impairment \$million	Net \$million	Gross balance ³ \$million	Total credit impairment \$million	Net \$million	Gross balance ³ \$million	Total credit impairment \$million	Net \$million
As at 1 January 2022	684,759	(609)	684,150	34,550	(652)	33,898	9,061	(4,941)	4,120	728,370	(6,202)	722,168
Transfers to stage 1	24,666	(555)	24,111	(24,633)	555	(24,078)	(33)	–	(33)	–	–	–
Transfers to stage 2	(46,960)	228	(46,732)	47,479	(246)	47,233	(519)	18	(501)	–	–	–
Transfers to stage 3	(176)	74	(102)	(3,630)	253	(3,377)	3,806	(327)	3,479	–	–	–
Net change in exposures	83,204	(137)	83,067	(24,324)	93	(24,231)	(1,710)	338	(1,372)	57,170	294	57,464
Net remeasurement from stage changes	–	45	45	–	(126)	(126)	–	(168)	(168)	–	(249)	(249)
Changes in risk parameters	–	106	106	–	(387)	(387)	–	(895)	(895)	–	(1,176)	(1,176)
Write-offs	–	–	–	–	–	–	(949)	949	–	(949)	949	–
Interest due but unpaid	–	–	–	–	–	–	(157)	157	–	(157)	157	–
Discount unwind	–	–	–	–	–	–	–	136	136	–	136	136
Exchange translation differences and other movements ¹	(25,381)	203	(25,178)	(1,963)	(108)	(2,071)	(658)	9	(649)	(28,002)	104	(27,898)
As at 31 December 2022²	720,112	(645)	719,467	27,479	(618)	26,861	8,841	(4,724)	4,117	756,432	(5,987)	750,445
Income statement ECL (charge)/release		14			(420)			(725)			(1,131)	
Recoveries of amounts previously written off		–			–			293			293	
Total credit impairment (charge)/release		14			(420)			(432)			(838)	
As at 1 January 2023	720,112	(645)	719,467	27,479	(618)	26,861	8,841	(4,724)	4,117	756,432	(5,987)	750,445
Transfers to stage 1	19,594	(661)	18,933	(19,583)	661	(18,922)	(11)	–	(11)	–	–	–
Transfers to stage 2	(42,628)	174	(42,454)	42,793	(182)	42,611	(165)	8	(157)	–	–	–
Transfers to stage 3	(96)	6	(90)	(2,329)	326	(2,003)	2,425	(332)	2,093	–	–	–
Net change in exposures	23,717	(185)	23,532	(22,727)	22	(22,705)	(1,708)	624	(1,084)	(718)	461	(257)
Net remeasurement from stage changes	–	52	52	–	(199)	(199)	–	(163)	(163)	–	(310)	(310)
Changes in risk parameters	–	202	202	–	(32)	(32)	–	(1,100)	(1,100)	–	(930)	(930)
Write-offs	–	–	–	–	–	–	(1,027)	1,027	–	(1,027)	1,027	–
Interest due but unpaid	–	–	–	–	–	–	(83)	83	–	(83)	83	–
Discount unwind	–	–	–	–	–	–	–	180	180	–	180	180
Exchange translation differences and other movements ¹	3,177	531	3,708	(3,365)	(495)	(3,860)	(128)	(102)	(230)	(316)	(66)	(382)
As at 31 December 2023²	723,876	(526)	723,350	22,268	(517)	21,751	8,144	(4,499)	3,645	754,288	(5,542)	748,746
Income statement ECL (charge)/release ⁶		69			(209)			(639)			(779)	
Recoveries of amounts previously written off		–			–			271			271	
Total credit impairment (charge)/release⁴		69			(209)			(368)			(508)	

1 Includes fair value adjustments and amortisation on debt securities

2 Excludes Cash and balances at central banks, Accrued income, Assets held for sale and Other assets gross balances of \$111,478 million (31 December 2022: \$101,740 million) and Total credit impairment of \$59 million (31 December 2022: \$88 million)

3 The gross balance includes the notional amount of off-balance sheet instruments

4 Reported basis

5 Stage 3 includes gross of \$80 million (31 December 2022: \$28 million) and ECL \$14 million (31 December 2022: \$13 million) originated credit-impaired debt securities

6 Does not include release relating to Other assets (31 December 2022: \$2 million)

Of which – movement of debt securities, alternative tier one and other eligible bills (audited)

Amortised cost and FVOCI	Stage 1			Stage 2			Stage 3 ²			Total		
	Gross balance \$million	Total credit impairment \$million	Net \$million	Gross balance \$million	Total credit impairment \$million	Net \$million	Gross balance \$million	Total credit impairment \$million	Net \$million	Gross balance \$million	Total credit impairment \$million	Net ³ \$million
As at 1 January 2022	157,352	(67)	157,285	5,315	(42)	5,273	113	(66)	47	162,780	(175)	162,605
Transfers to stage 1	2,296	(22)	2,274	(2,296)	22	(2,274)	–	–	–	–	–	–
Transfers to stage 2	(3,942)	38	(3,904)	3,942	(38)	3,904	–	–	–	–	–	–
Transfers to stage 3	–	–	–	(66)	42	(24)	66	(42)	24	–	–	–
Net change in exposures	21,613	(44)	21,569	(752)	9	(743)	–	1	1	20,861	(34)	20,827
Net remeasurement from stage changes	–	10	10	–	(2)	(2)	–	(23)	(23)	–	(15)	(15)
Changes in risk parameters	–	38	38	–	(98)	(98)	–	(13)	(13)	–	(73)	(73)
Write-offs	–	–	–	–	–	–	(30)	30	–	(30)	30	–
Interest due but unpaid	–	–	–	–	–	–	–	–	–	–	–	–
Exchange translation differences and other movements ¹	(11,216)	22	(11,194)	(688)	17	(671)	(5)	7	2	(11,909)	46	(11,863)
As at 31 December 2022	166,103	(25)	166,078	5,455	(90)	5,365	144	(106)	38	171,702	(221)	171,481
Income statement ECL (charge)/release		4			(91)			(35)			(122)	
Recoveries of amounts previously written off		–			–			–			–	
Total credit impairment (charge)/release		4			(91)			(35)			(122)	
As at 1 January 2023	166,103	(25)	166,078	5,455	(90)	5,365	144	(106)	38	171,702	(221)	171,481
Transfers to stage 1	371	(65)	306	(371)	65	(306)	–	–	–	–	–	–
Transfers to stage 2	(884)	14	(870)	884	(14)	870	–	–	–	–	–	–
Transfers to stage 3	–	–	–	(16)	–	(16)	16	–	16	–	–	–
Net change in exposures	(11,583)	(28)	(11,611)	(1,899)	(44)	(1,943)	7	–	7	(13,475)	(72)	(13,547)
Net remeasurement from stage changes	–	7	7	–	(18)	(18)	–	–	–	–	(11)	(11)
Changes in risk parameters	–	32	32	–	105	105	–	(4)	(4)	–	133	133
Write-offs	–	–	–	–	–	–	–	–	–	–	–	–
Interest due but unpaid	–	–	–	–	–	–	–	–	–	–	–	–
Exchange translation differences and other movements ¹	4,307	39	4,346	(2,193)	(38)	(2,231)	(3)	49	46	2,111	50	2,161
As at 31 December 2023	158,314	(26)	158,288	1,860	(34)	1,826	164	(61)	103	160,338	(121)	160,217
Income statement ECL (charge)/release		11			43			(4)			50	
Recoveries of amounts previously written off		–			–			–			–	
Total credit impairment (charge)/release		11			43			(4)			50	

1 Includes fair value adjustments and amortisation on debt securities

2 Stage 3 includes gross of \$80 million (31 December 2022: \$28 million) and ECL \$14 million (31 December 2022: \$13 million) originated credit-impaired debt securities

3 FVOCI instruments are not presented net of ECL. While the presentation is on a net basis for the table, the total net on-balance sheet amount to \$160,263 million (31 December 2022: \$171,640 million). Refer to the Analysis of financial instrument by stage table

Corporate, Commercial & Institutional Banking (audited)

Amortised cost and FVOCI	Stage 1			Stage 2			Stage 3			Total		
	Gross balance¹ \$million	Total credit impairment \$million	Net \$million	Gross balance¹ \$million	Total credit impairment \$million	Net \$million	Gross balance¹ \$million	Total credit impairment \$million	Net \$million	Gross balance¹ \$million	Total credit impairment \$million	Net \$million
As at 1 January 2022	313,132	(163)	312,969	25,437	(425)	25,012	7,372	(4,079)	3,293	345,941	(4,667)	341,274
Transfers to stage 1	17,565	(227)	17,338	(17,565)	227	(17,338)	–	–	–	–	–	–
Transfers to stage 2	(37,505)	48	(37,457)	37,944	(66)	37,878	(439)	18	(421)	–	–	–
Transfers to stage 3	(42)	–	(42)	(2,478)	134	(2,344)	2,520	(134)	2,386	–	–	–
Net change in exposures	30,508	(44)	30,464	(21,915)	65	(21,850)	(1,314)	340	(974)	7,279	361	7,640
Net remeasurement from stage changes	–	2	2	–	(42)	(42)	–	(104)	(104)	–	(144)	(144)
Changes in risk parameters	–	21	21	–	(154)	(154)	–	(551)	(551)	–	(684)	(684)
Write-offs	–	–	–	–	–	–	(384)	384	–	(384)	384	–
Interest due but unpaid	–	–	–	–	–	–	(130)	130	–	(130)	130	–
Discount unwind	–	–	–	–	–	–	–	110	110	–	110	110
Exchange translation differences and other movements	(8,221)	169	(8,052)	(1,275)	(150)	(1,425)	(631)	64	(567)	(10,127)	83	(10,044)
As at 31 December 2022	315,437	(194)	315,243	20,148	(411)	19,737	6,994	(3,822)	3,172	342,579	(4,427)	338,152
Income statement ECL (charge)/release²		(21)			(131)			(315)			(467)	
Recoveries of amounts previously written off		–			–			49			49	
Total credit impairment (charge)/release		(21)			(131)			(266)			(418)	
As at 1 January 2023	315,437	(194)	315,243	20,148	(411)	19,737	6,994	(3,822)	3,172	342,579	(4,427)	338,152
Transfers to stage 1	14,948	(347)	14,601	(14,948)	347	(14,601)	–	–	–	–	–	–
Transfers to stage 2	(34,133)	80	(34,053)	34,175	(88)	34,087	(42)	8	(34)	–	–	–
Transfers to stage 3	(17)	–	(17)	(1,270)	141	(1,129)	1,287	(141)	1,146	–	–	–
Net change in exposures	41,314	(73)	41,241	(20,084)	89	(19,995)	(1,335)	623	(712)	19,895	639	20,534
Net remeasurement from stage changes	–	15	15	–	(45)	(45)	–	(82)	(82)	–	(112)	(112)
Changes in risk parameters	–	60	60	–	(68)	(68)	–	(668)	(668)	–	(676)	(676)
Write-offs	–	–	–	–	–	–	(340)	340	–	(340)	340	–
Interest due but unpaid	–	–	–	–	–	–	(120)	120	–	(120)	120	–
Discount unwind	–	–	–	–	–	–	–	155	155	–	155	155
Exchange translation differences and other movements	(360)	308	(52)	(1,148)	(283)	(1,431)	(188)	(184)	(372)	(1,696)	(159)	(1,855)
As at 31 December 2023	337,189	(151)	337,038	16,873	(318)	16,555	6,256	(3,651)	2,605	360,318	(4,120)	356,198
Income statement ECL (charge)/release²		2			(24)			(127)			(149)	
Recoveries of amounts previously written off		–			–			31			31	
Total credit impairment (charge)/release		2			(24)			(96)			(118)	

1 The gross balance includes the notional amount of off balance sheet instruments

2 Does not include release relating to Other assets (31 December 2022: \$2 million)

Consumer, Private and Business Banking (audited)

Amortised cost and FVOCI	Stage 1			Stage 2			Stage 3			Total		
	Gross balance¹ \$million	Total credit impairment \$million	Net \$million	Gross balance¹ \$million	Total credit impairment \$million	Net \$million	Gross balance¹ \$million	Total credit impairment \$million	Net \$million	Gross balance¹ \$million	Total credit impairment \$million	Net \$million
As at 1 January 2022	190,860	(377)	190,483	3,675	(185)	3,490	1,578	(797)	781	196,113	(1,359)	194,754
Transfers to stage 1	4,798	(314)	4,484	(4,765)	314	(4,451)	(33)	–	(33)	–	–	–
Transfers to stage 2	(5,498)	92	(5,406)	5,578	(92)	5,486	(80)	–	(80)	–	–	–
Transfers to stage 3	(81)	–	(81)	(890)	151	(739)	971	(151)	820	–	–	–
Net change in exposures	9,072	(49)	9,023	(1,611)	19	(1,592)	(396)	–	(396)	7,065	(30)	7,035
Net remeasurement from stage changes	–	32	32	–	(82)	(82)	–	(25)	(25)	–	(75)	(75)
Changes in risk parameters	–	63	63	–	(132)	(132)	–	(331)	(331)	–	(400)	(400)
Write-offs	–	–	–	–	–	–	(535)	535	–	(535)	535	–
Interest due but unpaid	–	–	–	–	–	–	(27)	27	–	(27)	27	–
Discount unwind	–	–	–	–	–	–	–	26	26	–	26	26
Exchange translation differences and other movements	(5,912)	140	(5,772)	(166)	(111)	(277)	(24)	(60)	(84)	(6,102)	(31)	(6,133)
As at 31 December 2022	193,239	(413)	192,826	1,821	(118)	1,703	1,454	(776)	678	196,514	(1,307)	195,207
Income statement ECL (charge)/release		46			(195)			(356)			(505)	
Recoveries of amounts previously written off		–			–			245			245	
Total credit impairment (charge)/release		46			(195)			(111)			(260)	
As at 1 January 2023	193,239	(413)	192,826	1,821	(118)	1,703	1,454	(776)	678	196,514	(1,307)	195,207
Transfers to stage 1	4,265	(246)	4,019	(4,254)	246	(4,008)	(11)	–	(11)	–	–	–
Transfers to stage 2	(7,544)	73	(7,471)	7,667	(73)	7,594	(123)	–	(123)	–	–	–
Transfers to stage 3	(64)	1	(63)	(1,049)	187	(862)	1,113	(188)	925	–	–	–
Net change in exposures	1,965	(78)	1,887	(1,713)	14	(1,699)	(395)	–	(395)	(143)	(64)	(207)
Net remeasurement from stage changes	–	31	31	–	(137)	(137)	–	(38)	(38)	–	(144)	(144)
Changes in risk parameters	–	110	110	–	(69)	(69)	–	(426)	(426)	–	(385)	(385)
Write-offs	–	–	–	–	–	–	(649)	649	–	(649)	649	–
Interest due but unpaid	–	–	–	–	–	–	37	(37)	–	37	(37)	–
Discount unwind	–	–	–	–	–	–	–	24	24	–	24	24
Exchange translation differences and other movements	(862)	197	(665)	–	(190)	(190)	59	33	92	(803)	40	(763)
As at 31 December 2023	190,999	(325)	190,674	2,472	(140)	2,332	1,485	(759)	726	194,956	(1,224)	193,732
Income statement ECL (charge)/release		63			(192)			(464)			(593)	
Recoveries of amounts previously written off		–			–			239			239	
Total credit impairment (charge)/release		63			(192)			(225)			(354)	

1 The gross balance includes the notional amount of off-balance sheet instruments

Consumer, Private and Business Banking - Secured (audited)

Amortised cost and FVOCI	Stage 1			Stage 2			Stage 3			Total		
	Gross balance ¹ \$million	Total credit impairment \$million	Net \$million	Gross balance ¹ \$million	Total credit impairment \$million	Net \$million	Gross balance ¹ \$million	Total credit impairment \$million	Net \$million	Gross balance ¹ \$million	Total credit impairment \$million	Net \$million
As at 1 January 2022	136,600	(96)	136,504	2,685	(32)	2,653	1,103	(517)	586	140,388	(645)	139,743
Transfers to stage 1	3,080	(28)	3,052	(3,054)	28	(3,026)	(26)	–	(26)	–	–	–
Transfers to stage 2	(3,254)	11	(3,243)	3,319	(11)	3,308	(65)	–	(65)	–	–	–
Transfers to stage 3	(38)	1	(37)	(473)	1	(472)	511	(2)	509	–	–	–
Net change in exposures	3,093	(8)	3,085	(945)	1	(944)	(259)	–	(259)	1,889	(7)	1,882
Net remeasurement from stage changes	–	1	1	–	(1)	(1)	–	(4)	(4)	–	(4)	(4)
Changes in risk parameters	–	(4)	(4)	–	48	48	–	(80)	(80)	–	(36)	(36)
Write-offs	–	–	–	–	–	–	(78)	78	–	(78)	78	–
Interest due but unpaid	–	–	–	–	–	–	–	–	–	–	–	–
Discount unwind	–	–	–	–	–	–	–	–	–	–	–	–
Exchange translation differences and other movements	(4,119)	63	(4,056)	(119)	(51)	(170)	(158)	(27)	(185)	(4,396)	(15)	(4,411)
As at 31 December 2022	135,362	(60)	135,302	1,413	(17)	1,396	1,028	(552)	476	137,803	(629)	137,174
Income statement ECL (charge)/release		(11)			48			(84)			(47)	
Recoveries of amounts previously written off		–			–			55			55	
Total credit impairment (charge)/release		(11)			48			(29)			8	
As at 1 January 2023	135,362	(60)	135,302	1,413	(17)	1,396	1,028	(552)	476	137,803	(629)	137,174
Transfers to stage 1	3,311	(20)	3,291	(3,302)	20	(3,282)	(9)	–	(9)	–	–	–
Transfers to stage 2	(5,340)	11	(5,329)	5,436	(9)	5,427	(96)	(2)	(98)	–	–	–
Transfers to stage 3	(28)	1	(27)	(463)	1	(462)	491	(2)	489	–	–	–
Net change in exposures	(3,138)	(16)	(3,154)	(1,250)	3	(1,247)	(216)	–	(216)	(4,604)	(13)	(4,617)
Net remeasurement from stage changes	–	4	4	–	(16)	(16)	–	(3)	(3)	–	(15)	(15)
Changes in risk parameters	–	22	22	–	24	24	–	(110)	(110)	–	(64)	(64)
Write-offs	–	–	–	–	–	–	(109)	109	–	(109)	109	–
Interest due but unpaid	–	–	–	–	–	–	(3)	3	–	(3)	3	–
Discount unwind	–	–	–	–	–	–	–	12	12	–	12	12
Exchange translation differences and other movements	(369)	25	(344)	(7)	(22)	(29)	(24)	20	(4)	(400)	23	(377)
As at 31 December 2023	129,798	(33)	129,765	1,827	(16)	1,811	1,062	(525)	537	132,687	(574)	132,113
Income statement ECL (charge)/release		10			11			(113)			(92)	
Recoveries of amounts previously written off		–			–			68			68	
Total credit impairment (charge)/release		10			11			(45)			(24)	

¹ The gross balance includes the notional amount of off-balance sheet instruments

Consumer, Private and Business Banking - Unsecured (audited)

Amortised cost and FVOCI	Stage 1			Stage 2			Stage 3			Total		
	Gross balance ¹ \$million	Total credit impairment \$million	Net \$million	Gross balance ¹ \$million	Total credit impairment \$million	Net \$million	Gross balance ¹ \$million	Total credit impairment \$million	Net \$million	Gross balance ¹ \$million	Total credit impairment \$million	Net \$million
As at 1 January 2022	54,260	(281)	53,979	990	(153)	837	475	(280)	195	55,725	(714)	55,011
Transfers to stage 1	1,718	(286)	1,432	(1,711)	286	(1,425)	(7)	–	(7)	–	–	–
Transfers to stage 2	(2,244)	81	(2,163)	2,259	(81)	2,178	(15)	–	(15)	–	–	–
Transfers to stage 3	(43)	(1)	(44)	(417)	150	(267)	460	(149)	311	–	–	–
Net change in exposures	5,979	(41)	5,938	(666)	18	(648)	(137)	–	(137)	5,176	(23)	5,153
Net remeasurement from stage changes	–	31	31	–	(81)	(81)	–	(21)	(21)	–	(71)	(71)
Changes in risk parameters	–	67	67	–	(180)	(180)	–	(251)	(251)	–	(364)	(364)
Write-offs	–	–	–	–	–	–	(457)	457	–	(457)	457	–
Interest due but unpaid	–	–	–	–	–	–	(27)	27	–	(27)	27	–
Discount unwind	–	–	–	–	–	–	–	26	26	–	26	26
Exchange translation differences and other movements	(1,793)	77	(1,716)	(47)	(60)	(107)	134	(33)	101	(1,706)	(16)	(1,722)
As at 31 December 2022	57,877	(353)	57,524	408	(101)	307	426	(224)	202	58,711	(678)	58,033
Income statement ECL (charge)/release		57			(243)			(272)			(458)	
Recoveries of amounts previously written off		–			–			190			190	
Total credit impairment (charge)/release		57			(243)			(82)			(268)	
As at 1 January 2023	57,877	(353)	57,524	408	(101)	307	426	(224)	202	58,711	(678)	58,033
Transfers to stage 1	954	(226)	728	(952)	226	(726)	(2)	–	(2)	–	–	–
Transfers to stage 2	(2,204)	62	(2,142)	2,231	(64)	2,167	(27)	2	(25)	–	–	–
Transfers to stage 3	(36)	–	(36)	(586)	186	(400)	622	(186)	436	–	–	–
Net change in exposures	5,103	(62)	5,041	(463)	11	(452)	(179)	–	(179)	4,461	(51)	4,410
Net remeasurement from stage changes	–	27	27	–	(121)	(121)	–	(35)	(35)	–	(129)	(129)
Changes in risk parameters	–	88	88	–	(93)	(93)	–	(316)	(316)	–	(321)	(321)
Write-offs	–	–	–	–	–	–	(540)	540	–	(540)	540	–
Interest due but unpaid	–	–	–	–	–	–	40	(40)	–	40	(40)	–
Discount unwind	–	–	–	–	–	–	–	12	12	–	12	12
Exchange translation differences and other movements	(493)	172	(321)	7	(168)	(161)	83	13	96	(403)	17	(386)
As at 31 December 2023	61,201	(292)	60,909	645	(124)	521	423	(234)	189	62,269	(650)	61,619
Income statement ECL (charge)/release		53			(203)			(351)			(501)	
Recoveries of amounts previously written off		–			–			171			171	
Total credit impairment (charge)/release		53			(203)			(180)			(330)	

¹ The gross balance includes the notional amount of off-balance sheet instruments

Analysis of stage 2 balances

The table below analyses total stage 2 gross on-and off-balance sheet exposures and associated expected credit provisions by the key significant increase in credit risk (SICR) driver that caused the exposures to be classified as stage 2 as at 31 December 2023 and 31 December 2022 for each segment.

Where multiple drivers apply, the exposure is allocated based on the table order. For example, a loan may have breached the PD thresholds and could also be on non-purely precautionary early alert; in this instance, the exposure is reported under 'Increase in PD'.

→ Further details can be found in the 'Summary of Performance in 2023' in [pages 235 and 236](#).

	2023														
	Corporate, Commercial & Institutional Banking			Consumer, Private & Business Banking			Ventures			Central & other items ¹			Total		
	Gross \$million	ECL \$million	Coverage %	Gross \$million	ECL \$million	Coverage %	Gross \$million	ECL \$million	Coverage %	Gross \$million	ECL \$million	Coverage %	Gross \$million	ECL \$million	Coverage %
Increase in PD	8,262	75	0.9%	1,962	109	5.6%	96	23	24.0%	599	13	2.2%	10,919	220	2.0%
Non-purely precautionary early alert	5,136	26	0.5%	37	–	0.0%	–	–	0.0%	–	–	0.0%	5,173	26	0.5%
Higher risk (CG12)	1,008	56	5.6%	26	1	3.8%	–	–	0.0%	2,020	17	0.8%	3,054	74	2.4%
Sub-investment grade	–	–	0.0%	–	–	0.0%	–	–	0.0%	–	–	0.0%	–	–	0.0%
Top up/Sell down (Private Banking)	–	–	0.0%	148	2	1.4%	–	–	0.0%	–	–	0.0%	148	2	1.4%
Others	2,467	37	1.5%	151	16	10.6%	–	–	0.0%	489	–	0.0%	3,107	53	1.7%
30 days past due	–	–	0.0%	148	12	8.1%	2	–	0.0%	–	–	0.0%	150	12	8.0%
Management overlay	–	124	0.0%	–	–	0.0%	–	–	0.0%	–	17	0.0%	–	141	0.0%
Total stage 2	16,873	318	1.9%	2,472	140	5.7%	98	23	23.5%	3,108	47	1.5%	22,551	528	2.3%

	2022														
	Corporate, Commercial & Institutional Banking			Consumer, Private & Business Banking			Ventures			Central & other items ¹			Total		
	Gross \$million	ECL \$million	Coverage %	Gross \$million	ECL \$million	Coverage %	Gross \$million	ECL \$million	Coverage %	Gross \$million	ECL \$million	Coverage %	Gross \$million	ECL \$million	Coverage %
Increase in PD	13,620	192	1.4%	1,389	89	6.4%	–	–	0.0%	2,973	11	0.4%	17,982	292	1.6%
Non-purely precautionary early alert	3,272	12	0.4%	35	–	0.0%	–	–	0.0%	5	–	0.0%	3,312	12	0.4%
Higher risk (CG12)	653	30	4.6%	18	1	5.6%	–	–	0.0%	2,534	69	2.7%	3,205	100	3.1%
Sub-investment grade	–	–	0.0%	–	–	0.0%	–	–	0.0%	95	11	11.6%	95	11	11.6%
Top up/Sell down (Private Banking)	–	–	0.0%	111	–	0.0%	–	–	0.0%	–	–	0.0%	111	–	0.0%
Others	2,603	41	1.6%	122	4	3.3%	–	–	0.0%	451	7	1.6%	3,176	52	1.6%
30 days past due	–	–	0.0%	146	12	8.2%	47	3	6.4%	–	–	0.0%	193	15	7.8%
Management overlay	–	136	0.0%	–	12	0.0%	–	–	0.0%	–	–	0.0%	–	148	0.0%
Total stage 2	20,148	411	2.0%	1,821	118	6.5%	47	3	6.4%	6,058	98	1.6%	28,074	630	2.2%

1 Includes Gross and ECL for Cash and balances at central banks and Assets held for sale

Credit impairment charge (audited)

The table below analyses credit impairment charges or releases of the ongoing business portfolio and restructuring business portfolio for the year ended 31 December 2023.

→ Further details can be found in the 'Summary of performance in 2023' in [pages 235 and 236](#).

	2023			2022 ¹		
	Stage 1 & 2 \$million	Stage 3 \$million	Total \$million	Stage 1 & 2 \$million	Stage 3 \$million	Total \$million
Ongoing business portfolio						
Corporate, Commercial & Institutional Banking	11	112	123	148	277	425
Consumer, Private & Business Banking	129	225	354	151	111	262
Ventures	42	43	85	13	3	16
Central & other items	(44)	10	(34)	95	38	133
Credit impairment charge/(release)	138	390	528	407	429	836
Restructuring business portfolio						
Others	1	(21)	(20)	(1)	1	–
Credit impairment charge/(release)	1	(21)	(20)	(1)	1	–
Total credit impairment charge/(release)	139	369	508	406	430	836

1 Underlying credit impairment has been restated for the removal of (i) exit markets and businesses in AME and (ii) Aviation Finance. No change to reported credit impairment

Problem credit management and provisioning (audited)

Forborne and other modified loans by client segment

A forborne loan arises when a concession has been made to the contractual terms of a loan in response to a customer's financial difficulties.

Net forborne loans decreased by \$120 million to \$1,005 million (31 December 2022: \$1,125 million) largely on performing forborne loans stock. The net performing forborne loans declined from \$151 million to \$38 million while net non-performing forborne loans remained stable at \$967 million (31 December 2022: \$974 million).

	2023				2022			
	Corporate, Commercial & Institutional Banking \$million	Consumer, Private & Business Banking \$million	Ventures \$million	Total \$million	Corporate, Commercial & Institutional Banking \$million	Consumer, Private & Business Banking \$million	Ventures \$million	Total \$million
Amortised cost								
All loans with forbearance measures	2,340	314	–	2,654	2,129	377	–	2,506
Credit impairment (stage 1 and 2)	–	(2)	–	(2)	(1)	–	–	(1)
Credit impairment (stage 3)	(1,529)	(118)	–	(1,647)	(1,253)	(127)	–	(1,380)
Net carrying value	811	194	–	1,005	875	250	–	1,125
Included within the above table								
Gross performing forborne loans	–	40	–	40	89	63	–	152
Modification of terms and conditions ¹	–	40	–	40	89	63	–	152
Refinancing ²	–	–	–	–	–	–	–	–
Impairment provisions	–	(2)	–	(2)	(1)	–	–	(1)
Modification of terms and conditions ¹	–	(2)	–	(2)	(1)	–	–	(1)
Refinancing ²	–	–	–	–	–	–	–	–
Net performing forborne loans	–	38	–	38	88	63	–	151
Collateral	–	31	–	31	7	60	–	67
Gross non-performing forborne loans	2,340	274	–	2,614	2,040	314	–	2,354
Modification of terms and conditions ¹	2,113	274	–	2,387	1,997	314	–	2,311
Refinancing ²	227	–	–	227	43	–	–	43
Impairment provisions	(1,529)	(118)	–	(1,647)	(1,253)	(127)	–	(1,380)
Modification of terms and conditions ¹	(1,337)	(118)	–	(1,454)	(1,210)	(127)	–	(1,337)
Refinancing ²	(192)	–	–	(192)	(43)	–	–	(43)
Net non-performing forborne loans	811	156	–	967	787	187	–	974
Collateral	341	49	–	390	243	68	–	311

1 Modification of terms is any contractual change apart from refinancing, as a result of credit stress of the counterparty, i.e. interest reductions, loan covenant waivers

2 Refinancing is a new contract to a borrower in credit stress, such that they are refinanced and can pay other debt contracts that they were unable to honour

Forborne and other modified loans by region

Net forborne loans decreased by \$120 million to \$1,005 million (31 December 2022: \$1,125 million) mainly in the performing forborne loans, in particular the Asia and the Europe and Americas regions.

	2023				2022			
	Asia \$million	Africa & Middle East \$million	Europe & Americas \$million	Total \$million	Asia \$million	Africa & Middle East \$million	Europe & Americas \$million	Total \$million
Amortised cost								
Performing forborne loans	34	4	–	38	129	9	13	151
Stage 3 forborne loans	661	75	231	967	568	144	262	974
Net forborne loans	695	79	231	1,005	697	153	275	1,125

Stage 3 cover ratio (audited)

The stage 3 cover ratio measures the proportion of stage 3 impairment provisions to gross stage 3 loans, and is a metric commonly used in considering impairment trends. This metric does not allow for variations in the composition of stage 3 loans and should be used in conjunction with other Credit Risk information provided, including the level of collateral cover.

The balance of stage 3 loans not covered by stage 3 impairment provisions represents the adjusted value of collateral held and the net outcome of any workout or recovery strategies. Collateral provides risk mitigation to some degree in all client segments and supports the credit quality and cover ratio assessments post impairment provisions.

→ Further information on collateral is provided in the 'Credit Risk mitigation' section in [pages 258 to 260](#).

→ Further details on stage 3 loans and advances and cover ratio can be found in the 'Summary of performance in 2023' in [pages 235 and 236](#).

	2023					2022				
	Corporate, Commercial & Institutional Banking \$million	Consumer, Private & Business Banking \$million	Ventures \$million	Central & Others \$million	Total \$million	Corporate, Commercial & Institutional Banking \$million	Consumer, Private & Business Banking \$million	Ventures \$million	Central & Others \$million	Total \$million
Amortised cost										
Gross credit-impaired	5,508	1,484	12	224	7,228	6,143	1,453	1	248	7,845
Credit impairment provisions	(3,533)	(760)	(12)	(15)	(4,320)	(3,662)	(776)	(1)	(18)	(4,457)
Net credit-impaired	1,975	724	–	209	2,908	2,481	677	–	230	3,388
Cover ratio	64%	51%	100%	7%	60%	60%	53%	100%	7%	57%
Collateral (\$ million)	623	554	–	–	1,177	956	543	–	–	1,499
Cover ratio (after collateral)	75%	89%	100%	7%	76%	75%	91%	100%	7%	76%

Credit-impaired (stage 3) loans and advances by geographic region

Stage 3 gross loans decreased by \$0.6 billion to \$7.2 billion (31 December 2022: \$7.8 billion). The decrease was primarily driven by repayments and write-offs in the Africa and the Middle East, which was offset by new inflows in Asia.

→ Further details can be found in the 'Summary of performance in 2023' in [pages 235 and 236](#).

	2023				2022			
	Asia \$million	Africa & Middle East \$million	Europe & Americas \$million	Total \$million	Asia \$million	Africa & Middle East \$million	Europe & Americas \$million	Total \$million
Amortised cost								
Gross credit-impaired	4,604	2,273	351	7,228	4,562	2,725	558	7,845
Credit impairment provisions	(2,734)	(1,388)	(198)	(4,320)	(2,483)	(1,765)	(209)	(4,457)
Net credit-impaired	1,870	885	153	2,908	2,079	960	349	3,388
Cover ratio	59%	61%	56%	60%	54%	65%	37%	57%

Credit Risk mitigation

Potential credit losses from any given account, customer or portfolio are mitigated using a range of tools such as collateral, netting arrangements, credit insurance and credit derivatives, taking into account expected volatility and guarantees.

The reliance that can be placed on these mitigants is carefully assessed in light of issues such as legal certainty and enforceability, market valuation correlation and counterparty risk of the guarantor.

Collateral (audited)

A secured loan is one where the borrower pledges an asset as collateral of which the Group is able to take possession in the event that the borrower defaults.

The unadjusted market value of collateral across all asset types, in respect of CCIB, without adjusting for over-collateralisation, reduced to \$290 billion (31 December 2022: \$345 billion) predominantly due to a reduction in reverse repos.

The collateral values in the table below (which covers loans and advances to banks and customers, excluding those held at fair value through profit or loss) are adjusted where appropriate in accordance with our risk mitigation policy and for the effect of over-collateralisation. The extent of over-collateralisation has been determined with reference to both the drawn and undrawn components of exposure as this best reflects the effect of collateral and other credit enhancements on the amounts arising from expected credit losses. The value of collateral reflects management's best estimate and is backtested against our prior experience. On average, across all types of non-cash collateral, the value ascribed is approximately half of its current market value.

CCIB collateral decreased by \$1.7 billion to \$36.5 billion (31 December 2022: \$38.2 billion) and CPBB collateral decreased by \$5.5 billion to \$86.8 billion (31 December 2022: \$92.4 billion) due to exposure reductions from the mortgage portfolio. Total collateral for Central and other items decreased by \$8.7 billion to \$2.5 billion (31 December 2022: \$11.2 billion) due to a decrease in stage 1 reverse repos. However, collateral for stage 2 Central and other items increased by \$1 billion (31 December 2022: Nil) due to short-term reverse repo with a Central Bank in the Africa and Middle East region.

Collateral held on loans and advances

The table below details collateral held against exposures, separately disclosing stage 2 and stage 3 exposure and corresponding collateral.

	2023								
	Net amount outstanding			Collateral			Net exposure		
	Total \$million	Stage 2 financial assets \$million	Credit- impaired financial assets (\$3) \$million	Total ² \$million	Stage 2 financial assets \$million	Credit- impaired financial assets (\$3) \$million	Total \$million	Stage 2 financial assets \$million	Credit- impaired financial assets (\$3) \$million
Amortised cost									
Corporate, Commercial & Institutional Banking ¹	175,382	8,175	2,046	36,458	2,972	623	138,924	5,203	1,423
Consumer, Private & Business Banking	126,059	2,163	724	86,827	1,136	554	39,232	1,027	170
Ventures	1,033	33	–	–	–	–	1,033	33	–
Central & other items	29,478	964	209	2,475	964	–	27,003	–	209
Total	331,952	11,335	2,979	125,760	5,072	1,177	206,192	6,263	1,802

	2022								
	Net amount outstanding			Collateral			Net exposure		
	Total \$million	Stage 2 financial assets \$million	Credit- impaired financial assets (\$3) \$million	Total ² \$million	Stage 2 financial assets \$million	Credit- impaired financial assets (\$3) \$million	Total \$million	Stage 2 financial assets \$million	Credit- impaired financial assets (\$3) \$million
Amortised cost									
Corporate, Commercial & Institutional Banking ¹	179,150	11,366	2,526	38,151	3,973	956	140,999	7,393	1,570
Consumer, Private & Business Banking	130,955	1,550	677	92,350	1,019	543	38,605	531	134
Ventures	698	17	–	–	–	–	698	17	–
Central & other items	39,363	–	230	11,214	–	–	28,149	–	230
Total	350,166	12,933	3,433	141,715	4,992	1,499	208,451	7,941	1,934

1 Includes loans and advances to banks

2 Adjusted for over-collateralisation based on the drawn and undrawn components of exposures

Collateral – Corporate, Commercial & Institutional Banking (audited)

Collateral taken for longer-term and sub-investment grade corporate loans reduced to 41 per cent (31 December 2022: 53 per cent) primarily due to the exit of the Aviation business.

Our underwriting standards encourage taking specific charges on assets and we consistently seek high-quality, investment-grade collateral.

83 per cent (31 December 2022: 85 per cent) of tangible collateral excluding reverse repurchase agreements and financial guarantees held comprises physical assets or is property based, with the remainder held in cash. Overall collateral decreased by \$2 billion to \$36 billion (31 December 2022: \$38 billion) mainly due to a decrease in property collateral.

Non-tangible collateral, such as guarantees and standby letters of credit, is also held against corporate exposures, although the financial effect of this type of collateral is less significant in terms of recoveries. However, this is considered when determining the probability of default and other credit-related factors. Collateral is also held against off balance sheet exposures, including undrawn commitments and trade-related instruments.

Corporate, Commercial & Institutional Banking

Amortised cost	2023 \$million	2022 \$million
Maximum exposure	175,382	179,150
Property	9,339	10,152
Plant, machinery and other stock	933	1,168
Cash	2,985	2,797
Reverse repos	13,826	14,305
AA- to AA+ ²	1,036	92
A- to A+ ²	10,606	10,459
BBB- to BBB+	855	1,485
Lower than BBB-	169	–
Unrated	1,160	2,269
Financial guarantees and insurance	5,057	5,096
Commodities	5	37
Ships and aircraft	4,313	4,596
Total value of collateral¹	36,458	38,151
Net exposure	138,924	140,999

1 Adjusted for over-collateralisation based on the drawn and undrawn components of exposures

2 Prior year has been represented to provide granular credit ratings

Collateral – Consumer, Private & Business Banking (audited)

In CPBB, fully secured products remain stable at 85 per cent of the total portfolio (31 December 2022: 86 per cent).

The following table presents an analysis of loans to individuals by product; split between fully secured, partially secured and unsecured.

Amortised cost	2023				2022			
	Fully secured \$million	Partially secured \$million	Unsecured \$million	Total \$million	Fully secured \$million	Partially secured \$million	Unsecured \$million	Total \$million
Maximum exposure	106,914	505	18,640	126,059	112,556	449	17,950	130,955
Loans to individuals								
Mortgages	82,943	–	–	82,943	87,212	–	–	87,212
CCPL	375	–	17,395	17,770	221	–	16,711	16,932
Auto	312	–	–	312	502	–	–	502
Secured wealth products	20,303	–	–	20,303	19,551	–	–	19,551
Other	2,981	505	1,245	4,731	5,070	449	1,239	6,758
Total collateral ¹				86,827				92,350
Net exposure ²				39,232				38,605
Percentage of total loans	85%	0%	15%		86%	0%	14%	

1 Collateral values are adjusted where appropriate in accordance with our risk mitigation policy and for the effect of over-collateralisation

2 Amounts net of ECL

Mortgage loan-to-value ratios by geography (audited)

Loan-to-value (LTV) ratios measure the ratio of the current mortgage outstanding to the current fair value of the properties on which they are secured.

In a majority of mortgages, the value of property held as security significantly exceeds principal outstanding of the mortgage loans. The average LTV of the overall mortgage portfolio increased to 47.1 per cent (31 December 2022: 44.7 per cent) driven by property prices decrease in a few key markets, including Hong Kong, Korea and China. Hong Kong, which represents 39.9 per cent of the residential mortgage portfolio, has an average LTV of 55.9 per cent (31 December 2022: 52.6 per cent). The increase of Hong Kong residential mortgage LTV is due to a decrease of the Property Price Index. All of our other key markets continue to have low portfolio LTVs (Korea, Singapore and Taiwan at 40.5 per cent, 43.0 per cent and 47.0 per cent respectively). Korea average LTV increase is due to government relaxations whereby highly regulated areas have eased up to accommodate customers with higher LTV.

An analysis of LTV ratios by geography for the mortgage portfolio is presented in the table below.

	2023			
	Asia % Gross	Africa & Middle East % Gross	Europe & Americas % Gross	Total % Gross
Amortised cost				
Less than 50 per cent	55.5	51.1	31.0	54.8
50 per cent to 59 per cent	17.1	14.7	17.4	17.1
60 per cent to 69 per cent	11.4	13.7	33.9	12.0
70 per cent to 79 per cent	7.7	12.8	14.4	7.9
80 per cent to 89 per cent	3.3	3.9	2.5	3.3
90 per cent to 99 per cent	2.6	2.1	0.6	2.5
100 per cent and greater	2.5	1.7	0.3	2.4
Average portfolio loan-to-value	46.9	51.1	56.0	47.1
Loans to individuals – mortgages (\$million)	79,517	1,183	2,243	82,943

	2022			
	Asia ¹ % Gross	Africa & Middle East % Gross	Europe & Americas % Gross	Total % Gross
Amortised cost				
Less than 50 per cent	60.9	43.0	32.2	60.1
50 per cent to 59 per cent	15.5	18.2	19.2	15.6
60 per cent to 69 per cent	9.8	16.8	31.3	10.2
70 per cent to 79 per cent	6.5	12.8	14.8	6.7
80 per cent to 89 per cent	3.6	5.1	1.1	3.6
90 per cent to 99 per cent	2.5	2.0	–	2.4
100 per cent and greater	1.4	2.2	1.3	1.4
Average portfolio loan-to-value	44.4	54.3	56.6	44.7
Loans to individuals – mortgages (\$million)	83,954	1,388	1,870	87,212

Collateral and other credit enhancements possessed or called upon (audited)

The Group obtains assets by taking possession of collateral or calling upon other credit enhancements (such as guarantees). Repossessed properties are sold in an orderly fashion. Where the proceeds are in excess of the outstanding loan balance the excess is returned to the borrower.

Certain equity securities acquired may be held by the Group for investment purposes and are classified as fair value through profit or loss, and the related loan written off. The carrying value of collateral possessed and held by the Group is \$16.5 million (31 December 2022: \$14.9 million).

	2023 \$million	2022 \$million
Property, plant and equipment	10.5	9.6
Guarantees	6.0	5.3
Total	16.5	14.9

Other Credit risk mitigation (audited)

Other forms of credit risk mitigation are set out below.

Credit default swaps

The Group has entered into credit default swaps for portfolio management purposes, referencing loan assets with a notional value of \$3.5 billion (31 December 2022: \$5.1 billion). These credit default swaps are accounted for as financial guarantees as per IFRS 9 as they will only reimburse the holder for an incurred loss on an underlying debt instrument. The Group continues to hold the underlying assets referenced in the credit default swaps and it continues to be exposed to related Credit Risk and Foreign Exchange Rate Risk on these assets.

Credit linked notes

The Group has issued credit linked notes for portfolio management purposes, referencing loan assets with a notional value of \$22.5 billion (31 December 2022: \$13.5 billion). The Group continues to hold the underlying assets for which the credit linked notes provide mitigation. The credit linked notes are recognised as a financial liability at amortised cost on the balance sheet.

Derivative financial instruments

The Group enters into master netting agreements, which in the event of default result in a single amount owed by or to the counterparty through netting the sum of the positive and negative mark-to-market values of applicable derivative transactions. Credit Risk mitigation for derivative financial instruments is set out below.

Off-balance sheet exposures

For certain types of exposures, such as letters of credit and guarantees, the Group obtains collateral such as cash depending on internal Credit Risk assessments, as well as in the case of letters of credit holding legal title to the underlying assets should a default take place.

Other portfolio analysis

This section provides maturity analysis by credit quality by industry and industry and retail products analysis by region.

Maturity analysis of loans and advances by client segment

Loans and advances to the CCIB segment remain predominantly short-term, with \$91 billion (31 December 2022: \$98 billion) maturing in less than one year. 98 per cent (31 December 2022: 96 per cent) of loans to banks mature in less than one year, an increase compared with 2022 as net exposures increased by \$5.5 billion to \$45 billion (31 December 2022: \$39.5 billion). Shorter maturities give us the flexibility to respond promptly to events and rebalance or reduce our exposure to clients or sectors that are facing increased pressure or uncertainty.

The CPBB short-term book of one year or less and long-term book of over five years is stable at 26 per cent (31 December 2022: 25 per cent) and 63 per cent (31 December 2022: 64 per cent) of the total portfolio respectively.

	2023			
	One year or less \$million	One to five years \$million	Over five years \$million	Total \$million
Amortised cost				
Corporate, Commercial & Institutional Banking	90,728	30,746	12,822	134,296
Consumer, Private & Business Banking	33,397	13,711	80,166	127,274
Ventures	747	334	–	1,081
Central & other items	29,448	43	3	29,494
Gross loans and advances to customers	154,320	44,834	92,991	292,145
Impairment provisions	(4,872)	(185)	(113)	(5,170)
Net loans and advances to customers	149,448	44,649	92,878	286,975
Net loans and advances to banks	43,955	1,021	1	44,977

	2022			
	One year or less \$million	One to five years \$million	Over five years \$million	Total \$million
Amortised cost				
Corporate, Commercial & Institutional Banking	98,335	34,635	10,789	143,759
Consumer, Private & Business Banking	33,365	14,161	84,731	132,257
Ventures	548	162	–	710
Central & other items	39,373	–	8	39,381
Gross loans and advances to customers	171,621	48,958	95,528	316,107
Impairment provisions	(4,767)	(574)	(119)	(5,460)
Net loans and advances to customers	166,854	48,384	95,409	310,647
Net loans and advances to banks	38,105	1,211	203	39,519

Credit quality by industry

Loans and advances

This section provides an analysis of the Group's amortised cost portfolio by industry on a gross, total credit impairment and net basis.

Amortised cost	2023											
	Stage 1			Stage 2			Stage 3			Total		
	Gross balance \$million	Total credit impairment \$million	Net carrying amount \$million	Gross balance \$million	Total credit impairment \$million	Net carrying amount \$million	Gross balance \$million	Total credit impairment \$million	Net carrying amount \$million	Gross balance \$million	Total credit impairment \$million	Net carrying amount \$million
Industry:												
Energy	9,397	(8)	9,389	672	(22)	650	949	(535)	414	11,018	(565)	10,453
Manufacturing	21,239	(8)	21,231	708	(16)	692	656	(436)	220	22,603	(460)	22,143
Financing, insurance and non-banking	31,633	(13)	31,620	571	(1)	570	80	(77)	3	32,284	(91)	32,193
Transport, telecom and utilities	14,710	(8)	14,702	1,722	(36)	1,686	481	(178)	303	16,913	(222)	16,691
Food and household products	7,668	(15)	7,653	323	(7)	316	355	(262)	93	8,346	(284)	8,062
Commercial real estate	12,261	(30)	12,231	1,848	(129)	1,719	1,712	(1,191)	521	15,821	(1,350)	14,471
Mining and quarrying	5,995	(4)	5,991	220	(10)	210	151	(84)	67	6,366	(98)	6,268
Consumer durables	5,815	(3)	5,812	300	(21)	279	329	(298)	31	6,444	(322)	6,122
Construction	2,230	(2)	2,228	502	(8)	494	358	(326)	32	3,090	(336)	2,754
Trading companies & distributors	581	-	581	57	-	57	107	(58)	49	745	(58)	687
Government	33,400	(6)	33,394	1,783	(5)	1,778	367	(33)	334	35,550	(44)	35,506
Other	4,262	(4)	4,258	161	(3)	158	187	(70)	117	4,610	(77)	4,533
Retail Products:												
Mortgage	81,210	(8)	81,202	1,350	(5)	1,345	519	(123)	396	83,079	(136)	82,943
Credit Cards	7,633	(104)	7,529	244	(65)	179	69	(50)	19	7,946	(219)	7,727
Personal loans and other unsecured lending	10,867	(188)	10,679	324	(77)	247	315	(165)	150	11,506	(430)	11,076
Auto	310	-	310	1	-	1	1	-	1	312	-	312
Secured wealth products	19,923	(22)	19,901	278	(10)	268	474	(340)	134	20,675	(372)	20,303
Other	4,558	(7)	4,551	161	(5)	156	118	(94)	24	4,837	(106)	4,731
Net carrying value (customers)¹	273,692	(430)	273,262	11,225	(420)	10,805	7,228	(4,320)	2,908	292,145	(5,170)	286,975

¹ Includes reverse repurchase agreements and other similar secured lending held at amortised cost of \$13,996 million

2022

	Stage 1			Stage 2			Stage 3			Total		
	Gross balance \$million	Total credit impairment \$million	Net carrying amount \$million	Gross balance \$million	Total credit impairment \$million	Net carrying amount \$million	Gross balance \$million	Total credit impairment \$million	Net carrying amount \$million	Gross balance \$million	Total credit impairment \$million	Net carrying amount \$million
Amortised cost												
Industry:												
Energy	10,959	(8)	10,951	818	(7)	811	1,324	(620)	704	13,101	(635)	12,466
Manufacturing	20,990	(23)	20,967	1,089	(27)	1,062	777	(518)	259	22,856	(568)	22,288
Financing, insurance and non-banking	34,915	(9)	34,906	774	(3)	771	195	(175)	20	35,884	(187)	35,697
Transport, telecom and utilities	14,273	(22)	14,251	2,347	(36)	2,311	669	(224)	445	17,289	(282)	17,007
Food and household products	7,841	(21)	7,820	695	(20)	675	418	(259)	159	8,954	(300)	8,654
Commercial real estate	12,393	(43)	12,350	3,217	(195)	3,022	1,305	(761)	544	16,915	(999)	15,916
Mining and quarrying	5,482	(4)	5,478	537	(5)	532	248	(174)	74	6,267	(183)	6,084
Consumer durables	6,403	(4)	6,399	420	(17)	403	358	(307)	51	7,181	(328)	6,853
Construction	2,424	(2)	2,422	407	(5)	402	495	(410)	85	3,326	(417)	2,909
Trading companies & distributors	2,205	(1)	2,204	170	(2)	168	122	(80)	42	2,497	(83)	2,414
Government	42,825	(2)	42,823	603	(1)	602	168	(15)	153	43,596	(18)	43,578
Other	4,684	(4)	4,680	278	(5)	273	312	(137)	175	5,274	(146)	5,128
Retail Products:												
Mortgage	85,859	(12)	85,847	996	(7)	989	556	(180)	376	87,411	(199)	87,212
Credit Cards	6,912	(103)	6,809	155	(46)	109	59	(44)	15	7,126	(193)	6,933
Personal loans and other unsecured lending	10,652	(253)	10,399	215	(57)	158	296	(156)	140	11,163	(466)	10,697
Auto	501	–	501	1	–	1	–	–	–	502	–	502
Secured wealth products	19,269	(45)	19,224	235	(10)	225	407	(305)	102	19,911	(360)	19,551
Other	6,632	(3)	6,629	86	(1)	85	136	(92)	44	6,854	(96)	6,758
Net carrying value (customers)¹	295,219	(559)	294,660	13,043	(444)	12,599	7,845	(4,457)	3,388	316,107	(5,460)	310,647

1 Includes reverse repurchase agreements and other similar secured lending held at amortised cost of \$24,498 million

Industry and Retail Products analysis of loans and advances by geographic region

This section provides an analysis of the Group's amortised cost loan portfolio, net of provisions, by industry and region.

In the CCIB and Central and other items segment, our largest industry exposures are to Government, Financing, insurance and non-banking and Manufacturing with each constituting at least 8 per cent of CCIB and Central and other items loans and advances to customers.

Financing, insurance and non-banking industry clients are mostly investment-grade institutions and this lending forms part of the liquidity management of the Group. The Manufacturing sector group is spread across a diverse range of industries, including automobiles and components, capital goods, pharmaceuticals, biotech and life sciences, technology hardware and equipment, chemicals, paper products and packaging, with lending spread over 3,255 clients.

The Mortgage portfolio continues to be the largest portion of the CPBB portfolio at \$83.1 billion (31 December 2022: \$87.4 billion), of which 96 per cent continues to be in Asia. Credit cards, personal loans and other unsecured lending increased to 15 per cent (31 December 2022: 14 per cent) of the CPBB portfolio, mainly in Asia due to the growth from Mox Bank and digital partnerships.

In Asia, the Financing, insurance and non-banking industry decreased by \$1.9 billion to \$22.8 billion (31 December 2022: \$24.7 billion) while the CRE sector decreased by \$2 billion to \$11.2 billion (31 December 2022: \$13.2 billion) due to exposure reductions. The Government sector decreased by \$9.2 billion to \$30.5 billion (31 December 2022: \$39.7 billion) due to decreased lending to Korea.

	2023				2022			
	Asia \$million	Africa & Middle East \$million	Europe & Americas \$million	Total \$million	Asia \$million	Africa & Middle East \$million	Europe & Americas \$million	Total \$million
Amortised cost								
Industry:								
Energy	4,143	3,986	2,324	10,453	6,250	2,278	3,938	12,466
Manufacturing	16,828	1,077	4,238	22,143	17,388	1,267	3,633	22,288
Financing, insurance and non-banking	22,771	829	8,593	32,193	24,674	761	10,262	35,697
Transport, telecom and utilities	12,122	2,650	1,919	16,691	10,841	3,567	2,599	17,007
Food and household products	4,856	1,726	1,480	8,062	4,160	2,566	1,928	8,654
Commercial real estate	11,176	623	2,672	14,471	13,179	598	2,139	15,916
Mining and quarrying	3,856	375	2,037	6,268	3,785	390	1,909	6,084
Consumer durables	5,033	429	660	6,122	5,860	461	532	6,853
Construction	1,803	333	618	2,754	1,775	625	509	2,909
Trading companies and distributors	527	109	51	687	2,281	101	32	2,414
Government	30,487	4,778	241	35,506	39,713	3,759	106	43,578
Other	3,401	584	548	4,533	3,636	702	790	5,128
Retail Products:								
Mortgages	79,517	1,183	2,243	82,943	83,954	1,388	1,870	87,212
Credit Cards	7,449	278	–	7,727	6,642	291	–	6,933
Personal loans and other unsecured lending	9,426	1,565	85	11,076	9,056	1,541	100	10,697
Auto	295	17	–	312	469	33	–	502
Secured wealth products	18,774	987	542	20,303	17,876	1,048	627	19,551
Other	4,671	60	–	4,731	6,676	82	–	6,758
Net loans and advances to customers	237,135	21,589	28,251	286,975	258,215	21,458	30,974	310,647
Net loans and advances to banks	35,417	3,106	6,454	44,977	22,058	3,929	13,532	39,519

Vulnerable, cyclical and high carbon sectors

Vulnerable and cyclical sectors are those that the Group considers to be most at risk from current economic stresses, including volatile energy and commodity prices, and we continue to monitor exposures to these sectors particularly carefully.

Sectors are identified and grouped as per the International Standard Industrial Classification (ISIC) system and exposure numbers have been updated to include all in-scope ISIC codes used for target setting among the high carbon sectors.

The maximum exposures shown in the table include Loans and Advances to Customers at Amortised cost, Fair Value through profit or loss, and committed facilities available as per IFRS 9 – Financial Instruments in \$million.



Further details can be found in the 'Summary of Performance in 2023' in [pages 235 and 236](#).

Maximum exposure

	2023						
	Maximum on Balance Sheet Exposure (net of credit impairment) \$million	Collateral \$million	Net On Balance Sheet Exposure \$million	Undrawn Commitments (net of credit impairment) \$million	Financial Guarantees (net of credit impairment) \$million	Net Off Balance Sheet Exposure \$million	Total On & Off Balance Sheet Net Exposure \$million
Industry:							
Automotive manufacturers ¹	3,564	65	3,499	3,791	538	4,329	7,828
Aviation ^{1,2}	1,775	974	801	1,794	668	2,462	3,263
Of which : High Carbon Sector	1,330	974	356	944	615	1,559	1,915
Commodity Traders ²	7,406	303	7,103	2,591	6,281	8,872	15,975
Metals & Mining ^{1,2}	4,589	307	4,282	3,373	1,218	4,591	8,873
Of which: Steel ¹	1,596	193	1,403	601	358	959	2,362
Of which: Coal Mining ¹	29	9	20	51	99	150	170
Of which: Aluminium ¹	526	9	517	338	188	526	1,043
Of which: Other Metals & Mining ¹	2,438	96	2,342	2,383	573	2,956	5,298
Shipping ¹	5,964	3,557	2,407	2,261	291	2,552	4,959
Construction ²	2,853	448	2,405	2,753	5,927	8,680	11,085
Commercial Real Estate ²	14,533	6,363	8,170	4,658	311	4,969	13,139
Of which: High Carbon Sector	7,498	3,383	4,115	1,587	112	1,699	5,814
Hotels & Tourism ²	1,680	715	965	1,339	227	1,566	2,531
Oil & Gas ^{1,2}	6,278	894	5,384	7,845	6,944	14,789	20,173
Power ¹	5,411	1,231	4,180	3,982	732	4,714	8,894
Total³	54,053	14,857	39,196	34,387	23,137	57,524	96,720
Of which: Vulnerable and cyclical sectors	38,880	9,983	28,897	24,842	21,511	46,353	75,250
Of which: High carbon sectors⁴	34,634	10,411	24,223	23,783	10,450	34,233	58,456
Total Corporate, Commercial & Institutional Banking	130,405	32,744	97,661	104,437	63,183	167,620	265,281
Total Group	331,952	125,760	206,192	182,299	74,278	256,577	462,769

1 High carbon sectors

2 Vulnerable and cyclical sectors

3 Maximum On Balance sheet exposure include FVTPL portion of \$955 million, of which Vulnerable sector is \$821 million and High Carbon sector is \$443 million

4 Excluded Cement to the value of \$671 million net of ECL under Construction

Industry:	Maximum On Balance Sheet Exposure (net of credit impairment) \$million	Collateral \$million	Net On Balance Sheet Exposure \$million	Undrawn Commitments (net of credit impairment) \$million	Financial Guarantees (net of credit impairment) \$million	Net Off Balance Sheet Exposure \$million	Total On & Off Balance Sheet Net Exposure \$million
Automotive manufacturers ¹	3,167	84	3,083	3,683	560	4,243	7,326
Aviation ^{1,2,3}	3,154	1,597	1,557	1,762	632	2,394	3,951
Of which : High Carbon Sector	2,540	1,582	958	695	555	1,250	2,208
Commodity Traders ²	8,133	341	7,792	2,578	6,095	8,673	16,465
Metals & Mining ^{1,2}	4,990	333	4,657	3,732	930	4,662	9,319
Of which: Steel ¹	1,227	157	1,070	1,450	327	1,777	2,847
Of which: Coal Mining ¹	48	15	33	8	7	15	48
Of which: Aluminium ¹	728	107	621	285	74	359	980
Of which: Other Metals & Mining ¹	2,987	54	2,933	1,989	522	2,511	5,444
Shipping ¹	5,322	3,167	2,155	1,870	256	2,126	4,281
Construction ²	2,909	552	2,357	2,762	5,969	8,731	11,088
Commercial Real Estate ²	16,286	7,205	9,081	6,258	224	6,482	15,563
Of which: High Carbon Sector	6,547	2,344	4,203	3,996	90	4,086	8,289
Hotels & Tourism ²	1,741	919	822	1,346	138	1,484	2,306
Oil & Gas ^{1,2}	6,668	806	5,862	7,630	7,158	14,788	20,650
Power ¹	4,771	1,258	3,513	4,169	1,176	5,345	8,858
Total⁴	57,141	16,262	40,879	35,790	23,138	58,928	99,807
Of which: Vulnerable and cyclical sectors	43,678	11,741	31,937	25,761	21,068	46,829	78,766
Of which: High carbon sectors⁵	34,005	9,574	24,431	25,775	10,725	36,500	60,931
Total Corporate, Commercial & Institutional Banking	139,631	35,229	104,402	95,272	51,662	146,934	251,336
Total Group	350,166	141,715	208,451	168,574	60,224	228,798	437,249

1 High carbon sectors

2 Vulnerable and cyclical sectors

3 In addition to the aviation sector loan exposures, the Group owns \$3.2 billion of aircraft under operating leases in 2022

4 Maximum On Balance sheet exposure include FVTPL portion of \$1,251 million, of which Vulnerable sector is \$1,072 million and High Carbon sector is \$574 million

5 Excluded Cement to the value of \$719 million net of ECL under Construction

Loans and advances by stage

Amortised Cost	2023											
	Stage 1			Stage 2			Stage 3			Total		
	Gross Balance \$million	Total Credit Impairment \$million	Net Carrying Amount \$million	Gross Balance \$million	Total Credit Impairment \$million	Net Carrying Amount \$million	Gross Balance \$million	Total Credit Impairment \$million	Net Carrying Amount \$million	Gross Balance \$million	Total Credit Impairment \$million	Net Carrying Amount \$million
Industry:												
Aviation	1,619	–	1,619	55	(1)	54	74	(15)	59	1,748	(16)	1,732
Commodity Traders	6,912	(2)	6,910	129	(1)	128	555	(504)	51	7,596	(507)	7,089
Metals & Mining	3,934	(1)	3,933	140	(8)	132	154	(88)	66	4,228	(97)	4,131
Construction	2,230	(2)	2,228	502	(8)	494	358	(326)	32	3,090	(336)	2,754
Commercial Real Estate	12,261	(30)	12,231	1,848	(129)	1,719	1,712	(1,191)	521	15,821	(1,350)	14,471
Hotels & Tourism	1,468	(2)	1,466	61	–	61	126	(25)	101	1,655	(27)	1,628
Oil & Gas	5,234	(4)	5,230	615	(15)	600	571	(147)	424	6,420	(166)	6,254
Total	33,658	(41)	33,617	3,350	(162)	3,188	3,550	(2,296)	1,254	40,558	(2,499)	38,059
Total Corporate, Commercial & Institutional Banking	120,886	(101)	120,785	7,902	(257)	7,645	5,508	(3,533)	1,975	134,296	(3,891)	130,405
Total Group	318,076	(438)	317,638	11,765	(430)	11,335	7,305	(4,326)	2,979	337,146	(5,194)	331,952

Amortised Cost	2022											
	Stage 1			Stage 2			Stage 3			Total		
	Gross Balance \$million	Total Credit Impairment \$million	Net Carrying Amount \$million	Gross Balance \$million	Total Credit Impairment \$million	Net Carrying Amount \$million	Gross Balance \$million	Total Credit Impairment \$million	Net Carrying Amount \$million	Gross Balance \$million	Total Credit Impairment \$million	Net Carrying Amount \$million
Industry:												
Aviation ¹	2,377	(1)	2,376	573	–	573	155	(32)	123	3,105	(33)	3,072
Commodity Traders	7,187	(6)	7,181	138	(2)	136	689	(435)	254	8,014	(443)	7,571
Metals & Mining	4,184	(1)	4,183	475	(4)	471	257	(157)	100	4,916	(162)	4,754
Construction	2,424	(2)	2,422	407	(5)	402	497	(412)	85	3,328	(419)	2,909
Commercial Real Estate	12,393	(43)	12,350	3,217	(195)	3,022	1,305	(761)	544	16,915	(999)	15,916
Hotels & Tourism	1,448	(2)	1,446	108	(1)	107	206	(18)	188	1,762	(21)	1,741
Oil & Gas	5,468	(4)	5,464	708	(6)	702	919	(442)	477	7,095	(452)	6,643
Total	35,481	(59)	35,422	5,626	(213)	5,413	4,028	(2,257)	1,771	45,135	(2,529)	42,606
Total Corporate, Commercial & Institutional Banking	126,261	(143)	126,118	11,355	(323)	11,032	6,143	(3,662)	2,481	143,759	(4,128)	139,631
Total Group	334,368	(568)	333,800	13,380	(447)	12,933	7,904	(4,471)	3,433	355,652	(5,486)	350,166

¹ In addition to the aviation sector loan exposures, the Group owns \$3.2 billion of aircraft under operating leases in 2022

Loans and advances by region (net of credit impairment)

	2023				2022 ¹			
	Asia \$million	Africa & Middle East \$million	Europe & Americas \$million	Total \$million	Asia \$million	Africa & Middle East \$million	Europe & Americas \$million	Total \$million
Industry:								
Aviation	1,077	7	648	1,732	1,105	1,259	708	3,072
Commodity Traders	3,778	675	2,636	7,089	3,497	978	3,096	7,571
Metals & Mining	1,628	1,522	981	4,131	2,966	347	1,441	4,754
Construction	1,803	333	618	2,754	1,776	624	509	2,909
Commercial Real Estate	11,176	623	2,672	14,471	13,180	598	2,138	15,916
Hotel & Tourism	998	178	452	1,628	880	465	396	1,741
Oil & Gas	2,639	1,815	1,800	6,254	3,574	1,445	1,624	6,643
Total	23,099	5,153	9,807	38,059	26,978	5,716	9,912	42,606

¹ In addition to the aviation sector loan exposures, the Group owns \$3.2 billion of aircraft under operating leases in 2022

Credit quality – loans and advances

Amortised Cost	2023							
	Aviation Gross \$million	Commodity Traders Gross \$million	Construction Gross \$million	Metals & Mining Gross \$million	Commercial Real Estate Gross \$million	Hotel & Tourism Gross \$million	Oil & Gas Gross \$million	Total Gross \$million
Credit Grade								
Strong	1,452	4,444	1,012	3,213	7,326	1,090	4,024	22,561
Satisfactory	222	2,592	1,702	788	6,751	439	1,726	14,220
Higher risk	–	5	18	73	32	–	101	229
Credit impaired (stage 3)	74	555	358	154	1,712	126	569	3,548
Total Gross Balance	1,748	7,596	3,090	4,228	15,821	1,655	6,420	40,558
Strong	–	(1)	(1)	–	(20)	(1)	(3)	(26)
Satisfactory	(1)	(2)	(6)	(1)	(139)	(1)	(12)	(162)
Higher risk	–	–	(4)	(8)	–	–	(4)	(16)
Credit impaired (stage 3)	(15)	(504)	(325)	(88)	(1,191)	(25)	(147)	(2,295)
Total Credit Impairment	(16)	(507)	(336)	(97)	(1,350)	(27)	(166)	(2,499)
Strong	0.0%	0.0%	0.1%	0.0%	0.3%	0.1%	0.1%	0.1%
Satisfactory	0.5%	0.1%	0.4%	0.1%	2.1%	0.2%	0.7%	1.1%
Higher risk	0.0%	0.0%	22.2%	11.0%	0.0%	0.0%	4.0%	7.0%
Credit impaired (stage 3)	20.3%	90.8%	90.8%	57.1%	69.6%	19.8%	25.8%	64.7%
Cover Ratio	0.9%	6.7%	10.9%	2.3%	8.5%	1.6%	2.6%	6.2%

Credit Grade	2022							
	Aviation ¹ Gross \$million	Commodity Traders Gross \$million	Construction Gross \$million	Metals & Mining Gross \$million	Commercial Real Estate Gross \$million	Hotel & Tourism Gross \$million	Oil & Gas Gross \$million	Total Gross \$million
Strong	1,437	4,419	1,164	3,425	8,000	1,047	3,923	23,415
Satisfactory	1,413	2,894	1,634	1,208	7,334	494	2,215	17,192
Higher risk	100	12	33	26	276	15	38	500
Credit impaired (stage 3)	155	689	497	257	1,305	206	919	4,028
Total Gross Balance	3,105	8,014	3,328	4,916	16,915	1,762	7,095	45,135
Strong	–	(3)	–	–	(25)	(1)	(1)	(30)
Satisfactory	(1)	(4)	(3)	(5)	(129)	(1)	(7)	(150)
Higher risk	–	(1)	(4)	–	(84)	(1)	(2)	(92)
Credit impaired (stage 3)	(32)	(435)	(412)	(157)	(761)	(18)	(442)	(2,257)
Total Credit Impairment	(33)	(443)	(419)	(162)	(999)	(21)	(452)	(2,529)
Strong	0.0%	0.1%	0.0%	0.0%	0.3%	0.1%	0.0%	0.1%
Satisfactory	0.1%	0.1%	0.2%	0.4%	1.8%	0.2%	0.3%	0.9%
Higher risk	0.0%	8.3%	12.1%	0.0%	30.4%	6.7%	5.3%	18.4%
Credit impaired (stage 3)	20.6%	63.1%	82.9%	61.1%	58.3%	8.7%	48.1%	56.0%
Cover Ratio	1.1%	5.5%	12.6%	3.3%	5.9%	1.2%	6.4%	5.6%

1 In addition to the aviation sector loan exposures, the Group owns \$3.2 billion of aircraft under operating leases in 2022

Maturity and expected credit loss for high-carbon sectors

Sector	2023	Maturity Buckets ¹			2023
	Loans and advances (Drawn funding) \$million	Less than 1 year \$million	More than 1 to 5 years \$million	More than 5 years \$million	Expected Credit Loss \$million
Automotive Manufacturers	3,566	3,106	460	–	2
Aviation	1,339	149	145	1,045	9
Cement	719	512	189	18	48
Coal Mining	42	9	33	–	13
Steel	1,649	1,258	185	206	53
Other Metals & Mining	2,151	1,886	240	25	34
Aluminium	537	442	63	32	11
Oil & Gas	6,444	2,980	1,576	1,888	166
Power	5,516	1,933	1,533	2,050	105
Shipping	5,971	1,051	2,568	2,352	7
Commercial Real Estate	7,664	3,722	3,935	7	166
Total balance¹	35,598	17,048	10,927	7,623	614

1 Excluded fair value of Other Metals & Mining of \$321 million

Sector	2022	Maturity Buckets ¹			2022
	Loans and advances (Drawn funding) \$million	Less than 1 year \$million	More than 1 to 5 years \$million	More than 5 years \$million	Expected Credit Loss \$million
Automotive Manufacturers	3,167	2,450	717	–	–
Aviation	2,595	118	749	1,728	55
Cement	762	661	63	38	43
Coal Mining	60	2	41	17	12
Steel	1,268	1,080	180	8	41
Other Metals & Mining	1,964	1,660	281	23	44
Aluminium	744	528	114	102	16
Oil & Gas	6,550	3,100	1,734	1,716	238
Power	4,903	1,615	1,279	2,009	132
Shipping	5,374	918	2,567	1,889	52
Commercial Real Estate	6,598	2,568	3,949	81	51
Total balance²	33,985	14,700	11,674	7,611	684

1 Gross of credit impairment

2 Excluded fair value of Other Metals & Mining and Oil & Gas of \$58 million

China commercial real estate

The table below represents the on and off-balance sheet items that are exposed to China CRE by credit quality.

→ Further details can be found in the 'Summary of Performance in 2023' in [pages 235 and 236](#).

	2023			
	China \$million	Hong Kong \$million	Rest of Group ¹ \$million	Total \$million
Loans to customers	584	1,821	39	2,444
Off balance sheet	42	82	–	124
Total as at 31 December 2023	626	1,903	39	2,568
Loans to customers – By Credit quality				
Gross				
Strong	33	–	–	33
Satisfactory	339	619	39	997
Higher risk	8	–	–	8
Credit impaired (stage 3)	204	1,202	–	1,406
Total as at 31 December 2023	584	1,821	39	2,444
Loans to customers – ECL				
Strong	–	–	–	–
Satisfactory	(3)	(134)	(12)	(149)
Higher risk	–	–	–	–
Credit impaired (stage 3)	(70)	(941)	–	(1,011)
Total as at 31 December 2023	(73)	(1,075)	(12)	(1,160)

1 Rest of Group mainly includes Singapore

	2022			
	China \$million	Hong Kong \$million	Rest of Group ¹ \$million	Total \$million
Loans to customers	953	2,248	39	3,240
Off balance sheet	74	85	8	167
Total as at 31 December 2022	1,027	2,333	47	3,407
Loans to customers – By Credit quality				
Gross				
Strong	256	221	–	477
Satisfactory	459	921	39	1,419
Higher risk	–	271	–	271
Credit impaired (stage 3)	238	835	–	1,073
Total as at 31 December 2022	953	2,248	39	3,240
Loans to customers – ECL				
Strong	–	(19)	–	(19)
Satisfactory	(9)	(110)	–	(119)
Higher risk	–	(83)	–	(83)
Credit impaired (stage 3)	(37)	(559)	–	(596)
Total as at 31 December 2022	(46)	(771)	–	(817)

1 Rest of Group mainly includes Singapore

Debt securities and other eligible bills (audited)

This section provides further detail on gross debt securities and treasury bills.

The standard credit ratings used by the Group are those used by Standard & Poor's or its equivalent. Debt securities held that have a short-term rating are reported against the long-term rating of the issuer. For securities that are unrated, the Group applies an internal credit rating, as described under the credit rating and measurement section on page 321.

Total gross debt securities and other eligible bills decreased by \$11.4 billion to \$160 billion (31 December 2022: \$172 billion) due to action taken to manage liquidity, primarily in stage 1.

Stage 1 gross balance decreased by \$7.8 billion to \$158 billion (31 December 2022: \$166 billion) of which \$3.4 billion of the decrease was from unrated.

Stage 2 gross balance decreased by \$3.6 billion to \$2 billion (31 December 2022: \$5 billion).

Stage 3 gross balance was broadly stable at \$0.2 billion (31 December 2022: \$0.1 billion).

Amortised cost and FVOCI	2023			2022		
	Gross \$million	ECL \$million	Net ² \$million	Gross \$million	ECL \$million	Net ² \$million
Stage 1	158,314	(26)	158,288	166,103	(25)	166,078
AAA	61,920	(5)	61,915	73,933	(10)	73,923
AA- to AA+	34,244	(2)	34,242	42,327	(4)	42,323
A- to A+	38,891	(2)	38,889	29,488	(2)	29,486
BBB- to BBB+	13,098	(7)	13,091	7,387	(1)	7,386
Lower than BBB-	1,611	(2)	1,609	1,047	(2)	1,045
Unrated	8,550	(8)	8,542	11,921	(6)	11,915
– Strong	7,415	(7)	7,408	11,760	(6)	11,754
– Satisfactory	1,135	(1)	1,134	161	–	161
Stage 2	1,860	(34)	1,826	5,455	(90)	5,365
AAA	98	–	98	21	–	21
AA- to AA+	22	–	22	40	–	40
A- to A+	81	–	81	17	(1)	16
BBB- to BBB+	499	(3)	496	2,605	(16)	2,589
Lower than BBB-	893	(30)	863	2,485	(71)	2,414
Unrated	267	(1)	266	287	(2)	285
– Strong	217	–	217	26	(2)	24
– Satisfactory	50	(1)	49	–	–	–
– Higher risk	–	–	–	261	–	261
Stage 3	164	(61)	103	144	(106)	38
Lower than BBB-	72	(4)	68	67	(55)	12
Unrated	92	(57)	35	77	(51)	26
Gross balance¹	160,338	(121)	160,217	171,702	(221)	171,481

1 Stage 3 gross includes \$80 million (31 December 2022: \$28 million) originated credit-impaired debt securities with impairment of \$14 million (31 December 2022: \$13 million)

2 FVOCI instrument are not presented net of ECL. While the presentation is on a net basis for the table, the total net on-balance sheet amount is \$160,263 million (31 December 2022: \$171,640 million). Refer to the Analysis of financial instrument by stage table

IFRS 9 expected credit loss methodology (audited)

Approach for determining expected credit losses

Credit loss terminology

Component	Definition
Probability of default (PD)	<p>The probability that a counterparty will default, over the next 12 months from the reporting date (stage 1) or over the lifetime of the product (stage 2), incorporating the impact of forward-looking economic assumptions that have an effect on Credit Risk, such as unemployment rates and GDP forecasts.</p> <p>The PD estimates will fluctuate in line with the economic cycle. The lifetime (or term structure) PDs are based on statistical models, calibrated using historical data and adjusted to incorporate forward-looking economic assumptions.</p>
Loss given default (LGD)	<p>The loss that is expected to arise on default, incorporating the impact of forward-looking economic assumptions where relevant, which represents the difference between the contractual cashflows due and those that the bank expects to receive.</p> <p>The Group estimates LGD based on the history of recovery rates and considers the recovery of any collateral that is integral to the financial asset, taking into account forward-looking economic assumptions where relevant.</p>
Exposure at default (EAD)	The expected balance sheet exposure at the time of default, taking into account expected changes over the lifetime of the exposure. This incorporates the impact of drawdowns of facilities with limits, repayments of principal and interest, and amortisation.

To determine the expected credit loss, these components are multiplied together: PD for the reference period (up to 12 months or lifetime) x LGD x EAD and discounted to the balance sheet date using the effective interest rate as the discount rate.

IFRS 9 expected credit loss models have been developed for the Corporate, Commercial and Institutional Banking (CCIB) businesses on a global basis, in line with their respective portfolios. However, for some of the key countries, country-specific models have also been developed.

The calibration of forward-looking information is assessed at a country or region level to take into account local macroeconomic conditions.

Retail expected credit loss models are country and product specific given the local nature of the CPBB business.

For less material retail portfolios, the Group has adopted less sophisticated approaches based on historical roll rates or loss rates:

- For medium-sized retail portfolios, a roll rate model is applied, which uses a matrix that gives the average loan migration rate between delinquency states from period to period. A matrix multiplication is then performed to generate the final PDs by delinquency bucket over different time horizons.
- For smaller retail portfolios, loss rate models are applied. These use an adjusted gross charge-off rate, developed using monthly write-off and recoveries over the preceding 12 months and total outstanding balances.
- While the loss rate models do not incorporate forward-looking information, to the extent that there are significant changes in the macroeconomic forecasts an assessment will be completed on whether an adjustment to the modelled output is required.

For a limited number of exposures, proxy parameters or approaches are used where the data is not available to calculate the origination PDs for the purpose of applying the SICR criteria; or for some retail portfolios where a full history of LGD data is not available, estimates based on the loss experience from similar portfolios are used. The use of proxies is monitored and will reduce over time.

The following processes are in place to assess the ongoing performance of the models:

- Quarterly model monitoring that uses recent data to compare the differences between model predictions and actual outcomes against approved thresholds.
- Annual independent validations of the performance of material models by Group Model Valuation (GMV); an abridged validation is completed for non-material models.

Application of lifetime

Expected credit loss is estimated based on the period over which the Group is exposed to Credit Risk. For the majority of exposures this equates to the maximum contractual period. For retail credit cards and corporate overdraft facilities, however, the Group does not typically enforce the contractual period, which can be as short as one day. As a result, the period over which the Group is exposed to Credit Risk for these instruments reflects their behavioural life, which incorporates expectations of customer behaviour and the extent to which Credit Risk management actions curtail the period of that exposure. The average behavioural life for retail credit cards is between 3 and 6 years across our footprint markets.

The behavioural life for corporate overdraft facilities is 24 months.

Composition of credit impairment provisions (audited)

The table below summarises the key components of the Group's credit impairment provision balances at 31 December 2023 and 31 December 2022.

	Corporate, Commercial & Institutional Banking \$ million	Consumer, Private & Business Banking \$ million	Ventures \$ million	Central & other items \$ million ²	Total \$ million
31 December 2023					
Modelled ECL provisions (base forecast)	372	553	48	98	1,071
Modelled impact of multiple economic scenarios	20	18	–	6	44
Total ECL provisions before management judgements	392	571	48	104	1,115
Includes: Model performance post model adjustments	(3)	(28)	–	–	(31)
Judgemental post model adjustments	–	2	–	–	2
Management overlays ¹					
– China commercial real estate	141	–	–	–	141
– Other	–	5	–	17	22
Total modelled provisions	533	578	48	121	1,280
Of which: Stage 1	151	325	15	68	559
Stage 2	318	140	21	49	528
Stage 3	64	113	12	4	193
Stage 3 non-modelled provisions	3,587	646	–	88	4,321
Total credit impairment provisions	4,120	1,224	48	209	5,601
	Corporate, Commercial & Institutional Banking \$ million	Consumer, Private & Business Banking \$ million	Ventures \$ million	Central & other items ² \$ million	Total \$ million
31 December 2022					
Modelled ECL provisions (base forecast)	505	556	12	194	1,267
Modelled impact of multiple economic scenarios	38	6	–	6	50
Total ECL provisions before management judgements	543	562	12	200	1,317
Includes: Model performance post model adjustments	(22)	(38)	–	–	(60)
Judgemental post model adjustments	–	44	–	–	44
Management overlays ¹					
– China commercial real estate	173	–	–	–	173
– Other	9	37	–	–	46
Total modelled provisions	725	643	12	200	1,580
Of which: Stage 1	194	413	10	34	651
Stage 2	411	118	1	100	630
Stage 3	120	112	1	66	299
Stage 3 non-modelled provisions	3,702	664	–	129	4,495
Total credit impairment provisions	4,427	1,307	12	329	6,075

1 \$22 million (31 December 2022: \$55 million) is in stage 1, \$141 million (31 December 2022: \$148 million) in stage 2 and \$nil million (31 December 2022: \$16 million) in stage 3

2 Includes ECL on cash and balances at central banks, accrued income, assets held for sale and other assets

Model performance post model adjustments (PMA)

As part of normal model monitoring and validation operational processes, where a model's performance breaches the monitoring thresholds or validation standards, an assessment is completed to determine whether a model performance post model adjustment is required to correct for the identified model issue. Model performance post model adjustments are approved by the Group Credit Model Assessment Committee and will be removed when the models are updated to correct for the identified model issue or the estimates return to being within the monitoring thresholds.

As at 31 December 2023, model performance post model adjustments have been applied for 5 models out of the total of 172 models. In aggregate, these post model adjustments reduce the Group's impairment provisions by \$31 million (2 per cent of modelled provisions) compared with a \$60 million decrease at 31 December 2022. The most significant of these relates to an adjustment to decrease ECL for Korea Personal Loans as the IFRS 9 PD model is sensitive to the higher range of interest rates.

In addition to these model performance post model adjustments, separate judgemental post model and management adjustments have also been applied as set out on pages 279 and 280.

	2023 \$ million	2022 \$ million
Model performance PMAs		
Corporate, Commercial & Institutional Banking	(3)	(22)
Consumer, Private & Business Banking	(28)	(38)
Total model performance PMAs	(31)	(60)

Key assumptions and judgements in determining expected credit loss

Incorporation of forward-looking information

The evolving economic environment is a key determinant of the ability of a bank's clients to meet their obligations as they fall due. It is a fundamental principle of IFRS 9 that the provisions banks hold against potential future Credit Risk losses should depend, not just on the health of the economy today, but should also take into account potential changes to the economic environment. For example, if a bank were to anticipate a sharp slowdown in the world economy over the coming year, it should hold more provisions today to absorb the credit losses likely to occur in the near future.

To capture the effect of changes to the economic environment, the PDs and LGDs used to calculate ECL incorporate forward-looking information in the form of forecasts of the values of economic variables and asset prices that are likely to have an effect on the repayment ability of the Group's clients.

The 'base forecast' of the economic variables and asset prices is based on management's view of the five-year outlook, supported by projections from the Group's in-house research team and outputs from a third-party model that project specific economic variables and asset prices. The research team takes consensus views into consideration, and senior management review projections for some core country variables against consensus when forming their view of the outlook. For the period beyond five years, management utilises the in-house research view and third-party model outputs, which allow for a reversion to long-term growth rates or norms. All projections are updated on a quarterly basis.

Forecast of key macroeconomic variables underlying the expected credit loss calculation and the impact on non-linearity

In the Base Forecast – management's view of the most likely outcome – the pace of growth of the world economy is expected to slow marginally in the near term. Global GDP is forecast to grow by just below 3 per cent in 2024. World GDP growth averaged 3.7 per cent for the 10 years prior to COVID-19 (between 2010 and 2019). The world economy should be able to achieve a soft landing after the most aggressive monetary tightening cycle in years, although risks abound. The lagged impact of aggressive central bank tightening is likely to be felt most acutely in developed economies.

Lingering inflation and geopolitical developments are risks to the global soft-landing scenario. The ongoing war in Ukraine, conflicts in the Middle East, ongoing US-China tensions, and the November 2024 US election are key sources of geopolitical and political risk; they come against a backdrop of increasing global fragmentation. On the inflation front, it is unclear whether it can slow on a sustained basis. Core inflation has remained sticky in some markets, signalling persistent underlying pressures. Structural factors – including higher fiscal deficits, the cost of the climate transition and recent under-investment in fossil fuels – could keep inflation higher than during the pre-COVID period. Oil prices and geopolitical conflict are also sources of upside inflation risk.

While the quarterly Base Forecasts inform the Group's strategic plan, one key requirement of IFRS 9 is that the assessment of provisions should consider multiple future economic environments. For example, the global economy may grow more quickly or more slowly than the Base Forecast, and these variations would have different implications for the provisions that the Group should hold today. As the negative impact of an economic downturn on credit losses tends to be greater than the positive impact of an economic upturn, if the Group sets provisions only on the ECL under the Base Forecast it might maintain a level of provisions that does not appropriately capture the range of potential outcomes. To address the inherent uncertainty in economic forecast, and the property of skewness (or non-linearity), IFRS 9 requires reported ECL to be a probability-weighted ECL, calculated over a range of possible outcomes.

To assess the range of possible outcomes the Group simulates a set of 50 scenarios around the Base Forecast, calculates the ECL under each of them and assigns an equal weight of 2 per cent to each scenario outcome. These scenarios are generated by a Monte Carlo simulation, which addresses the challenges of crafting many realistic alternative scenarios in the many countries in which the Group operates by means of a model, which produces these alternative scenarios while considering the degree of historical uncertainty (or volatility) observed from Q1 1990 to Q3 2023 around economic outcomes, the trends in each macroeconomic variable modelled and the correlation in the unexplained movements around these trends. This naturally means that each of the 50 scenarios do not have a specific narrative, although collectively they explore a range of hypothetical alternative outcomes for the global economy, including scenarios that turn out better than expected and scenarios that amplify anticipated stresses.

The GDP graphs below illustrate the shape of the Base Forecast for key footprint markets in relation to prior periods' actuals. The long-term growth rates are based on the pace of economic expansion expected for 2030. The tables below provide a summary of the Group's Base Forecast for these markets. The peak/trough amounts show the highest and lowest points within the Base Forecast.

China's GDP growth is expected to ease to 4.8 per cent in 2024 from over 5 per cent in 2023. This reflects a continued contraction in the property sector, a negative contribution from foreign trade, and low consumer and business confidence. Similarly, Hong Kong is also facing several headwinds with its GDP growth expected to ease to 2.9 per cent from 3.3 per cent in 2023. These headwinds include a weak property sector and elevated interest rates which will weigh on investment appetite for Hong Kong assets. Limited external demand from key markets will also weigh on exports. Growth in the US is expected to slow on the impact of tighter financial and credit conditions and as the impact of previous interest rate increases by the central bank feed through to the economy. For similar reasons, Eurozone growth is expected to remain weak in 2024. The uncertainty over the ongoing war in Ukraine, conflicts in the Middle East has hit global investor and business confidence. Growth in India is expected to ease to 6 per cent from 6.7 per cent in 2023 due to impact from pre-election uncertainties, tighter lending conditions and global recession concerns.

In contrast, GDP growth for Singapore is expected to accelerate to just over 2.5 per cent in 2024 from 0.8 per cent last year. Favourable base effects may boost exports, despite the soft global growth outlook. The global electronics and semiconductor industry is showing signs of bottoming out. Although a strong rebound is not expected, inventory restocking may provide a small boost to Singapore's electronics sector. Korea's economic growth will also benefit from the turnaround in this key sector. GDP growth there is expected to reach 2.3 per cent in 2024 from 1.3 per cent last year.

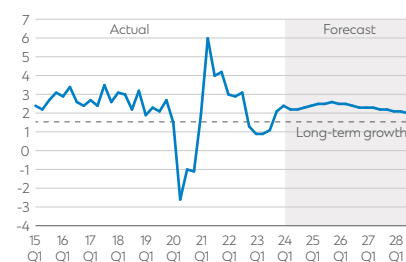
China GDP YoY%



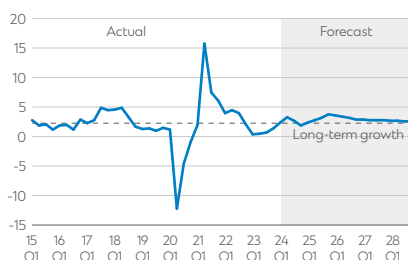
Hong Kong GDP YoY%



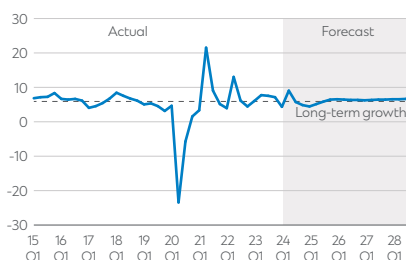
Korea GDP YoY%



Singapore GDP YoY%



India GDP YoY%



	2023 year-end forecasts							
	China				Hong Kong			
	GDP growth (YoY%)	Unemployment %	3-month interest rates %	House prices ⁵ (YoY %)	GDP growth (YoY %)	Unemployment %	3-month interest rates %	House prices (YoY %)
Base forecast¹								
2023	5.4	4.1	2.0	(0.8)	3.3	3.0	4.8	(6.8)
2024	4.8	4.1	1.7	3.9	2.9	3.4	4.6	2.1
2025	4.5	4.0	1.8	5.6	2.5	3.4	4.1	3.8
2026	4.3	4.0	2.0	4.5	2.3	3.4	3.5	2.8
2027	4.0	3.9	2.2	4.4	2.4	3.4	2.5	2.7
5-year average²	4.3	4.0	2.1	4.6	2.5	3.4	3.4	2.8
Quarterly peak	5.7	4.1	2.5	7.2	3.8	3.4	5.0	4.6
Quarterly trough	3.8	3.8	1.7	1.5	1.5	3.4	2.3	(1.1)
Monte Carlo								
Low ³	0.6	3.3	0.8	(1.5)	(3.8)	1.4	0.3	(19.3)
High ⁴	7.7	4.4	3.8	12.0	8.2	6.4	8.3	25.5

	2023 year-end forecasts							
	Singapore				Korea			
	GDP growth (YoY%)	Unemployment ⁶ %	3-month interest rates %	House prices (YoY%)	GDP growth (YoY%)	Unemployment %	3-month interest rates %	House prices (YoY %)
Base forecast¹								
2023	0.8	2.7	4.1	6.8	1.3	2.7	3.8	(5.8)
2024	2.6	2.8	3.8	(0.2)	2.3	3.3	3.5	3.3
2025	3.1	2.8	3.3	0.4	2.5	3.3	3.1	5.0
2026	3.3	2.8	2.8	2.9	2.4	3.1	3.1	3.5
2027	2.8	2.8	2.4	3.9	2.2	3.0	3.1	2.4
5-year average²	2.9	2.8	2.9	2.2	2.3	3.1	3.1	3.3
Quarterly peak	3.8	2.9	4.1	3.9	2.6	3.5	3.7	5.3
Quarterly trough	1.9	2.8	2.3	(0.7)	2.0	3.0	3.1	(0.3)
Monte Carlo								
Low ³	(2.4)	1.7	0.6	(16.2)	(2.3)	1.4	0.7	(6.1)
High ⁴	8.5	3.8	5.9	19.2	7.0	5.8	6.3	12.5

	2023 year-end forecasts				
	India				
	GDP growth (YoY%)	Unemployment %	3month interest rates %	House prices (YoY%)	Brent Crude \$pb
Base forecast¹					
2023	6.7	NA	6.4	5.3	84.2
2024	6.0	NA	5.9	5.3	89.5
2025	6.0	NA	6.3	6.3	90.3
2026	6.4	NA	6.3	6.5	92.8
2027	6.5	NA	6.2	6.4	84.9
5-year average²	6.2	NA	6.2	6.1	88.2
Quarterly peak	9.1	NA	6.3	6.5	93.8
Quarterly trough	4.4	NA	5.8	4.7	82.8
Monte Carlo					
Low ³	2.1	NA	2.7	(0.5)	46.0
High ⁴	10.5	NA	9.9	13.8	137.8

2022 year-end forecasts								
	China				Hong Kong			
	GDP growth (YoY%)	Unemployment %	3-month interest rates %	House prices ⁵ (YoY%)	GDP growth (YoY%)	Unemployment %	3-month interest rates %	House prices (YoY%)
5-year average²	5.1	3.9	2.3	3.6	2.3	3.0	2.8	1.7
Quarterly peak	7.9	4.1	3.0	5.0	4.3	3.1	3.6	4.9
Quarterly trough	4.5	3.8	1.4	0.0	0.5	2.9	2.4	(8.4)
Monte Carlo								
Low ³	1.1	3.4	0.6	(3.4)	(3.8)	1.7	0.5	(22.0)
High ⁴	9.6	4.3	4.4	10.0	8.0	4.2	6.1	26.8

2022 year-end forecasts								
	Singapore				Korea			
	GDP growth (YoY%)	Unemployment ⁶ %	3-month interest rates %	House prices (YoY%)	GDP growth (YoY%)	Unemployment %	3-month interest rates %	House prices (YoY%)
5-year average²	2.7	3.0	3.1	2.8	2.2	3.1	3.1	2.1
Quarterly peak	3.7	3.2	4.7	4.7	2.5	3.3	3.9	2.8
Quarterly trough	1.7	3.0	2.4	(2.4)	1.8	3.0	2.7	(0.4)
Monte Carlo								
Low ³	(3.4)	2.1	0.8	(15.9)	(2.8)	1.1	1.1	(5.4)
High ⁴	8.6	4.5	5.6	20.4	7.0	4.9	5.9	10.0

2022 year-end forecasts					
	India				
	GDP growth (YoY%)	Unemployment %	3-month interest rates %	House prices (YoY%)	Brent crude \$ pb
5-year average²	6.4	NA	5.6	5.7	106.6
Quarterly peak	7.7	NA	6.3	7.2	118.8
Quarterly trough	3.2	NA	5.3	1.6	88.0
Monte Carlo					
Low ³	1.5	NA	1.9	(1.1)	42.4
High ⁴	12.1	NA	9.5	13.0	204.2

1 Data presented are those used in the calculation of ECL. These may differ slightly to forecasts presented elsewhere in the Annual Report as they are finalised before the period end.

2 5 year averages reported cover Q1 2024 to Q4 2028 for the 2023 annual report. They cover Q1 2023 to Q4 2027 for the numbers reported for the 2022 annual report.

3 Represents the 10th percentile in the range of economic scenarios used to determine non-linearity.

4 Represents the 90th percentile in the range of economic scenarios used to determine non-linearity.

5 A judgemental management adjustment is held in respect of the China commercial real estate sector as discussed on page 280.

6 Singapore unemployment rate covers the resident unemployment rate, which refers to citizens and permanent residents.

Impact of multiple economic scenarios

The final probability-weighted ECL reported by the Group is a simple average of the ECL for each of the 50 scenarios simulated using a Monte Carlo model. The Monte Carlo approach has the advantage that it generates many alternative scenarios that cover our global footprint.

The total amount of non-linearity, calculated as the difference between the probability-weighted ECL calculated by the Monte Carlo model and the unweighted base forecast ECL, is \$44 million (31 December 2022: \$50 million). The CCIB and Central and other items portfolios accounted for \$26 million (31 December 2022: \$44 million) of the calculated non-linearity with the remaining \$18 million (31 December 2022: \$6 million) attributable to CPBB portfolios. As the non-linearity calculated for the CPBB portfolios at 31 December 2022 was relatively low, a judgemental post model adjustment of \$34 million was applied. Subsequent stand-back analysis was completed during the first half of 2023 to benchmark the ECL non-linearity calculated using the Monte Carlo model, which confirmed that the calculated non-linearity for CPBB portfolios was appropriate and the judgemental post model adjustment was released.

The impact of multiple economic scenarios on stage 1, stage 2 and stage 3 modelled ECL is set out in the table below, together with the management overlay and other judgemental adjustments.

	Base forecast \$million	Multiple economic scenarios ¹ \$million	Management overlays and other judgemental adjustments \$million	Total modelled ECL ² \$million
Total expected credit loss at 31 December 2023	1,071	44	165	1,280
Total expected credit loss at 31 December 2022	1,267	84	229	1,580

1 Includes judgemental post model adjustment of \$nil million (31 December 2022: \$34 million) relating to Consumer, Private and Business Banking

2 Total modelled ECL comprises stage 1 and stage 2 balances of \$1,105 million (31 December 2022: \$1,281 million) and \$193 million (31 December 2022: \$299 million) of modelled ECL on stage 3 loans

3 Includes ECL on Assets held for sale of \$37 million (31 December 2022: \$10 million)

The average expected credit loss under multiple scenarios is 4 per cent (2022: 7 per cent) higher than the expected credit loss calculated using only the most likely scenario (the Base Forecast). Portfolios that are more sensitive to non-linearity include those with greater leverage and/or a longer tenor, such as Project and Shipping Finance portfolios. Other portfolios display minimal non-linearity owing to limited responsiveness to macroeconomic impacts for structural reasons, such as significant collateralisation as with the CPBB mortgage portfolios.

Judgemental adjustments

As at 31 December 2023, the Group held judgemental adjustments for ECL as set out in the table below. All of the judgemental adjustments have been determined after taking account of the model performance post model adjustments reported on page 275. They are reassessed quarterly and are reviewed and approved by the IFRS 9 Impairment Committee and will be released when no longer relevant.

	Corporate, Commercial & Institutional Banking \$million	Consumer, Private & Business Banking				Central & other \$million	Total \$million
		Mortgages \$million	Credit Cards \$million	Other \$million	Total \$million		
31 December 2023							
Judgemental post model adjustments	-	-	1	1	2	-	2
Judgemental management overlays:							
- China CRE	141	-	-	-	-	-	141
- Other	-	1	2	2	5	17	22
Total judgemental adjustments	141	1	3	3	7	17	165
Judgemental adjustments by stage:							
Stage 1	17	1	3	6	10	-	27
Stage 2	124	-	-	(3)	(3)	17	138
Stage 3	-	-	-	-	-	-	-
31 December 2022							
Judgemental post model adjustments	-	3	11	30	44	-	44
Judgemental management overlays:							
- China CRE	173	-	-	-	-	-	173
- Other	9	2	5	30	37	-	46
Total judgemental adjustments	182	5	16	60	81	-	263
Judgemental adjustments by stage:							
Stage 1	37	1	5	39	45	-	82
Stage 2	136	3	9	17	29	-	165
Stage 3	9	1	2	4	7	-	16

Judgemental post model adjustments

As at 31 December 2023, judgemental post model adjustments to increase ECL by a net \$2 million (31 December 2022: \$44 million increase) have been applied to certain CPBB models, primarily to adjust for temporary factors impacting modelled outputs. These will be released when these factors normalise. At 31 December 2022, \$34 million of the increase in ECL related to multiple economic scenarios, which was fully released in the first half of 2023 (see 'Impact of multiple economic scenarios').

Judgemental management overlays

China CRE

The real estate market in China has now been in a downturn since late 2021 as evidenced by continued decline in sales, and investments in the sector. Liquidity issues experienced by Chinese property developers continued into 2023 with more developers defaulting on their obligations both offshore and onshore. During 2023, authorities on the mainland have introduced a slew of policies to help revive the sector and restore buying sentiments. This has helped stabilise the market to an extent in some cities, but demand and home prices remain muted overall. Continued policy relaxations, including those related to house purchase restrictions, completion support for eligible projects from onshore financial institutions, relaxation in mortgage rates, and further support for affordable housing, are key for reversing the continued decline in sales and investments and ensuring a stable outlook for 2024.

The Group's loans and advances to China CRE clients was \$2.4 billion at 31 December 2023 (31 December 2022: \$3.2 billion). Client level analysis continues to be done, with clients being placed on purely precautionary or non-purely precautionary early alert, where appropriate, for closer monitoring. Given the evolving nature of the risks in the China CRE sector, a management overlay of \$141 million (31 December 2022: \$173 million) has been taken by estimating the impact of further deterioration to exposures in this sector. The decrease from 31 December 2022 was primarily driven by repayments and movement of some of the exposures to Stage 3.

Other

Overlays of \$5 million (31 December 2022: \$16 million) have also been applied in CPBB to capture macroeconomic environment challenges caused by sovereign defaults or heightened sovereign risk, the impact of which is not fully captured in the modelled outcomes. An overlay of \$17 million (2022: nil) was applied in Central & Other due to a temporary market dislocation in the Africa and Middle East region.

The remaining COVID-19 overlay in CPBB of \$21 million that was held as at 31 December 2022 has been fully released in 2023. The stage 3 overlay in CCIB of \$9 million that was held as at 31 December 2022 following the Sri Lanka Sovereign default was also fully released in 2023.

Stage 3 assets

Credit-impaired assets managed by Stressed Asset Group (SAG) incorporate forward-looking economic assumptions in respect of the recovery outcomes identified and are assigned individual probability weightings per IFRS 9. These assumptions are not based on a Monte Carlo simulation but are informed by the Base Forecast.

Sensitivity of expected credit loss calculation to macroeconomic variables

The ECL calculation relies on multiple variables and is inherently non-linear and portfolio-dependent, which implies that no single analysis can fully demonstrate the sensitivity of the ECL to changes in the macroeconomic variables. The Group has conducted a series of analyses with the aim of identifying the macroeconomic variables which might have the greatest impact on the overall ECL. These encompassed single variable and multi-variable exercises, using simple up/down variation and extracts from actual calculation data, as well as bespoke scenario design assessments.

The primary conclusion of these exercises is that no individual macroeconomic variable is materially influential. The Group believes this is plausible as the number of variables used in the ECL calculation is large. This does not mean that macroeconomic variables are uninfluential; rather, that the Group believes that consideration of macroeconomics should involve whole scenarios, as this aligns with the multi-variable nature of the calculation.

The Group faces downside risks in the operating environment related to the uncertainties surrounding the macroeconomic outlook. To explore this, a sensitivity analysis of ECL was undertaken to explore the effect of slower economic recoveries across the Group's footprint markets. Two downside scenarios were considered in particular to explore the current uncertainties over commodity prices. The first scenario, Global Stagflation, explores a temporary spike (relative to base) in commodity prices, inflation and interest rates in the near term from the ongoing war in Ukraine and conflicts in the Middle East. The second more severe scenario is based on the Bank of England's most recent Annual Cyclical Scenario (ACS), which explores a persistent rise in commodity prices, inflation and interest rates.

	Baseline		Global Stagflation		ACS	
	Five year average	Peak/Trough	Five year average	Peak/Trough	Five year average	Peak/Trough
China GDP	4.3	5.7 / 3.8	3.7	6.2 / (0.8)	2.2	3.9 / (3.4)
China unemployment	4.0	4.1 / 3.8	5.3	6.4 / 3.8	5.3	5.7 / 4.6
China property prices	4.6	7.2 / 1.5	4.4	15.9 / (17.5)	(5.5)	9.2 / (16.3)
Hong Kong GDP	2.5	3.8 / 1.5	1.8	5.6 / (1.4)	(0.6)	2.9 / (9.4)
Hong Kong unemployment	3.4	3.4 / 3.4	5.4	7.4 / 3.4	6.3	7.5 / 3.9
Hong Kong property prices	2.8	4.6 / (1.1)	1.6	9.4 / (3.8)	(9.7)	6.2 / (22.5)
US GDP	1.7	2.3 / 0.8	1.4	2.7 / (1.3)	0.1	1.5 / (4.8)
Singapore GDP	2.9	3.8 / 1.9	2.7	5.0 / (1.6)	1.2	5.9 / (8.7)
India GDP	6.2	9.1 / 4.4	4.9	6.6 / 0.6	4.2	7.3 / (0.7)
Crude oil	88.2	93.8 / 82.8	95.3	152.9 / 82.8	118	147.9 / 83.6

Period covered from Q1 2024 to Q4 2028

	Base (GDP, YoY%)					Global Stagflation					Difference from Base				
	2024	2025	2026	2027	2028	2024	2025	2026	2027	2028	2024	2025	2026	2027	2028
China	4.8	4.5	4.3	4.0	3.8	1.5	1.6	4.8	5.7	4.8	(3.3)	(2.9)	0.5	1.7	1.0
Hong Kong	2.9	2.5	2.3	2.4	2.2	0.9	(1.0)	1.7	5.0	2.4	(2.0)	(3.5)	(0.6)	2.5	0.2
US	1.4	1.5	1.8	1.9	1.9	0.0	0.2	1.8	2.6	2.4	(1.5)	(1.3)	0.0	0.7	0.5
Singapore	2.6	3.1	3.3	2.8	2.6	0.3	0.6	3.7	4.8	4.0	(2.3)	(2.4)	0.4	2.0	1.3
India	6.0	5.5	6.5	6.4	6.6	2.6	3.9	5.6	6.5	5.7	(3.4)	(1.6)	(0.8)	0.1	(0.9)

Each year is from Q1 to Q4. For example 2024 is from Q1 2024 to Q4 2024.

	Base (GDP, YoY%)					ACS					Difference from Base				
	2024	2025	2026	2027	2028	2024	2025	2026	2027	2028	2024	2025	2026	2027	2028
China	4.8	4.5	4.3	4.0	3.8	(0.9)	1.3	3.7	3.4	3.4	(5.6)	(3.2)	(0.5)	(0.6)	(0.4)
Hong Kong	2.9	2.5	2.3	2.4	2.2	(5.3)	(3.5)	2.6	1.8	1.5	(8.1)	(6.0)	0.3	(0.6)	(0.7)
US	1.4	1.5	1.8	1.9	1.9	(1.7)	(1.5)	1.0	1.3	1.3	(3.2)	(2.9)	(0.8)	(0.6)	(0.6)
Singapore	2.6	3.1	3.3	2.8	2.6	(3.8)	0.0	4.2	2.9	2.7	(6.4)	(3.1)	0.9	0.1	0.1
India	6.0	5.5	6.5	6.4	6.6	2.8	2.2	4.9	5.3	5.5	(3.2)	(3.3)	(1.6)	(1.1)	(1.2)

Each year is from Q1 to Q4. For example 2024 is from Q1 2024 to Q4 2024

The total modelled stage 1 and 2 ECL provisions (including both on and off-balance sheet instruments) would be approximately \$153 million higher under the Global Stagflation scenario, and \$489 million higher under the ACS scenario than the baseline ECL provisions (which excluded the impact of multiple economic scenarios and management overlays which may already capture some of the risks in these scenarios). Stage 2 exposures as a proportion of stage 1 and 2 exposures would increase from 3.7 per cent in the base case to 4.1 per cent and 6.5 per cent respectively under the Global Stagflation and ACS scenarios. This includes the impact of exposures transferring to stage 2 from stage 1 but does not consider an increase in stage 3 defaults.

Under both scenarios, the majority of the increase in ECL in CCIB came from the main corporate and CRE portfolios. For the main corporate portfolios, ECL would increase by \$20 million and \$79 million for the Global stagflation and ACS scenarios respectively and the proportion of stage 2 exposures would increase from 5.5 per cent in the base case to 5.9 per cent and 8.2 per cent respectively.

For the CPBB portfolios, most of the increase in ECL came from the unsecured retail portfolios, with the Taiwan and Korea Personal Loans impacted. Under the Global Stagflation and ACS scenarios, Credit card ECL would increase by \$28 million and \$66 million respectively, largely in the Singapore and Hong Kong portfolios and the proportion of stage 2 credit card exposures would increase from 1.5 per cent in the base case to 2.1 per cent and 3.3 per cent for each scenario respectively, with the Singapore portfolio most impacted. Mortgages ECL would increase by \$1 million and \$45 million for each scenario respectively, with portfolios in Hong Kong and Korea most impacted and the proportion of stage 2 mortgages would increase from 1.2 per cent in the base case to 1.7 per cent and 14 per cent respectively, with the Hong Kong and Singapore portfolios most impacted.

There was no material change in modelled stage 3 provisions as these primarily relate to unsecured CPBB exposures for which the LGD is not sensitive to changes in the macroeconomic forecasts. There is also no material change for non-modelled stage 3 exposures as these are more sensitive to client specific factors than to alternative macroeconomic scenarios.

The actual outcome of any scenario may be materially different due to, among other factors, the effect of management actions to mitigate potential increases in risk and changes in the underlying portfolio.

	Gross as reported ¹ \$ million	ECL as reported ² \$ million	ECL Base case \$ million	ECL Global Stagflation \$ million	ECL ACS \$ million
Stage 1 modelled					
Corporate, Commercial & Institutional Banking	337,189	134	124	136	164
Consumer, Private & Business Banking	190,999	315	306	355	455
Ventures	1,015	15	15	15	15
Central & Other items	194,673	35	32	40	50
Total stage 1 excluding management judgements	723,876	499	477	546	684
Stage 2 modelled					
Corporate, Commercial & Institutional Banking	16,873	194	184	234	333
Consumer, Private & Business Banking	2,472	143	134	167	263
Ventures	54	21	21	21	21
Central & Other items	2,869	21	18	19	22
Total stage 2 excluding management judgements	22,268	379	357	441	639
Total Stage 1 & 2 modelled					
Corporate, Commercial & Institutional Banking	354,062	328	308	370	497
Consumer, Private & Business Banking	193,471	458	440	522	718
Ventures	1,069	36	36	36	36
Central & Other items	197,542	56	50	59	72
Total excluding management judgements	746,144	878	834	987	1,323
Stage 3 exposures excluding other assets	8,144	4,499			
Other financial assets³	111,478	59			
ECL from management judgements		165			
Total financial assets reported at 31 December 2023	865,766	5,601			

1 Gross balances includes both on- and off- balance sheet instruments; allocation between stage 1 and 2 will differ by scenario

2 Includes ECL for both on- and off- balance sheet instruments

3 Includes cash and balances at central banks, Accrued income, Other financial assets; and Assets held for sale

Significant increase in credit risk (SICR)

Quantitative criteria

SICR is assessed by comparing the risk of default at the reporting date to the risk of default at origination. Whether a change in the risk of default is significant or not is assessed using quantitative and qualitative criteria. These criteria have been separately defined for each business and where meaningful are consistently applied across business lines.

Assets are considered to have experienced SICR if they have breached both relative and absolute thresholds for the change in the average annualised IFRS 9 lifetime probability of default (IFRS 9 PD) over the residual term of the exposure.

The absolute measure of increase in credit risk is used to capture instances where the IFRS 9 PDs on exposures are relatively low at initial recognition as these may increase by several multiples without representing a significant increase in credit risk. Where IFRS 9 PDs are relatively high at initial recognition, a relative measure is more appropriate in assessing whether there is a significant increase in credit risk, as the IFRS 9 PDs increase more quickly.

The SICR thresholds have been calibrated based on the following principles:

- **Stability** – The thresholds are set to achieve a stable stage 2 population at a portfolio level, trying to minimise the number of accounts moving back and forth between stage 1 and stage 2 in a short period of time

- **Accuracy** – The thresholds are set such that there is a materially higher propensity for stage 2 exposures to eventually default than is the case for stage 1 exposures
- **Dependency from backstops** – The thresholds are stringent enough such that a high proportion of accounts transfer to stage 2 due to movements in forward-looking IFRS 9 PDs rather than relying on backward-looking backstops such as arrears
- **Relationship with business and product risk profiles** – the thresholds reflect the relative risk differences between different products, and are aligned to business processes

For CCIB clients the quantitative thresholds are a relative 100 per cent increase in IFRS 9 PD and an absolute change in IFRS 9 PD of between 50 and 100 bps.

For Consumer and Business Banking clients, portfolio specific quantitative thresholds in Hong Kong, Singapore, Malaysia, UAE and Taiwan are applied for credit cards and one personal loan portfolio. The thresholds include relative and absolute increases in IFRS 9 PD with average lifetime IFRS 9 PD cut-offs for those exposures that are within a range of customer utilisation limits (for credit cards) and remaining tenor (for personal loans) and differentiate between exposures that are current and those that are 1 to 29 days past due.

The range of thresholds applied are:

Portfolio	Relative IFRS 9 PD increase (%)	Absolute IFRS 9 PD increase (%)	Customer utilisation (%)	Remaining tenor (%)	Average IFRS 9 PD (lifetime)
Credit cards – Current	50% – 150%	3.4% – 9.3%	15% – 90%	–	4.15% – 11.6%
Credit cards – 1-29 days past due	100% – 210%	3.5% – 6.1%	25% – 67%	–	1.5% – 18.5%
Personal loans – Current	–	3.5%	–	70%	2.8%
Personal loan – 1-29 days past due	25%	3%	–	75%	–

For all other Consumer and Business Banking portfolios, the quantitative SICR thresholds applied are a relative threshold of 100 per cent increase in IFRS 9 PD and an absolute change in IFRS 9 PD of between 100 and 350 bps depending on the product. Certain countries have a higher absolute threshold reflecting the lower default rate within their personal loan portfolios compared with the Group's other personal loan portfolios.

Private Banking clients are assessed qualitatively, based on a delinquency measure relating to collateral top-ups or sell-downs.

Qualitative criteria

Qualitative factors that indicate that there has been a significant increase in credit risk include processes linked to current risk management, such as placing loans on non-purely precautionary early alert.

Backstop

Across all portfolios, accounts that are 30 or more days past due (DPD) on contractual payments of principal and/or interest that have not been captured by the criteria above are considered to have experienced a significant increase in credit risk.

Expert credit judgement may be applied in assessing SICR to the extent that certain risks may not have been captured by the models or through the above criteria. Such instances are expected to be rare, for example due to events and material uncertainties arising close to the reporting date.

CCIB clients

Quantitative criteria

Exposures are assessed based on both the absolute and the relative movement in the IFRS 9 PD from origination to the reporting date as described above.

To account for the fact that the mapping between internal credit grades (used in the origination process) and IFRS 9 PDs is non-linear (e.g. a one-notch downgrade in the investment grade universe results in a much smaller IFRS 9 PD increase than in the sub-investment grade universe), the absolute thresholds have been differentiated by credit quality at origination, as measured by internal credit grades being investment grade or sub-investment grade.

Qualitative criteria

All assets of clients that have been placed on early alert (for non-purely precautionary reasons) are deemed to have experienced a significant increase in credit risk.

An account is placed on non-purely precautionary early alert if it exhibits risk or potential weaknesses of a material nature requiring closer monitoring, supervision or attention by management. Weaknesses in such a borrower's account, if left uncorrected, could result in deterioration of repayment prospects and the likelihood of being downgraded. Indicators could include a rapid erosion of position within the industry, concerns over management's ability to manage operations, weak/deteriorating operating results, liquidity strain and overdue balances, among other factors.

All client assets that have been assigned a CG12 rating, equivalent to 'Higher risk', are deemed to have experienced a significant increase in credit risk. Accounts rated CG12 are primarily managed by relationship managers in the CCIB unit with support from SAG for certain accounts. All CCIB clients are placed in CG12 when they are 30 DPD unless they are granted a waiver through a strict governance process.

Consumer and Business Banking clients

Quantitative criteria

Material portfolios (defined as a combination of country and product, for example Hong Kong mortgages, Singapore credit cards, Taiwan personal loans) for which a statistical model has been built, are assessed based on both the absolute and relative movement in the IFRS 9 PD from origination to the reporting date as described previously in page 273. For these portfolios, the original lifetime IFRS 9 PD term structure is determined based on the original Application Score or Risk Segment of the client.

Qualitative and backstop criteria

Accounts that are 30 DPD that have not been captured by the quantitative criteria are considered to have experienced a significant increase in credit risk. For less material portfolios, which are modelled based on a roll-rate or loss-rate approach, SICR is primarily assessed through the 30 DPD trigger. In addition, SICR is also assessed for where specific risk elevation events have occurred in a market that are not yet reflected in modelled outcomes or in other metrics. This is applied collectively either to impacted specific products/customer cohorts or across the overall consumer banking portfolio in the affected market.

Private Banking clients

For Private Banking clients, SICR is assessed by referencing the nature and the level of collateral against which credit is extended (known as 'Classes of Risk').

Qualitative criteria

For all Private Banking classes, in line with risk management practice, an increase in credit risk is deemed to have occurred where margining or loan-to-value covenants have been breached.

For Class I assets (lending against diversified liquid collateral), if these margining requirements have not been met within 30 days of a trigger, a significant increase in credit risk is assumed to have occurred.

For Class I and Class III assets (real-estate lending), a significant increase in credit risk is assumed to have occurred where the bank is unable to 'sell down' the applicable assets to meet revised collateral requirements within five days of a trigger.

Class II assets are typically unsecured or partially secured, or secured against illiquid collateral such as shares in private companies. Significant credit deterioration of these assets is deemed to have occurred when any early alert trigger has been breached.

Debt securities**Quantitative criteria**

For debt securities originated before 1 January 2018, the bank is utilising the low Credit Risk simplified approach, where debt securities with an internal credit rating mapped to an investment grade equivalent are allocated to stage 1 and all other debt securities are allocated to stage 2. Debt securities originated after 1 January 2018 are assessed based on the absolute and relative movements in IFRS 9 PD from origination to the reporting date using the same thresholds as for Corporate, Commercial and Institutional Banking clients.

Qualitative criteria

Debt securities utilise the same qualitative criteria as the Corporate, Commercial and Institutional Banking client segments, including being placed on non-purely precautionary early alert or being classified as CG12.

Assessment of credit-impaired financial assets**Consumer and Business Banking clients**

The core components in determining credit-impaired expected credit loss provisions are the value of gross charge-off and recoveries. Gross charge-off and/or loss provisions are recognised when it is established that the account is unlikely to pay through the normal process. Recovery of unsecured debt post credit impairment is recognised based on actual cash collected, either directly from clients or through the sale of defaulted loans to third-party institutions. Release of credit impairment provisions for secured loans is recognised if the loan outstanding is paid in full (release of full provision), or the provision is higher than the loan outstanding (release of the excess provision).

CCIB and Private Banking clients

Credit-impaired accounts are managed by the Group's specialist recovery unit, Stressed Asset Group (SAG), which is independent from its main businesses. Where a portion of exposure is considered not recoverable, a stage 3 credit impairment provision is raised. This stage 3 provision is the difference between the loan-carrying amount and the probability-weighted present value of estimated future cash flows, reflecting a range of scenarios (typically the Upside, Downside and Likely recovery outcomes). Where the exposure is secured by collateral, the values used will incorporate the impact of forward-looking economic information on the value recoverable collateral and time to realise the same.

The individual circumstances of each client are considered when SAR estimates future cashflows and the timing of future recoveries which involves significant judgement. All available sources, such as cashflow arising from operations, selling assets or subsidiaries, realising collateral or payments under guarantees, are considered. In any decision relating to the raising of provisions, the Group attempts to balance economic conditions, local knowledge and experience, and the results of independent asset reviews.

Write-offs

Where it is considered that there is no realistic prospect of recovering a portion of an exposure against which an impairment provision has been raised, that amount will be written off.

Governance and application of expert credit judgement in respect of expected credit losses

The Group's Credit Policy and Standards framework details the requirements for continuous monitoring to identify any changes in credit quality and resultant ratings, as well as ensuring a consistent approach to monitoring, managing and mitigating credit risks. The framework aligns with the governance of ECL estimation through the early recognition of significant deteriorations in ratings which drive stage 2 and 3 ECL.

The models used in determining expected credit losses are reviewed and approved by the Group Credit Model Assessment Committee (CMAC), which is appointed by the Model Risk Committee. CMAC has the responsibility to assess and approve the use of models and to review all IFRS 9 interpretations related to models. CMAC also provides oversight on operational matters related to model development, performance monitoring and model validation activities, including standards and regulatory matters.

Prior to submission to CMAC for approval, the models are validated by GMV, a function which is independent of the business and the model developers. GMV's analysis comprises review of model documentation, model design and methodology, data validation, review of the model development and calibration process, out-of-sample performance testing, and assessment of compliance review against IFRS 9 rules and internal standards.

A quarterly model monitoring process is in place that uses recent data to compare the differences between model predictions and actual outcomes against approved thresholds. Where a model's performance breaches the monitoring thresholds, an assessment of whether a PMA is required to correct for the identified model issue is completed.

Key inputs into the calculation and resulting expected credit loss provisions are subject to review and approval by the IFRS 9 Impairment Committee (IIC) which is appointed by the Group Risk Committee. The IIC consists of senior representatives from Risk, Finance, and Group Economic Research. It meets at least twice every quarter; once before the models are run to approve key inputs into the calculation, and once after the models are run to approve the expected credit loss provisions and any judgemental overrides that may be necessary.

The IFRS 9 Impairment Committee:

- Oversees the appropriateness of all Business Model Assessment and Solely Payments of Principal and Interest (SPPI) tests
- Reviews and approves expected credit loss for financial assets classified as stages 1, 2 and 3 for each financial reporting period
- Reviews and approves stage allocation rules and thresholds
- Approves material adjustments in relation to expected credit loss for fair value through other comprehensive income (FVOCI) and amortised cost financial assets
- Reviews, challenges and approves base macroeconomic forecasts and the multiple macroeconomic scenarios approach that are utilised in the forward-looking expected credit loss calculations

The IFRS 9 Impairment Committee is supported by an Expert Panel which also reviews and challenges the base case projections and multiple macroeconomic scenarios. The Expert Panel consists of members of Enterprise Risk Management (which includes the Scenario Design team), Finance, Group Economic Research and country representatives of major jurisdictions.

PMAs may be applied to account for identified weaknesses in model estimates. The processes for identifying the need for, calculating the level of, and approving PMAs are prescribed in the Credit Risk IFRS 9 ECL Model Family Standards, which are approved by the Global Head, Model Risk Management. PMA calculation methodologies are reviewed by GMV and submitted to CMAC as the model approver or the IIC. All PMAs have a remediation plan to fix the identified model weakness, and these plans are reported to and tracked at CMAC.

In addition, Risk Event Overlays account for events that are sudden and therefore not captured in the Base Case Forecast or the resulting ECL calculated by the models. All Risk Event Overlays must be approved by the IIC having considered the nature of the event, why the risk is not captured in the model, and the basis on which the quantum of the overlay has been calculated. Risk Event Overlays are subject to quarterly review and re-approval by the IIC and will be released when the risks are no longer relevant.

Traded Risk

Traded Risk is the potential for loss resulting from activities undertaken by the Group in financial markets. Under the Enterprise Risk Management Framework, the Traded Risk Framework brings together Market Risk, Counterparty Credit Risk and Algorithmic Trading. Traded Risk Management is the core risk management function supporting market-facing businesses, predominantly Financial Markets and Treasury Markets.

Market Risk (audited)

Market Risk is the potential for fair value loss due to adverse moves in financial markets. The Group's exposure to Market Risk arises predominantly from the following sources:

- Trading book:
 - The Group provides clients with access to financial markets, facilitation of which entails the Group taking moderate Market Risk positions. All trading teams support client activity. There are no proprietary trading teams. Hence, income earned from Market Risk-related activities is primarily driven by the volume of client activity rather than risk-taking
- Non-trading book:
 - The Treasury Markets desk is required to hold a liquid assets buffer, much of which is held in high-quality marketable debt securities
 - The Group has capital invested and related income streams denominated in currencies other than US dollars. To the extent that these income streams are not hedged, the Group is subject to Structural Foreign Exchange Risk which is reflected in reserves

A summary of our current policies and practices regarding Market Risk management is provided in the Principal Risks section (page 323).

The primary categories of Market Risk for the Group are:

- Interest Rate Risk: arising from changes in yield curves and implied volatilities on interest rate options
- Foreign Exchange Rate Risk: arising from changes in currency exchange rates and implied volatilities on foreign exchange options
- Commodity Risk: arising from changes in commodity prices and implied volatilities on commodity options; covering energy, precious metals, base metals and agriculture
- Credit Spread Risk: arising from changes in the price of debt instruments and credit-linked derivatives, driven by factors other than the level of risk-free interest rates
- Equity Risk: arising from changes in the prices of equities, equity indices, equity baskets and implied volatilities on related options

Market risk movements (audited)

Value at Risk (VaR) allows the Group to manage Market Risk across the trading book and most of the fair valued non-trading books.

The average level of total trading and non-trading VaR in 2023 was \$53.3 million, 1.5 per cent higher than 2022 (\$52.5 million). The year end level of total trading and non-trading VaR in 2023 was \$44.5 million, 20.2 per cent lower than 2022 (\$55.8 million), due to a reduction in non-trading positions.

For the trading book, the average level of VaR in 2023 was \$21.5 million, 19.4 per cent higher than 2022 (\$18.0 million). Trading activities have remained relatively unchanged, and client driven.

Daily value at risk (VaR at 97.5%, one day) (audited)

	2023				2022			
	Average \$million	High \$million	Low \$million	Year End \$million	Average \$million	High \$million	Low \$million	Year End \$million
Trading¹ and non-trading²								
Interest Rate Risk	39.5	54.1	23.2	30.5	27.8	42.1	21.0	24.7
Credit Spread Risk	33.8	48.0	25.0	31.7	34.2	47.1	20.3	32.9
Foreign Exchange Risk	7.0	12.2	4.2	7.4	6.5	10.3	4.8	6.8
Commodity Risk	5.8	9.7	3.7	4.3	7.0	11.9	3.5	8.3
Equity Risk	0.1	0.4	–	–	0.1	0.2	–	0.1
Diversification effect	(32.9)	N/A	N/A	(29.4)	(23.1)	N/A	N/A	(17.0)
Total	53.3	65.5	44.2	44.5	52.5	64.1	40.3	55.8
	2023				2022			
	Average \$million	High \$million	Low \$million	Year End \$million	Average \$million	High \$million	Low \$million	Year End \$million
Trading¹								
Interest Rate Risk	13.1	20.4	7.7	11.6	8.1	11.7	5.3	9.0
Credit Spread Risk	9.4	12.4	7.4	9.4	9.5	14.9	5.0	8.7
Foreign Exchange Risk	7.0	12.2	4.2	7.4	6.5	10.3	4.8	6.8
Commodity Risk	5.8	9.7	3.7	4.4	7.0	11.9	3.5	8.3
Equity Risk	–	–	–	–	–	–	–	–
Diversification effect	(13.8)	N/A	N/A	(11.5)	(13.1)	N/A	N/A	(11.0)
Total	21.5	30.6	14.7	21.3	18.0	24.4	12.6	21.8

	2023				2022			
	Average \$million	High \$million	Low \$million	Year End \$million	Average \$million	High \$million	Low \$million	Year End \$million
Non-trading²								
Interest Rate Risk	34.2	43.6	19.7	23.9	26.3	44.5	18.1	23.5
Credit Spread Risk	28.3	40.1	21.5	24.4	28.8	37.8	18.7	29.2
Equity Risk	0.1	0.4	–	–	0.1	0.2	–	0.1
Diversification effect	(18.6)	N/A	N/A	(12.7)	(10.6)	N/A	N/A	(11.5)
Total	44.0	53.4	32.0	35.6	44.6	52.5	35.1	41.3

The following table sets out how trading and non-trading VaR is distributed across the Group's businesses:

	2023				2022			
	Average \$million	High \$million	Low \$million	Year End \$million	Average \$million	High \$million	Low \$million	Year End \$million
Trading¹ and non-trading²	53.3	65.5	44.2	44.5	52.5	64.1	40.3	55.8
Trading¹								
Macro Trading ³	13.8	20.2	9.2	15.4	12.8	17.4	10.2	16.9
Global Credit	12.8	18.2	8.5	10.1	10.1	15.7	4.2	8.4
XVA	4.8	7.0	3.4	4.5	3.9	5.0	2.4	4.6
Diversification effect	(9.9)	N/A	N/A	(8.7)	(8.8)	N/A	N/A	(8.1)
Total	21.5	30.6	14.7	21.3	18	24.4	12.6	21.8
Non-trading²								
Treasury ⁴	43.4	50.2	31.1	34.9	38.7	47.5	29.7	40.3
Global Credit	3.9	13.6	2.0	4.0	3.4	5.0	2.3	3.5
Listed Private Equity	0.1	0.4	0.0	0.0	0.1	0.2	–	0.1
Diversification effect	(3.4)	N/A	N/A	(3.3)	2.4	N/A	N/A	(2.6)
Total	44.0	53.4	32.0	35.6	44.6	52.5	35.1	41.3

1 The trading book for Market Risk is defined in accordance with the UK onshored Capital Requirements Regulation Part 3 Title I Chapter 3, which restricts the positions permitted in the trading book

2 The non-trading book VaR does not include syndicated loans

3 Macro Trading comprises the Rates, FX and Commodities businesses

4 Treasury comprises Treasury Markets and Treasury Capital Management businesses

Risks not in VaR

In 2023, the main market risks not reflected in VaR were:

- Basis risks for which the historical market price data is limited and is therefore proxied, giving rise to potential proxy basis risk that is not captured in VaR
- Potential depeg risk from currencies currently pegged or managed, as the historical one-year VaR observation period does not reflect the possibility of a change in the currency regime, such as sudden depegging
- Volatility skew risk due to movements in options volatilities at different strikes while VaR reflects only movements in at-the-money volatilities
- Deal contingent risk where a client is granted the right to cancel a hedging trade contingent on conditions not being met within a time window

Additional capital is set aside to cover such 'risks not in VaR'.

Backtesting

In 2023, there were five regulatory backtesting negative exceptions at Group level (in 2022 there were eight regulatory backtesting negative exceptions at Group level). Group exceptions occurred on:

- 16 March: After the US authorities put Silicon Valley Bank and Signature Bank into administration there were strong market reactions, including notable interest rate yield rises on 16 March
- 1 June: After announcement of planned potential economic reforms in Nigeria, there were sharp movements in the offshore Naira FX market in anticipation of Naira devaluation
- 12 June: After the governor of the Central Bank of Nigeria was removed there were further sharp movements in the offshore Naira FX market
- 1 November and 3 November: After the Nigerian government announced on 30 October that it plans to target an exchange rate of 750 Naira per dollar, the onshore spot market became more volatile on low volumes.

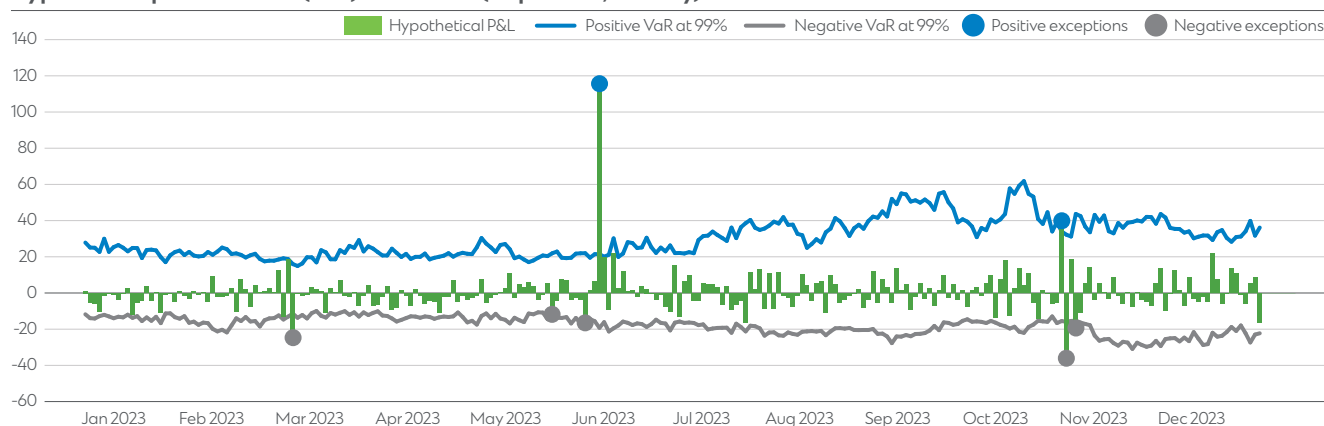
The VaR model is currently being enhanced to increase its responsiveness to abrupt upturns in market volatility.

There have been five Group exceptions in the previous 250 business days. This is within the 'amber zone' applied internationally to internal models by bank supervisors (Basel Committee on Banking Supervision, Supervisory framework for the use of backtesting in conjunction with the internal models approach to market risk capital requirements, January 1996).

The graph below illustrates the performance of the VaR model used in capital calculations. It compares the 99 percentile profit and loss confidence level given by the VaR model with the hypothetical profit and loss of each day given the actual market movement without taking into account any intra-day trading activity.

2023 Backtesting chart

Internal model approach regulatory trading book at Group level Hypothetical profit and loss (P&L) versus VaR (99 per cent, one day)



Trading loss days

	2023	2022
Number of loss days reported for Financial Markets trading book total product income ¹	16	15

¹ Includes credit valuation adjustment (CVA) and funding valuation adjustment (FVA), and excludes Treasury Markets business (non-trading), periodic valuation changes for Capital Markets, expected loss provisions, overnight indexed swap (OIS) discounting and accounting adjustments such as debit valuation adjustments

Average daily income earned from Market Risk-related activities¹ (audited)

The average level of total trading daily income in 2023 was \$12 million, 14 per cent lower than 2022 (\$14 million). The decrease is largely attributable to lower income in Commodities in 2023 on the back of lower volatility and falling crude oil prices. Additionally, the decrease in FX business was on the back of lower cross-border flows and muted FX volatility.

The average level of total non-trading daily income in 2023 was -\$0.7 million, 217 per cent lower than 2022 (\$0.6 million). The decrease is primarily attributable to lower income from the Credit Solutions business.

Trading	2023 \$million	2022 \$million
Interest Rate Risk	4.5	5.0
Credit Spread Risk	1.2	1.4
Foreign Exchange Risk	5.5	6.3
Commodity Risk	0.8	1.3
Equity Risk	-	-
Total	12.0	14.0

Non-trading	\$million	\$million
Interest Rate Risk	(0.1)	–
Credit Spread Risk	(0.7)	0.6
Equity Risk	0.1	–
Total	(0.7)	0.6

1 Reflects total product income which is the sum of client income and own account income. Includes elements of trading income, interest income and non funded income which are generated from Market Risk-related activities. Rates, XVA and Treasury income are included under Interest Rate Risk whilst Credit Trading income is included under Credit Spread Risk

Structural foreign exchange exposures

The table below sets out the principal structural foreign exchange exposures (net of investment hedges) of the Group.

	2023 \$million	2022 ¹ \$million
Hong Kong dollar	4,662	3,333
Renminbi	3,523	3,497
Indian rupee	3,309	4,396
Singapore dollar	2,415	1,888
Korean won	2,114	2,409
Malaysian ringgit	1,540	1,571
Taiwanese dollar	1,222	1,055
Euro	1,125	893
Bangladeshi Taka	1,007	832
Thai baht	782	782
UAE dirham	709	670
Pakistani rupee	306	352
Indonesian rupiah	293	261
Other	3,206	3,233
	26,213	25,172

1 Prior year has been represented to provide granular currency details

As at 31 December 2023, the Group had taken net investment hedges using derivative financial instruments to partly cover its exposure to the Hong Kong dollar of \$5,603 million (31 December 2022: \$6,236 million), Korean won of \$2,884 million (31 December 2022: \$3,330 million), Indian rupee of \$1,809 million (31 December 2022: \$620 million), Renminbi of \$1,516 million (31 December 2022: \$1,608 million), UAE dirham of \$1,470 million (31 December 2022: \$1,334 million), Singapore dollar of \$1,047 million (31 December 2022: \$1,608 million), Taiwanese dollar of \$1,025 million (31 December 2022: \$1,075 million) and South African rand of \$64 million (31 December 2022: \$nil million). An analysis has been performed on these exposures to assess the impact of a 1 per cent fall in the US dollar exchange rates, adjusted to incorporate the impacts of correlations of these currencies to the US dollar. The impact on the positions above would be an increase of \$260 million (31 December 2022: \$421 million). Changes in the valuation of these positions are taken to reserves. For analysis of the Group's capital position and requirements, refer to the Capital Review (page 338).

Counterparty Credit Risk

Counterparty Credit Risk is the potential for loss in the event of the default of a derivative counterparty, after taking into account the value of eligible collaterals and risk mitigation techniques. The Group's counterparty credit exposures are included in the Credit Risk section.

Derivative financial instruments Credit Risk mitigation

The Group enters into master netting agreements, which in the event of default result in a single amount owed by or to the counterparty through netting the sum of the positive and negative mark-to-market values of applicable derivative transactions.

In addition, the Group enters into credit support annexes (CSAs) with counterparties where collateral is deemed a necessary or desirable mitigant to the exposure. Cash collateral includes collateral called under a variation margin process from counterparties if total uncollateralised mark-to-market exposure exceeds the threshold and minimum transfer amount specified in the CSA. With certain counterparties, the CSA is reciprocal and requires us to post collateral if the overall mark-to-market values of positions are in the counterparty's favour and exceed an agreed threshold.

Liquidity and Funding Risk

Liquidity and Funding Risk is the risk that the Group may not have sufficient stable or diverse sources of funding to meet its obligations as they fall due.

The Group's Liquidity and Funding Risk framework requires each country to ensure that it operates within predefined liquidity limits and remains in compliance with Group liquidity policies and practices, as well as local regulatory requirements.

The Group achieves this through a combination of setting Risk Appetite and associated limits, policy formation, risk measurement and monitoring, prudential and internal stress testing, governance and review.

Despite the challenging macroeconomic environment, the Group has maintained resilience and retained a robust liquidity position. The Group continues to focus on improving the quality and diversification of its funding mix and remains committed to supporting its clients.

Primary sources of funding (audited)

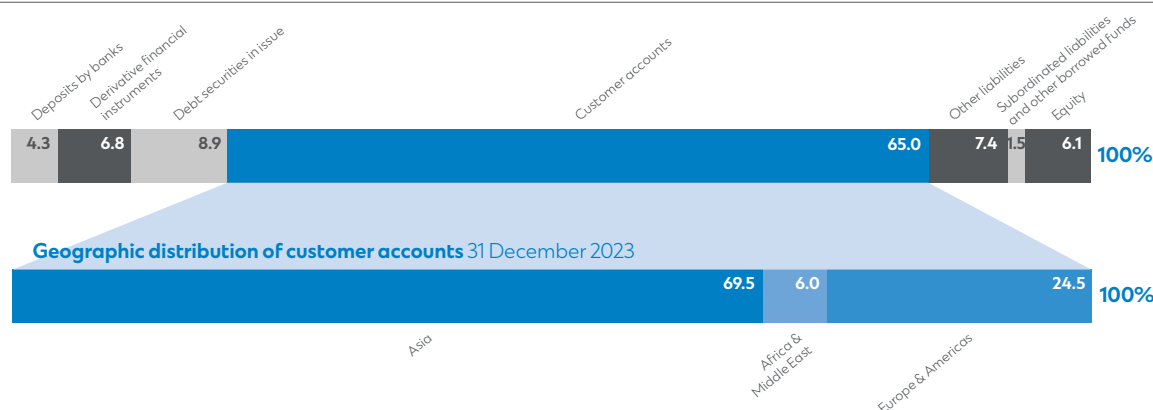
The Group's funding strategy is largely driven by its policy to maintain adequate liquidity at all times, in all geographic locations and for all currencies. This is done to ensure the Group can meet all of its obligations as they fall due. The Group's funding profile is therefore well diversified across different sources, maturities and currencies.

The Group's assets are funded predominantly by customer deposits, supplemented with wholesale funding, which is diversified by type and maturity.

The Group maintains access to wholesale funding markets in all major financial centres in which it operates. This seeks to ensure that the Group has market intelligence, maintains stable funding lines and can obtain optimal pricing when performing cashflow management activities.

In 2023, the Group issued approximately \$8.1 billion of securities, all in the form of senior debt, from its holding company (HoldCo) Standard Chartered PLC (2022 \$5.2 billion of senior debt securities, \$0.75 billion of subordinated debt securities and \$1.25 billion of Additional Tier 1 securities). In the next 12 months, approximately \$8.5 billion of the Group's senior debt, subordinated debt and Additional Tier 1 securities in total are either falling due for repayment contractually or callable by the Group.

Group's composition of liabilities and equity 31 December 2023



Liquidity and Funding Risk metrics

The Group continually monitors key liquidity metrics, both on a country basis and consolidated across the Group.

The following liquidity and funding Board Risk Appetite metrics define the maximum amount and type of risk that the Group is willing to assume in pursuit of its strategy: liquidity coverage ratio (LCR), liquidity stress survival horizons, recovery capacity and net stable funding ratio (NSFR). In addition to the Board Risk Appetite, there are further limits that apply at Group and country level such as, external wholesale borrowing (WBE) and cross currency limits.

Liquidity coverage ratio (LCR)

The LCR is a regulatory requirement set to ensure the Group has sufficient unencumbered high-quality liquid assets to meet its liquidity needs in a 30-calendar-day liquidity stress scenario.

The Group monitors and reports its liquidity positions under the Liquidity Coverage Ratio per PRA rulebook and has maintained its LCR above the prudential requirement. The Group maintained strong liquidity ratios despite a challenging macroeconomic and geopolitical environment.

At the reporting date, the Group LCR was 145 per cent (31 December 2022: 147 per cent), with a surplus to both Board-approved Risk Appetite and regulatory requirements.

Adequate liquidity was held across our footprint to meet all local prudential LCR requirements where applicable.

	2023 \$million	2022 \$million
Liquidity buffer	185,643	177,037
Total net cash outflows	128,111	120,720
Liquidity coverage ratio	145%	147%

Stress coverage

The Group intends to maintain a prudent and sustainable funding and liquidity position, in all countries and currencies, such that it can withstand a severe but plausible liquidity stress.

Our approach to managing liquidity and funding is reflected in the Board-level Risk Appetite Statement which includes the following:

“The Group should have sufficient stable and diverse sources of funding to meet its contractual and contingent obligations as they fall due.”

The Group's internal liquidity stress testing framework covers the following stress scenarios:

- Standard Chartered-specific – Captures the liquidity impact from an idiosyncratic event affecting Standard Chartered only with the rest of the market assumed to be operating normally.
- Market wide – Captures the liquidity impact from a market-wide crisis affecting all participants in a country, region or globally.
- Combined – Assumes both Standard Chartered-specific and market-wide events affect the Group simultaneously and hence is the most severe scenario.

All scenarios include, but are not limited to, modelled outflows for retail and wholesale funding, off-balance sheet funding risk, cross-currency funding risk, intraday risk, franchise risk and risks associated with a deterioration of a firm's credit rating. Concentration risk approach has been enhanced to capture single name and industry concentration.

Stress testing results show that a positive surplus was maintained under all scenarios at 31 December 2023, and respective countries were able to survive for a period of time as defined under each scenario. The results take into account currency convertibility and portability constraints while calculating the liquidity surplus at Group level.

Standard Chartered Bank's credit ratings as at 31 December 2023 were A+ with stable outlook (Fitch), A+ with stable outlook (S&P) and A1 with stable outlook (Moody's). As of 31 December 2023, the estimated contractual outflow of a three-notch long-term ratings downgrade is \$1.1 billion.

External wholesale borrowing

A risk limit is set to prevent excessive reliance on wholesale borrowing. Within the definition of wholesale borrowing, limits are applied to all branches and operating subsidiaries in the Group and as at the reporting date, the Group remained within the Risk Appetite.

Advances-to-deposits ratio

This is defined as the ratio of total loans and advances to customers relative to total customer deposits. An advances-to-deposits ratio below 100 per cent demonstrates that customer deposits exceed customer loans as a result of the emphasis placed on generating a high level of funding from customers.

The Group's advances-to-deposits ratio has decreased by 4.1 per cent to 53.3 per cent, driven by an increase in customer deposits of 3 per cent and with a reduction of 5 per cent in customer loans and advances. Deposits from customers as at 31 December 2023 are \$486,666 million (31 December 2022: \$473,383 million).

	2023 \$million	2022 \$million
Total loans and advances to customers ^{1,2}	259,481	271,897
Total customer accounts ³	486,666	473,383
Advances-to-deposits ratio	53.3%	57.4%

1 Excludes reverse repurchase agreement and other similar secured lending of \$13,996 million and includes loans and advances to customers held at fair value through profit and loss of \$7,212 million

2 Loans and advances to customers for the purpose of the advances-to-deposits ratio excludes \$20,710 million of approved balances held with central banks, confirmed as repayable at the point of stress (31 December 2022: \$20,798 million)

3 Includes customer accounts held at fair value through profit or loss of \$17,248 million (31 December 2022: \$11,706 million)

Net stable funding ratio (NSFR)

The NSFR is a PRA regulatory requirement that stipulates institutions to maintain a stable funding profile in relation to an assumed duration of their assets and off-balance sheet activities over a one-year horizon. It is the ratio between the amount of available stable funding (ASF) and the amount of required stable funding (RSF). ASF factors are applied to balance sheet liabilities and capital, based on their perceived stability and the amount of stable funding they provide. Likewise, RSF factors are applied to assets and off-balance sheet exposures according to the amount of stable funding they require. The regulatory requirements for NSFR are to maintain a ratio of at least 100 per cent. The average ratio for the past four quarters is 136 per cent.

Liquidity pool

The liquidity value of the Group's LCR eligible liquidity pool at the reporting date was \$186 billion. The figures in the table below account for haircuts, currency convertibility and portability constraints per PRA rules for transfer restrictions, and therefore are not directly comparable with the consolidated balance sheet. A liquidity pool is held to offset stress outflows as defined in the LCR per PRA rulebook.

	2023			
	Asia \$million	Africa & Middle East \$million	Europe & Americas \$million	Total \$million
Level 1 securities				
Cash and balances at central banks	32,504	2,456	46,715	81,675
Central banks, governments/public sector entities	54,562	1,363	15,843	71,768
Multilateral development banks and international organisations	5,202	961	10,754	16,917
Other	130	–	1,161	1,291
Total Level 1 securities	92,398	4,780	74,473	171,651
Level 2A securities	6,194	128	6,946	13,268
Level 2B securities	348	–	376	724
Total LCR eligible assets	98,940	4,908	81,795	185,643

	2022			
	Asia \$million	Africa & Middle East \$million	Europe & Americas \$million	Total \$million
Level 1 securities				
Cash and balances at central banks	34,101	1,066	36,522	71,689
Central banks, governments/public sector entities	50,881	2,712	23,680	77,273
Multilateral development banks and international organisations	3,510	837	10,843	15,190
Other	37	7	1,430	1,474
Total Level 1 securities	88,529	4,622	72,475	165,626
Level 2A securities	4,044	139	6,033	10,216
Level 2B securities	71	21	1,103	1,195
Total LCR eligible assets	92,644	4,782	79,611	177,037

Liquidity analysis of the Group's balance sheet (audited)

Contractual maturity of assets and liabilities

The following table presents assets and liabilities by maturity groupings based on the remaining period to the contractual maturity date as at the balance sheet date on a discounted basis. Contractual maturities do not necessarily reflect actual repayments or cashflows.

Within the tables below, cash and balances with central banks, interbank placements and investment securities that are fair valued through other comprehensive income are used by the Group principally for liquidity management purposes.

As at the reporting date, assets remain predominantly short-dated, with 63 per cent maturing in less than one year. The less than six-month cumulative net funding gap improved by \$35 billion as of 31 December 2023 compared to 31 December 2022.

	2023								
	One month or less \$million	Between one month and three months \$million	Between three months and six months \$million	Between six months and nine months \$million	Between nine months and one year \$million	Between one year and two years \$million	Between two years and five years \$million	More than five years and undated \$million	Total \$million
Assets									
Cash and balances at central banks	63,752	-	-	-	-	-	-	6,153	69,905
Derivative financial instruments	12,269	10,632	6,910	3,611	2,921	4,650	6,038	3,403	50,434
Loans and advances to banks ^{1,2}	28,814	23,384	10,086	4,929	5,504	1,583	2,392	1,098	77,790
Loans and advances to customers ^{1,2}	86,695	55,009	25,492	15,392	14,537	25,987	26,545	95,829	345,486
Investment securities ¹	12,187	28,999	17,131	18,993	20,590	24,244	44,835	50,168	217,147
Other assets ¹	17,611	31,729	1,286	409	587	67	93	10,300	62,082
Total assets	221,328	149,753	60,905	43,334	44,139	56,531	79,903	166,951	822,844
Liabilities									
Deposits by banks ^{1,3}	26,745	1,909	1,398	503	778	1,326	2,848	2	35,509
Customer accounts ^{1,4}	384,444	47,723	28,288	13,647	11,806	7,787	38,578	2,349	534,622
Derivative financial instruments	13,111	12,472	6,655	4,001	3,433	5,142	6,932	4,315	56,061
Senior debt ⁵	130	1,111	1,537	1,389	624	11,507	20,127	14,443	50,868
Other debt securities in issue ¹	3,123	5,822	6,109	3,235	3,037	492	482	195	22,495
Other liabilities	14,929	26,447	1,695	544	883	1,830	1,809	12,763	60,900
Subordinated liabilities and other borrowed funds	980	68	19	172	453	312	1,936	8,096	12,036
Total liabilities	443,462	95,552	45,701	23,491	21,014	28,396	72,712	42,163	772,491
Net liquidity gap	(222,134)	54,201	15,204	19,843	23,125	28,135	7,191	124,788	50,353

1 Loans and advances, investment securities, deposits by banks, customer accounts and debt securities in issue include financial instruments held at fair value through profit or loss, see Note 13 Financial instruments

2 Loans and advances include reverse repurchase agreements and other similar secured lending of \$97.6 billion

3 Deposits by banks include repurchase agreements and other similar secured borrowing of \$5.6 billion

4 Customer accounts include repurchase agreements and other similar secured borrowing of \$48.0 billion

5 Senior debt maturity profiles are based upon contractual maturity, which may be later than call options over the debt held by the Group

	2022								
	One month or less \$million	Between one month and three months \$million	Between three months and six months \$million	Between six months and nine months \$million	Between nine months and one year \$million	Between one year and two years \$million	Between two years and five years \$million	More than five years and undated \$million	Total \$million
Assets									
Cash and balances at central banks	49,097	–	–	–	–	–	–	9,166	58,263
Derivative financial instruments	15,558	12,030	8,352	4,446	3,602	6,026	8,410	5,293	63,717
Loans and advances to banks ^{1,2}	24,135	15,293	11,595	4,971	4,138	2,608	1,022	687	64,449
Loans and advances to customers ^{1,2}	96,351	58,605	27,751	12,540	13,444	19,150	33,413	96,476	357,730
Investment securities ¹	14,175	26,008	23,364	13,024	12,891	22,805	41,217	52,756	206,240
Other assets ¹	15,210	31,276	1,341	181	698	89	23	20,705	69,523
Total assets	214,526	143,212	72,403	35,162	34,773	50,678	84,085	185,083	819,922
Liabilities									
Deposits by banks ^{1,3}	29,733	2,042	2,245	871	349	1,432	144	7	36,823
Customer accounts ^{1,4}	402,069	49,769	25,110	15,961	15,216	7,830	2,451	1,823	520,229
Derivative financial instruments	15,820	15,810	8,645	5,002	4,102	6,795	7,904	5,784	69,862
Senior debt ⁵	204	342	509	963	711	5,855	19,673	12,086	40,343
Other debt securities in issue ¹	2,758	5,504	8,732	7,316	2,935	1,088	870	268	29,471
Other liabilities	19,857	24,725	1,616	521	503	902	1,043	10,296	59,463
Subordinated liabilities and other borrowed funds	2,004	105	22	248	25	1,882	2,045	7,384	13,715
Total liabilities	472,445	98,297	46,879	30,882	23,841	25,784	34,130	37,648	769,906
Net liquidity gap	(257,919)	44,915	25,524	4,280	10,932	24,894	49,955	147,435	50,016

1 Loans and advances, investment securities, other assets, deposits by banks, customer accounts and debt securities in issue include financial instruments held at fair value through profit or loss, see Note 13 Financial instruments

2 Loans and advances include reverse repurchase agreements and other similar secured lending of \$90 billion

3 Deposits by banks include repurchase agreements and other similar secured borrowing of \$7.0 billion

4 Customer accounts include repurchase agreements and other similar secured borrowing of \$46.8 billion

5 Senior debt maturity profiles are based upon contractual maturity, which may be later than call options over the debt held by the Group

Behavioural maturity of financial assets and liabilities

The cashflows presented in the previous section reflect the cashflows that will be contractually payable over the residual maturity of the instruments. However, contractual maturities do not necessarily reflect the timing of actual repayments or cashflow. In practice, certain assets and liabilities behave differently from their contractual terms, especially for short-term customer accounts, credit card balances and overdrafts, which extend to a longer period than their contractual maturity. On the other hand, mortgage balances tend to have a shorter repayment period than their contractual maturity date. Expected customer behaviour is assessed and managed on a country basis using qualitative and quantitative techniques, including analysis of observed customer behaviour over time.

Maturity of financial liabilities on an undiscounted basis (audited)

The following table analyses the contractual cashflows payable for the Group's financial liabilities by remaining contractual maturities on an undiscounted basis. The financial liability balances in the table below will not agree with the balances reported in the consolidated balance sheet as the table incorporates all contractual cashflows, on an undiscounted basis, relating to both principal and interest payments. Derivatives not treated as hedging derivatives are included in the 'On demand' time bucket and not by contractual maturity.

Within the 'More than five years and undated' maturity band are undated financial liabilities, the majority of which relate to subordinated debt, on which interest payments are not included as this information would not be meaningful, given the instruments are undated. Interest payments on these instruments are included within the relevant maturities up to five years.

	2023								
	One month or less \$million	Between one month and three months \$million	Between three months and six months \$million	Between six months and nine months \$million	Between nine months and one year \$million	Between one year and two years \$million	Between two years and five years \$million	More than five years and undated \$million	Total \$million
Deposits by banks	26,759	1,921	1,417	513	790	1,328	2,848	4	35,580
Customer accounts	385,361	48,140	28,763	14,049	12,190	8,118	39,000	3,036	538,657
Derivative financial instruments	53,054	517	46	44	103	202	887	1,208	56,061
Debt securities in issue	3,507	6,995	8,015	5,070	4,002	13,663	23,413	16,396	81,061
Subordinated liabilities and other borrowed funds	1,043	134	46	208	570	395	2,389	14,367	19,152
Other liabilities	12,200	26,291	1,560	515	884	1,832	1,810	11,513	56,605
Total liabilities	481,924	83,998	39,847	20,399	18,539	25,538	70,347	46,524	787,116

	2022								
	One month or less \$million	Between one month and three months \$million	Between three months and six months \$million	Between six months and nine months \$million	Between nine months and one year \$million	Between one year and two years \$million	Between two years and five years \$million	More than five years and undated \$million	Total \$million
Deposits by banks	29,742	2,048	2,275	876	362	1,455	144	8	36,910
Customer accounts	401,893	49,196	24,713	15,614	15,283	8,280	5,937	2,591	523,507
Derivative financial instruments	65,912	48	12	116	213	940	1,185	1,436	69,862
Debt securities in issue	3,060	5,912	9,631	8,574	3,979	7,844	22,259	18,465	79,724
Subordinated liabilities and other borrowed funds	2,097	165	44	273	28	2,029	2,610	14,004	21,250
Other liabilities	17,275	25,751	1,517	504	496	895	901	9,669	57,008
Total liabilities	519,979	83,120	38,192	25,957	20,361	21,443	33,036	46,173	788,261

Interest Rate Risk in the Banking Book

The following table provides the estimated impact to a hypothetical base case projection of the Group's earnings under the following scenarios:

- A 50 basis point parallel interest rate shock (up and down) to the current market-implied path of rates, across all yield curves
- A 100 basis point parallel interest rate shock (up and down) to the current market-implied path of rates, across all yield curves

These interest rate shock scenarios assume all other economic variables remain constant. The sensitivities shown represent the estimated change to a hypothetical base case projected net interest income (NII), plus the change in interest rate implied income and expense from FX swaps used to manage banking book currency positions, under the different interest rate shock scenarios.

The base case projected NII is based on the current market-implied path of rates and forward rate expectations. The NII sensitivities below stress this base case by a further 50 or 100bps. Actual observed interest rate changes will lag behind market expectation. Accordingly, the shocked NII sensitivity does not represent a forecast of the Group's net interest income.

The interest rate sensitivities are indicative stress tests and based on simplified scenarios, estimating the aggregate impact of an unanticipated, instantaneous parallel shock across all yield curves over a one-year horizon, including the time taken to implement changes to pricing before becoming effective. The assessment assumes that the size and mix of the balance sheet remain constant and that there are no specific management actions in response to the change in rates. No assumptions are made in relation to the impact on credit spreads in a changing rate environment.

Significant modelling and behavioural assumptions are made regarding scenario simplification, market competition, pass-through rates, asset and liability re-pricing tenors, and price flooring. In particular, the assumption that interest rates of all currencies and maturities shift by the same amount concurrently, and that no actions are taken to mitigate the impacts arising from this are considered unlikely. Reported sensitivities will vary over time due to a number of factors including changes in balance sheet composition, market conditions, customer behaviour and risk management strategy. Therefore, while the NII sensitivities are a relevant measure of the Group's interest rate exposure, they should not be considered an income or profit forecast.

Estimated one-year impact to earnings from a parallel shift in yield curves at the beginning of the period of:	2023						
	USD bloc \$million	HKD bloc \$million	SGD bloc \$million	KRW bloc \$million	CNY bloc \$million	Other currency bloc \$million	Total \$million
+ 50 basis points	90	10	50	10	30	160	350
- 50 basis points	(150)	(30)	(50)	(20)	(40)	(180)	(470)
+ 100 basis points	180	10	100	20	60	320	690
- 100 basis points	(280)	(40)	(100)	(40)	(80)	(350)	(890)

Estimated one-year impact to earnings from a parallel shift in yield curves at the beginning of the period of:	2022						
	USD bloc \$million	HKD bloc \$million	SGD bloc \$million	KRW bloc \$million	CNY bloc \$million	Other currency bloc \$million	Total \$million
+ 50 basis points	80	20	40	50	30	150	370
- 50 basis points	(80)	(20)	(40)	(60)	(30)	(140)	(370)
+ 100 basis points	160	40	90	100	50	300	740

As at 31 December 2023, the Group estimates the one-year impact of an instantaneous, parallel increase across all yield curves of 50 basis points to increase projected NII by \$350 million. The equivalent impact from a parallel decrease of 50 basis points would result in a reduction in projected NII of \$470 million. The Group estimates the one-year impact of an instantaneous, parallel increase across all yield curves of 100 basis points to increase projected NII by \$690 million. The equivalent impact from a parallel decrease of 100 basis points would result in a reduction in projected NII of \$890 million.

The benefit from rising interest rates is primarily from reinvesting at higher yields and from assets re-pricing faster and to a greater extent than deposits. NII sensitivity in falling rate scenarios has increased versus 31 December 2022, due to changes in modelling assumptions to reflect expected re-pricing activity on Retail and Transaction Banking current accounts and savings accounts in the current interest rate environment.

Over the course of 2023 the size of the interest rate swaps and HTC-accounted bond portfolios used to programmatically hedge the behavioural lives of structural equity and CASA balances increased from \$31 billion to \$47 billion. The portfolios had a weighted average maturity of 2.9 years, which reflects the behavioural lives of the rate-insensitive deposit and equity balances that they hedge, and a yield of 3.1%, as at 31 December 2023.

Operational and Technology Risk

The Group defines Operational and Technology risk as the potential for loss from inadequate or failed internal processes, technology events, human error, or from the impact of external events (including legal risks). Operational and Technology risk may occur anywhere in the Group, including third-party processes.

Operational and Technology risk profile

Risk management practices help the business grow safely and ensure governance and management of Operational and Technology risk through the delivery and embedding of effective frameworks and policies, together with continuous oversight and assurance. Managing Operational and Technology risk makes the Group more efficient and enables it to offer better, sustainable service to its customers. The Group's Operational and Technology Risk Type Framework ('O&T RTF') is designed to enable the Group to govern, identify, measure, monitor and test, manage and report on its Operational and Technology risks. The Group continues to ensure the O&T RTF supports the business and the functions in effectively managing risk and controls within risk appetite to meet their strategic objectives.

The Group has demonstrated progress on ensuring visibility of risks and risk management through implementation of a standardised risk taxonomy. Standardising the risk taxonomy enables improved risk aggregation and reporting as well as providing opportunities for simplifying the process of risk identification and assessment. A revised process universe along with taxonomies for causes and controls have been designed and will be implemented in 2024, with control categories supporting the streamlining and removal of duplicate controls, reducing complexity, and improving

risk and control management. Macro processes will provide a client-centric view and enable clearer accountability for delivery as well as management of risks in line with business objectives.

Operational and Technology risk is elevated in areas such as Information and Cyber Security, Data Management and Transaction Processing. Other key areas of focus are Change, Systems Health/Technology risk, Third Party risk, Resilience and Regulatory Compliance. Management has focused on addressing these areas, improving the sustainable operating environment and has initiated a number of programmes to enhance the control environment. The Group continues to monitor and manage Operational and Technology risks associated with the external environment such as geopolitical factors and the increasing risk of cyber-attacks. Digitalisation and inappropriate use of Artificial Intelligence, various regulatory expectations across our footprint and the changing technology landscape remain key emerging areas to manage, allowing the Group to keep pace with new business developments, whilst ensuring that risk and control frameworks evolve accordingly. The Group continues to strengthen its risk management to understand the full spectrum of risks in the operating environment, enhance its defences and improve resilience.

Operational and Technology risk events and losses

Operational losses are one indicator of the effectiveness and robustness of the non-financial risk control environment.

The Group's profile of operational loss events in 2023 and 2022 is summarised in the table below, which shows the distribution of gross operational losses by Basel business line.

Distribution of Operational Losses by Basel business line	% Loss	
	2023	2022 ¹
Agency Services	1.8%	3.0%
Asset Management	0.1%	0.8%
Commercial Banking	8.4%	8.9%
Corporate Finance	7.6%	1.1%
Corporate Items	35.5%	2.5%
Payment and Settlements	17.6%	42.9%
Retail Banking	20.3%	25.5%
Retail Brokerage	0.0%	0.0%
Trading and Sales	8.5%	15.2%

¹ Losses in 2022 have been restated to include incremental events recognised in 2023

The Group's profile of operational loss events in 2023 and 2022 is also summarised by Basel event type in the table below. It shows the distribution of gross operational losses by Basel event type.

Distribution of Operational Losses by Basel event type	% Loss	
	2023	2022 ¹
Business disruption and system failures	6.0%	3.5%
Clients' products and business practices	3.6%	7.1%
Damage to physical assets	0.0%	0.0%
Employment practices and workplace safety	0.6%	0.2%
Execution delivery and process management	75.0%	79.6%
External fraud	14.6%	8.6%
Internal fraud	0.2%	0.9%

¹ Losses in 2022 have been restated to include incremental events recognised in 2023

Other principal risks

Losses arising from operational failures for other principal and integrated risks are reported as operational losses. Operational losses do not include operational risk-related credit impairments.

Climate Risk

Managing the financial and non-financial risks from climate change

Disclaimer

For the avoidance of doubt, this 'Climate Risk' section is subject to the statements included in (i) the 'Forward- Looking Statements' section; and (ii) the 'Basis of Preparation and Caution Regarding Data Limitations' section provided under 'Important Notices' at page 519.

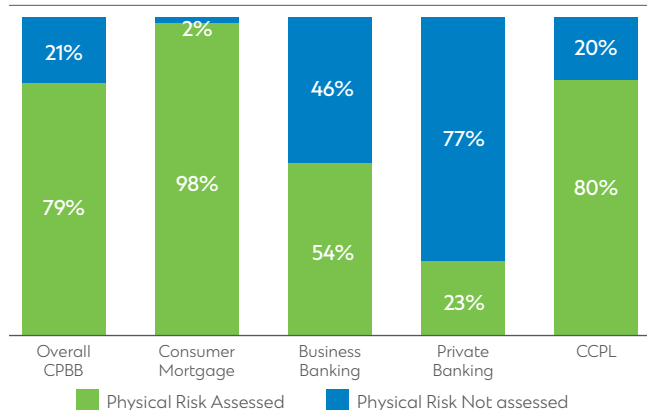
Credit Risk

We have developed a climate risk management framework, which provides a baseline level of effective risk mitigation.

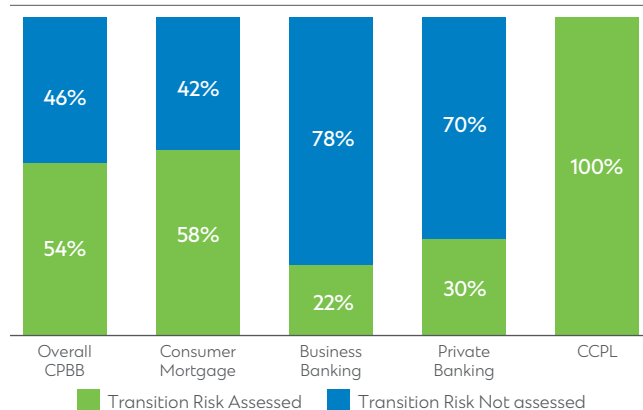
Consumer, Private and Business Banking (CPBB) Credit Risk

As of September 2023, we have assessed the physical risk for 79 per cent and transition risk for 54 per cent of our CPBB portfolio.

Physical Risk Measuring and Monitoring in CPBB (as of September 2023)



Transition Risk Measuring and Monitoring in CPBB (as of September 2023)



For our secured portfolio, assessments are based on the underlying physical collateral for our residential and commercial portfolios where we continue to leverage Munich Re's Risk Suite (Natural Hazards Edition) to measure acute and chronic physical risk impacting each asset. For our unsecured portfolios, such as credit cards and personal loans, we recognise that physical risk is likely to have a more pronounced second order impact that may indirectly affect our customers' ability to repay. We have further expanded our scope of risk measurement and monitoring to cover these products in 2023, albeit using proxies based on the location of bank branches.

We assess the exposure concentrations to high physical risk across acute and chronic hazards quarterly, and report these at risk management committees at Group, Region and Country, with a stronger focus on flood risk and rising sea levels. During 2023, the physical risk profile across products and markets has remained stable, apart from slight variations in exposure to high flood risk levels due to enhancements in Munich Re's flood risk model.

Assessment of Acute and Chronic Physical Risk for Top 10 Markets' Exposures backed by Property Collateral, indicating Exposure Concentration Subjected to Very High Gross Risk (as of September 2023)

Physical risk event	Global			Korea			Hong Kong			Taiwan		
	Q3-22	Q3-23	Trend	Q3-22	Q3-23	Trend	Q3-22	Q3-23	Trend	Q3-22	Q3-23	Trend
Flood Risk	24.80%	24.20%	↔	14.00%	12.30%	↓	44.60%	44.90%	↔	11.90%	11.00%	↓
Sea-level rise (Year 2100, RCP 8.5)	2.10%	2.20%	↔	0.01%	0.60%	↑	3.40%	3.60%	↑	0.04%	0.03%	↔
Physical risk event	India			Singapore			Malaysia			UAE		
	Q3-22	Q3-23	Trend	Q3-22	Q3-23	Trend	Q3-22	Q3-23	Trend	Q3-22	Q3-23	Trend
Flood Risk	30.20%	22.30%	↓	3.50%	3.40%	↔	6.50%	5.30%	↓	29.50%	26.50%	↓
Sea-level rise (Year 2100, RCP 8.5)	1.10%	0.90%	↓	0.08%	0.06%	↓	0.20%	0.30%	↑	36.80%	36.10%	↔
Physical risk event	Jersey			Vietnam			China					
	Q3-22	Q3-23	Trend	Q3-22	Q3-23	Trend	Q3-22	Q3-23	Trend			
Flood Risk	1.90%	1.60%	↓	63.90%	60.40%	↓	67.70%	67.10%	↔			
Sea-level rise (Year 2100, RCP 8.5)	–	–	–	1.80%	1.00%	↓	8.30%	8.30%	↔			

Note: Movements are called out for markets showing a change of >5 per cent year-on-year change in flood risk exposure concentration.

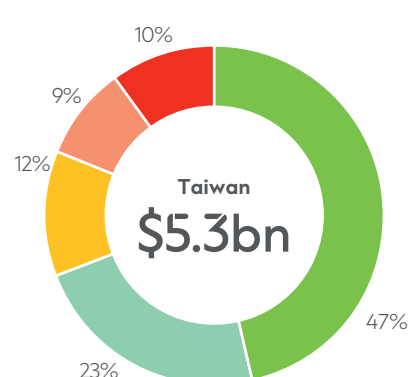
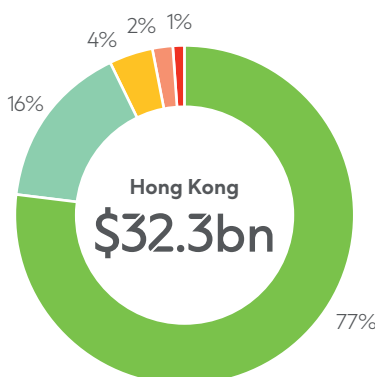
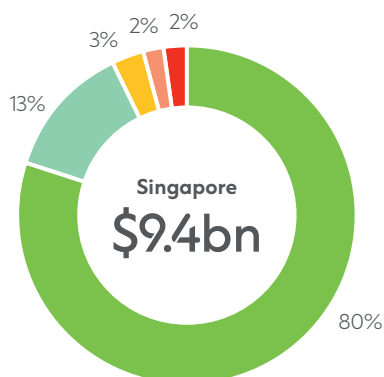
Our key residential mortgage markets have not implemented minimum building energy efficiency standards. As such, in 2023 we took an alternative approach towards assessing the transition risk impact on our borrowers, by quantifying the robustness of their repayment capability, rather than accounting for valuation related risks of property collateral. We used a combination of internal and external data, including results from our net zero financed emissions calculations and our initial analysis shows that the transition risk levels appear to be low across key residential mortgage markets. These results will be refined along with revisions in exposure concentrations, as the data landscape matures over time and as we improve upon the initial approach.

Approaches to Measure Transition Risk



Transition Risk Ratings using SCB CPBB Approach, by Exposure Concentration (as of December 2022)

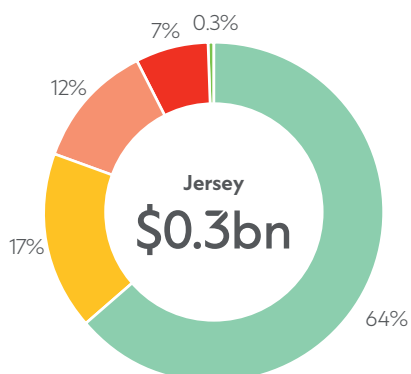
Very high High Medium Low Very Low



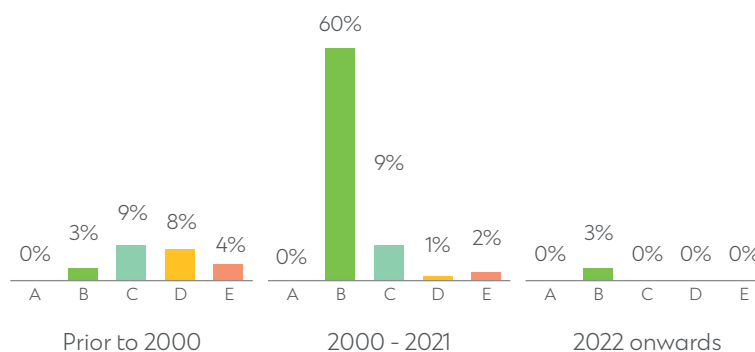
For the Jersey residential mortgage portfolio, we used EPC (Energy Performance Certificate) data to assess the energy efficiency distribution, with results indicating that more than 80 per cent of the portfolio is rated at C or better.

Transition Risk Ratings for Residential Mortgages in Jersey using EPC Ratings by Exposure

EPC Ratings for Residential Mortgages in Jersey by Count (as of August 2023)



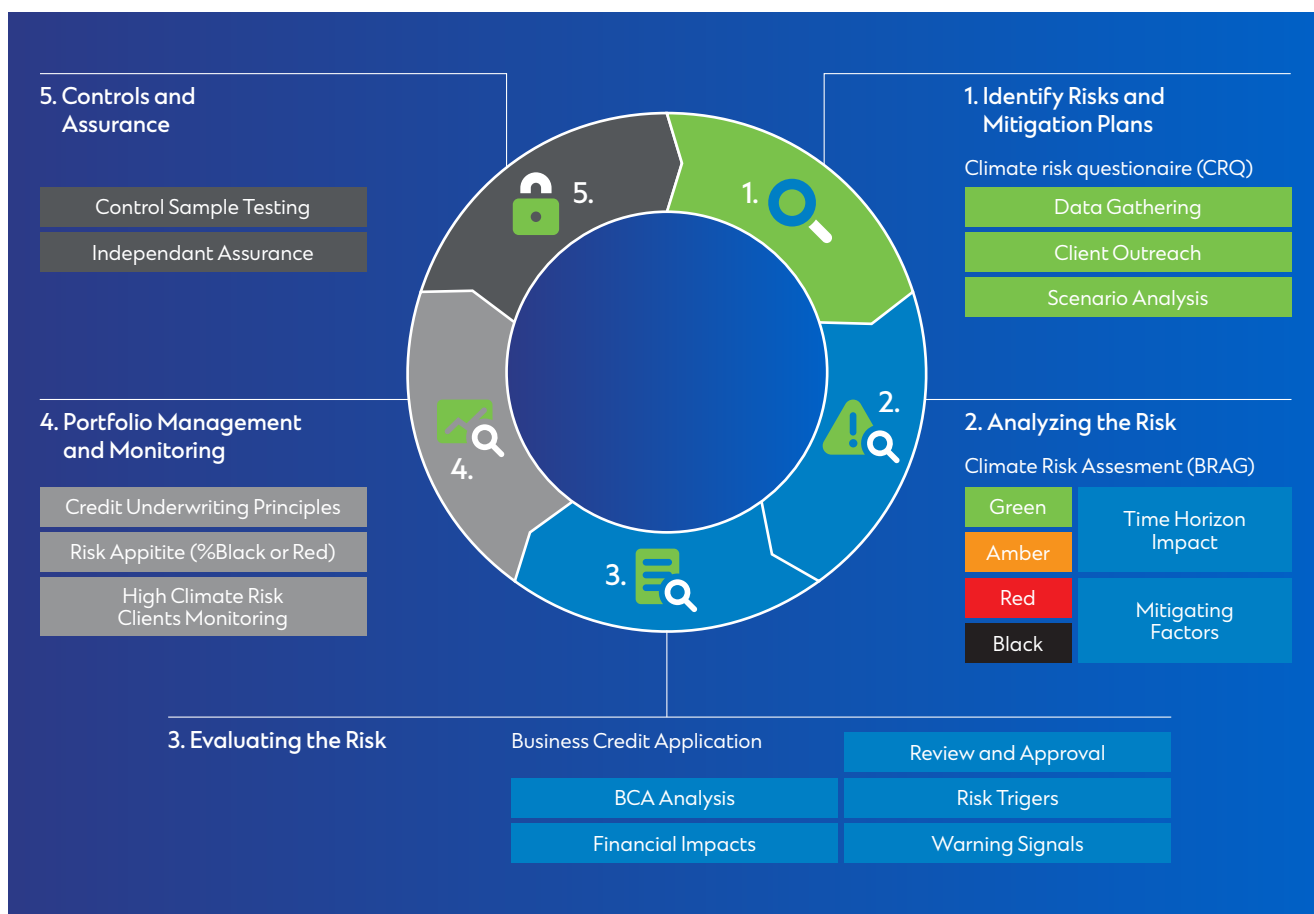
A
B
C
D
E



We aim to continue to explore ways to enhance our assessment approaches across both secured and unsecured CPBB portfolios through improved methodologies and data. This will enable us to better assess the susceptibility to and readiness of our clients in managing climate-driven risks, whilst also enabling us to identify opportunities to assist them in their transition towards a low-carbon economy. Options we are considering include expanding the scope of our existing credit origination process to cover Climate-related considerations in segments such as Medium Enterprises.

Corporate, Commercial and Institutional Banking (CCIB) Credit Risk

This section covers details of how we assess climate risk for our corporate clients, including insights gained from our client level assessments and progress made to further strengthen our framework for climate and credit related portfolio and risk management. The figure below outlines our process in assessing climate risk.



1. Identify risks and mitigation plans

Our client-level Climate Risk Questionnaire (CRQ) aims to help assess the potential financial risks from climate change using quantitative and qualitative information. The assessment presents a consolidated view across five pillars of how exposed and ready for transition or adaptation our clients may be.

Governance & Disclosures	Gross Physical Risk	Physical Risk Adaptation	Gross Transition Risk	Transition Risk Mitigation
Intent, commitment and reporting <ul style="list-style-type: none"> Reporting of Climate targets Board responsibility and accountability Management incentives to manage climate risk within the organisation 	Exposure to acute and chronic events <ul style="list-style-type: none"> Asset locations exposed to physical risk events (Floods, Storms, Droughts etc) Model output to assess current and future risk to client's operating location 	Mitigations to acute and chronic events <ul style="list-style-type: none"> Assessment of client's adaptation plans to its operating locations and supply chain Insurance coverage to protect against physical risk 	Relative emissions for sector and region <ul style="list-style-type: none"> Reliance on fossil fuel/carbon products Policy environmental/ impact due to sovereign decarbonisation policy in sector Potential financial impact from various climate scenarios 	Decarbonisation plan and emission targets <ul style="list-style-type: none"> Assess client's plans and its credibility to transition its business and supply chain Emissions reporting targets and plan to achieve them Capex in low carbon technologies, internal carbon pricing scenarios

The CRQ helps us to form a view of the overall climate risk profile of our clients and supports the underlying themes that feed into our broader scenario analysis and corporate planning exercises. In 2023, we completed an exhaustive review of the CRQ based on historical data, including rationalising questions, introducing a methodological differentiation in assessing corporates against projects, introducing sector-specific questions, and building stronger linkages to our net zero and credible transition plan workstreams.

Coverage of our analysis

In 2023 we completed CRAs for c.4,100 clients, which is c.85-90 per cent of our corporate client limits and is a significant improvement from c.2,200 clients assessed in the year before.

How do different regions in our footprint compare?

Overall, while the levels and consistency in the availability of climate information from public disclosures has increased, this is still a developing aspect in our markets, which highlights the importance of engaging our clients on this topic.

Client-level Climate Risk assessment scores by region

2023 YTD Assessment*	Number of clients	Overall score across the five pillars	1. Governance & disclosures	2. Gross Physical Risk	3 Physical Risk adaptation	4. Gross Transition Risk	5. Transition Risk Mitigation
Asia	2,709	46%	44%	69%	27%	48%	41%
Africa & Middle East	409	36%	27%	69%	13%	46%	25%
Europe & Americas	1,018	64%	75%	78%	53%	50%	65%
Total	4,136	49%	50%	71%	32%	48%	45%

* Data assessed is as of September 2023

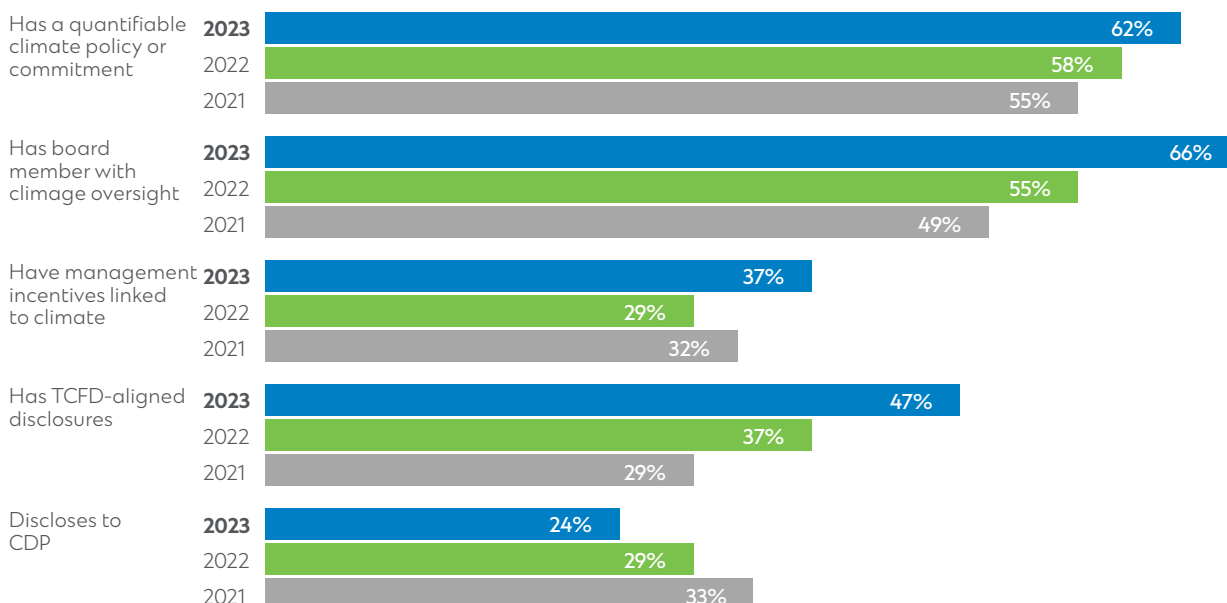
- We continue to see better transition risk mitigation and physical risk adaptation scores for corporates domiciled in Europe and Americas, where disclosure levels are highest and the plans to effectively manage climate risk are being put in place.
- Physical risk adaptation levels remain an area of risk for most of our markets, with the lowest absolute scores in Africa and the Middle East.
- Asia constitutes c.65 per cent of our total volume of clients assessed in 2023 (2022: c.63 per cent) followed by Europe and Americas, which represents c.25 per cent of the clients and the largest increase in share (2022: 18 per cent)

Insights from these assessments for the pillars mentioned previously are provided below.

Governance and disclosures

We have seen a gradual increase in the number of clients reporting quantifiable climate change related commitments over 2022 and 2023 driven by an improvement in climate risk transition plans being put in place across our markets but this does not necessarily come via 'Carbon Disclosures Project', which remains more a developing market disclosure across our client footprint. Key risk remains on management incentives linked to climate change; an area where we are actively engaging with clients.

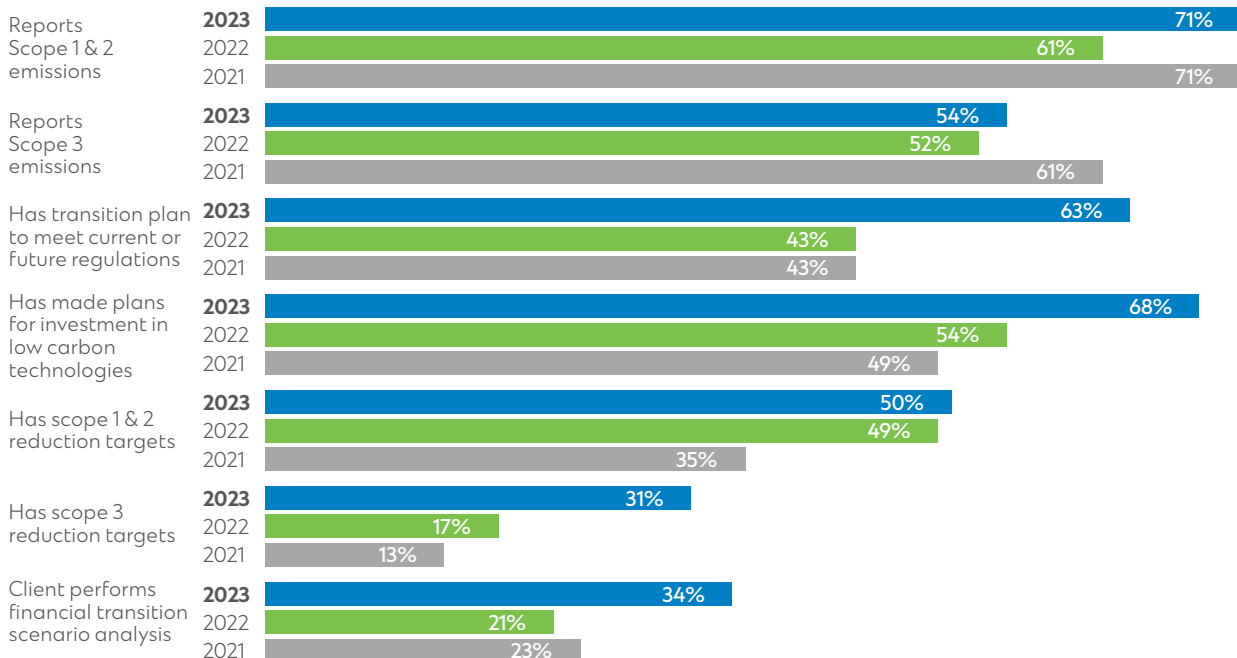
Percentage of clients in scope



Transition risk mitigation levels

Over the last two years, there has been a material increase in both the number of clients putting in place a transition plan and those planning investments to move to low carbon technologies, driven by increasing regulatory pressure and enhanced transition risk commitments in some of our key markets. While the number of clients reporting Scope 1, 2 and 3 emissions has not increased in the last two years, we have seen an increase in clients that report Scope 1, 2 and 3 emissions reduction targets. However, the ability to set quantifiable targets to achieve broader commitments is still lagging when looked at on an absolute basis and the scale of the transition needed.

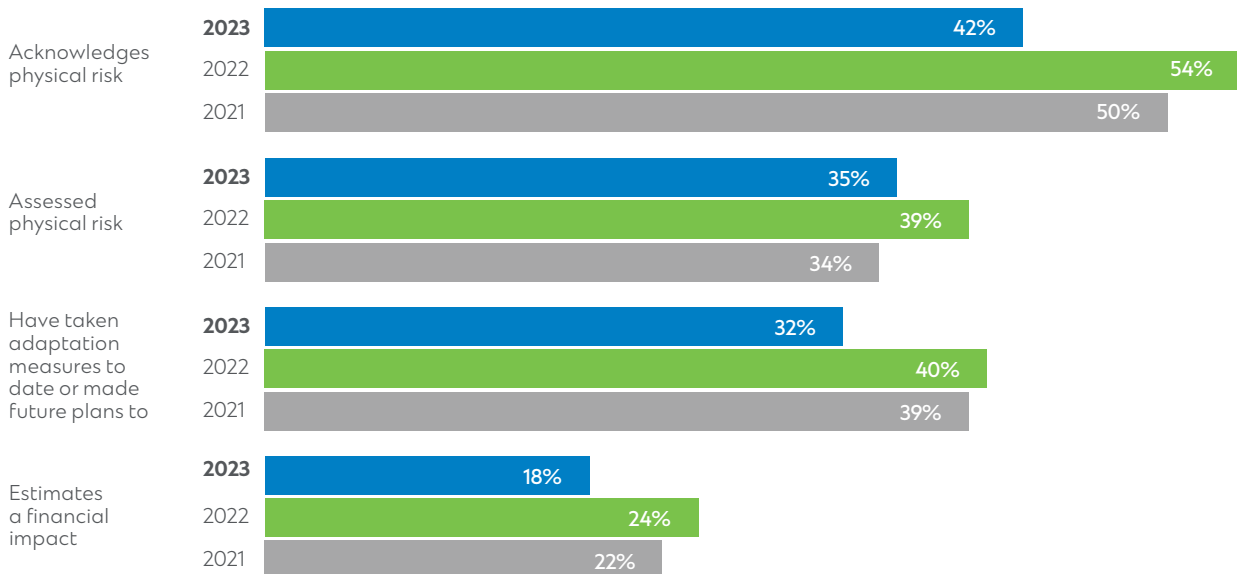
Percentage of clients in scope



Physical risk readiness

Physical risk adaptation remains an area of concern and we have seen downward trends across our portfolio of clients due to an increase in the number of assessments (from c.2,200 - 4,100) captured in our coverage, which now better reflects our overall corporate portfolio. This reflects the nature of many of our footprint markets, where physical risk adaptation and associated levels of disclosures are in nascent stages.

Percentage of clients in scope



Transition risk – Gross Risk and Transition Plan levels for key sectors

For four key sectors that have high transition risk i.e. Commercial Real Estate (CRE), O&G Producers, Metals and Mining Producers and Utilities, we have assessed the risk against the level of transition plans and how it varies across our key markets.

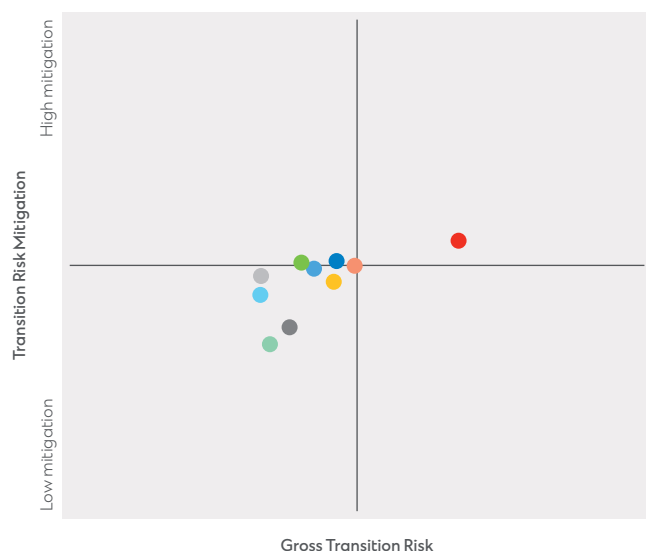
CRE: Companies across our key markets are close together with respect to their transition scores, reflecting the policy environment in the building sector, which is broadly similar across major markets. Key factors which determine the transition risk grading for a building are its location, which helps ascertain the intensity of the power grid supplying electricity to the asset, the property type, and its energy efficiency.

Power: Clients in the UAE are slightly behind some of their global peers, although this is driven in part by a lower level of disclosures and higher transition risk as a result of fossil fuel intensive business models.

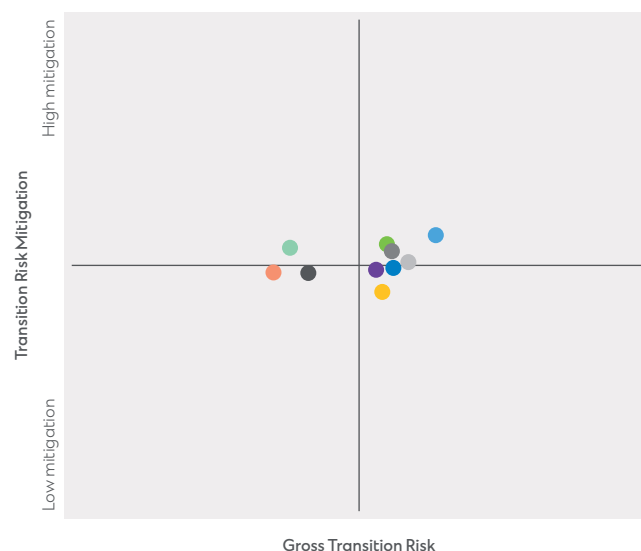
O&G: This sector has been gradually preparing for the transition to lower carbon intensive fuels over the last few years. While there is a lot more to do in terms of transitioning, the improved transition risk understanding and associated disclosures lead to on average better mitigation scores in this sector.

Mining: Almost 50 per cent of the Metals and Mining clients in our portfolio, ranging from Steel to Cement to Aluminium producers are based in China and India. Effective decarbonisation in this sector is reliant on the power grid decarbonising, improved energy efficiency in overall operations, including heating, as well as managing process level emissions.

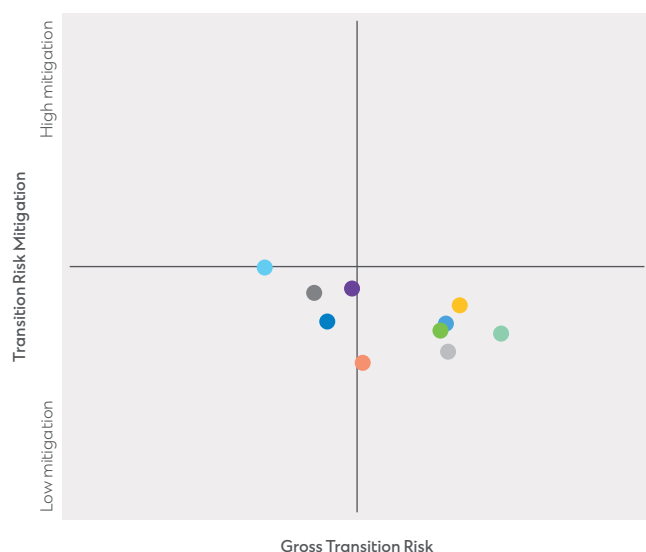
CRE



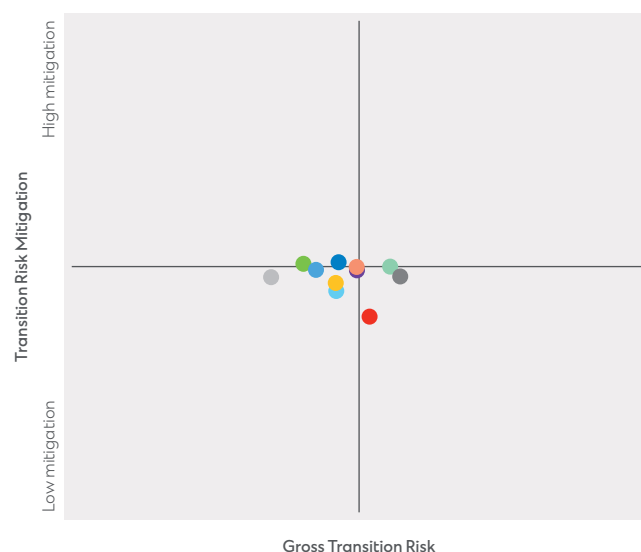
Utilities



O&G Producer



Metals & Mining Producers



● China ● Hong Kong ● India ● Singapore ● UK ● USA ● UAE ● South Africa ● Korea ● Rest of Middle East ● Europe



2. Analysing the climate risk grading

Each client is assigned a climate risk grading (BRAG) computed based on the gross transition risk and transition risk mitigation. Owing to physical risk data being less robust, we have to date focused only on transition risk drivers to compute the climate risk grading. However, as highlighted in the section above, we have seen a steady improvement in the coverage of physical risk data in the last two years. During 2024, we plan to develop a methodology to incorporate both physical and transition risk drivers in the computation of BRAG which will holistically represent the extent of climate risk faced by a client.

There are currently four types of BRAG ratings assigned to clients – black, red, amber, green.

Black	Clients are deemed to have very high exposure to Transition Risk with little or no mitigation plans
Red	Clients are deemed to have very high exposure to Transition Risk but with acceptable or good mitigation plans
Amber	Clients are deemed to have high exposure to Transition Risk but with acceptable or good mitigation plans.
Green	Clients are deemed to have low or limited exposure to Transition Risk



3. Evaluating the risk (linkage to credit process)

Once a climate risk grading is assigned to a client, the impacts from climate-related risks are integrated into the existing credit approval process qualitatively and/or quantitatively through inclusion within the business risk analysis and financial modelling. If the risks are deemed material and not adequately represented via the existing credit rating of the client, subjective warning signals may be added to influence the credit rating. Additionally, risk triggers are added to monitor risks that are not adequately mitigated and to seek additional information from the client where applicable.



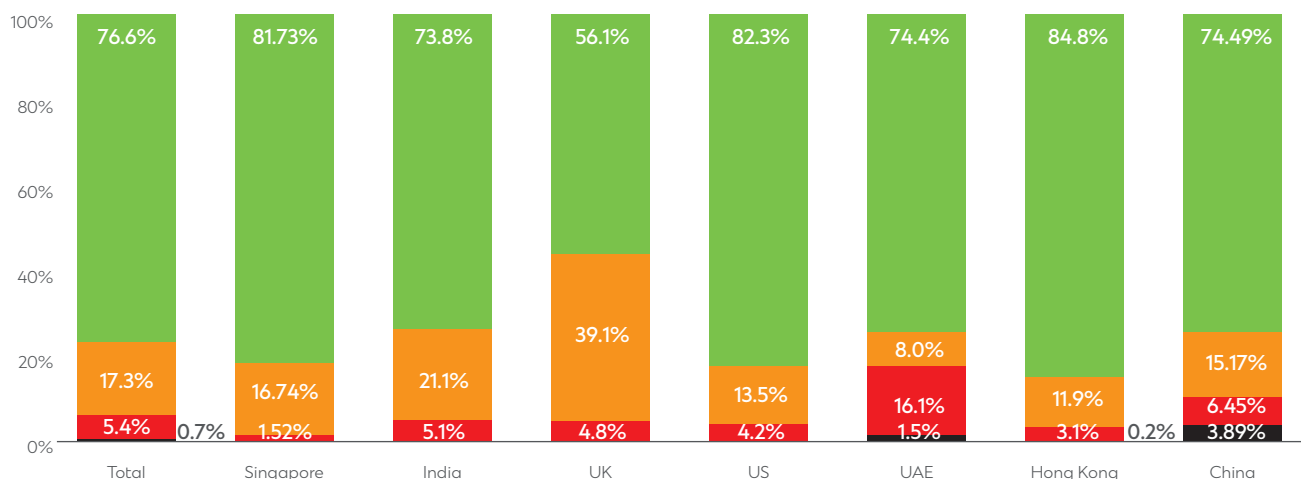
4. Portfolio management and monitoring

Concentration of black and red graded clients remains within proposed Risk Appetite levels at 6 per cent within our key markets; some of the more developed markets have the highest proportion of green clients, which reflects the higher level of climate risk disclosures and governance established by companies in this region. Amongst our key markets, the UAE currently has the highest proportion of red and black clients, driven by a combination of clients that had fewer disclosures and high transition risk, particularly fossil fuel led utility providers.

During 2023 we have embedded qualitative and quantitative climate considerations into the Group's credit underwriting principles for O&G, Mining, Shipping and CRE sectors for which we have industry specific origination teams. This included introducing portfolio level caps for black and red rated clients and lower preference for emission intensive transactions. It is important to note that underlying principles vary depending on the sector, to help steer the portfolio in the desired direction over the medium term, and also consider the Group's 2030 financed emission targets. We have also initiated work to assess risks to underlying collateral from physical and transition risk specifically for our CRE and Shipping portfolios.

A key strategic focus area going forward is to embed climate risk and net zero targets into business and credit decisions. To enable this, we have established a Net Zero Climate Risk Working Forum where discussions on account plans on high climate risk and net zero divergent clients are held.

Portfolio distribution across key markets





5. Controls and assurance

Independent control checks by first line of defence and assurance reviews by second line of defence on integrating climate risk within the credit process are carried out quarterly to improve the quality and effectiveness of assessing climate risk. The results of the assurance testing and steps to address gaps are periodically shared with impacted stakeholders and as part of governance updates to risk committees.

Credibility of transition plans

We aim to actively manage our exposure by shifting to lower emissions-intensive clients and working closely with our existing clients to develop credible transition plans that are consistent with our net zero commitments. To help us identify such clients, we draw on our existing CRQ framework to finalise a methodology to assess the Credibility of Transition Plan (CTP) by analysing client commitments to transition their business to a low carbon economy. We leverage the data captured in the CRQ and assign a credibility rating to the clients' transition plan based on an in-house scoring methodology that draws on the UK Transition Planning Taskforce and Glasgow Financial Alliance for Net Zero guidance on net zero transition plans.

The current methodology will be periodically reviewed as the level of client climate-related disclosure steps up across our footprint, to ensure it remains fit for purpose and in line with industry best practices, stakeholder expectations and regulatory requirements. The CTP has been embedded into the Version 3 CRQ that was implemented in January 2024.

Reputational and Sustainability Risk

Climate risk is considered within the Reputational and Sustainability Risk framework, for our corporate clients, through an assessment of a client's ability to meet their own climate-related commitments, as well as meet the Group's aim to reach net zero GHG emissions by 2050.

We have continued to perform additional client level due diligence for (i) clients covered by the Group's net zero targets for high carbon sectors (O&G, Power, Steel, Aluminium, Cement, Automobiles, Shipping, Aviation and CRE), (ii) clients with a coal nexus² as well as (iii) those that have been assessed at client level as high climate risk. The assessment focuses on three pillars at covering both client and transaction level aspects:

Of the case reviews completed, an increase in Reputational and Sustainability Risk rating was suggested for c.24 per cent of transactions compared to c.17 per cent in 2022. These consisted of companies in Coal Production, O&G, Mining, Steel and Cement sectors, primarily from the South East Asia region, looking to procure coal or other high carbon emitting products for manufacturing, production, or wholesale purposes. In addition, some entities with high temperature alignment scores and no clear transition plan were raised as having additional risk and rating increases recommended.

The above-mentioned due diligence is in addition to management of environmental and social risk arising from the Group's client relationships and transactions. Further information is available in the Sustainability overview on pages 76 to 78 and Sustainability review on pages 125 to 129.

Temperature alignment is one way to consider a company's impact on climate change and an indicator of a client's progress towards a net zero economy. It is calculated based on historic emission intensities and volume of hydrocarbons produced to produce a forward-looking temperature alignment score. We assessed the weighted average temperature alignment (WATA) projected to 2030 of 3,661 corporate client entities (covering c.62 per cent of corporate client portfolio on a net nominal basis) by high carbon sector.

Client Level



Temperature Alignment

Temperature Alignment and Comparison to client peers



Credibility of Transition Plan

Readiness and Robustness of transition strategy from client risk assessments

Transaction Level



Net Zero Emissions Impact

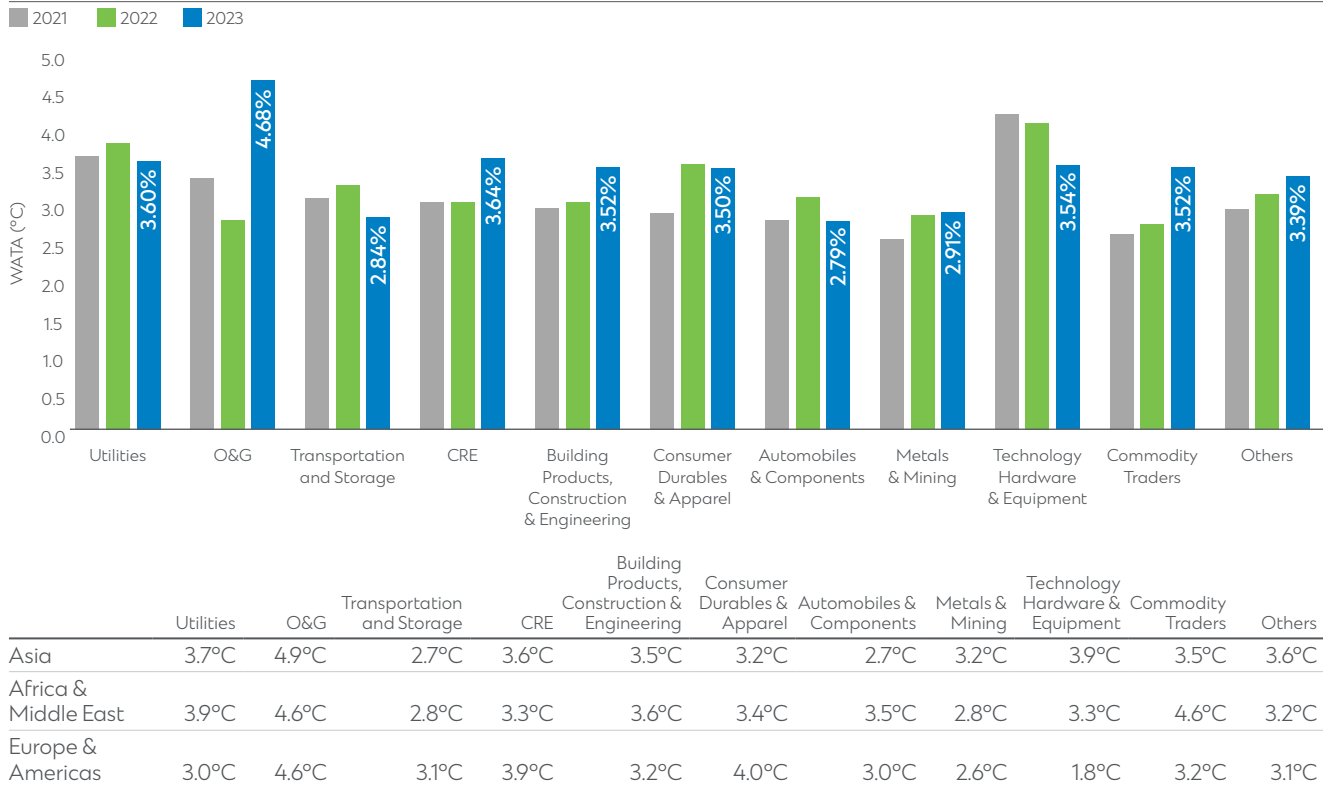
Influence on Net Zero alignment from both internal and regional context

² As defined by the Group's public Position Statement to only provide financial services to clients who by 2030, are less than 5 per cent dependent on thermal coal (based on percentage revenue).

Insights

- Portfolio average temperature alignment is 3.48°C. Compared to other sectors within our portfolio, O&G, CRE, Utilities and Construction have a higher temperature alignment given their dependence on high carbon emitting production.
- Compared to 2022, there was an increase in sector temperature alignment scores across O&G and Construction sectors driven by improvements in both coverage of the corporate clients assessed and emission data coverage for our clients (due to reduced use of proxies).

Weighted average temperature alignment (WATA) by client sectors (as of September 2023)



As part of our 2023 modelling roadmap, we initiated work on developing an in-house methodology to model temperature alignment for priority sectors (i.e. O&G, Steel and Automotive) as well as a sector-agnostic model to cover remaining corporate portfolios. This has helped to reduce reliance on third party modelling capabilities.

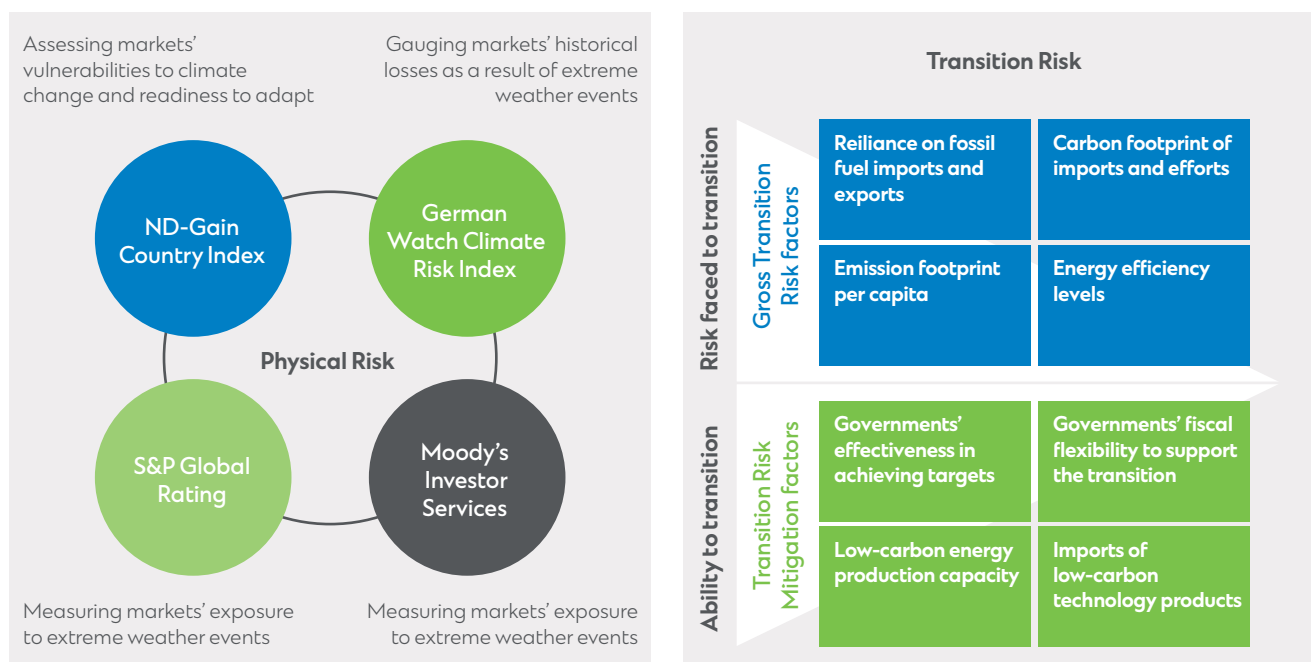
Temperature alignment is an emerging concept, and industry-wide standards on methodology are still evolving. We fully expect our approach to evolve in line with best practice. Client-level emissions are only available for c.55 per cent of corporate clients and sector average proxies are being used for the remainder. Improving such data gaps remains a key priority.

Country Risk

The Group uses a set of physical and transition risk rankings to identify the markets most vulnerable and least ready to adapt and mitigate climate-related physical and transition risks.

- The physical risk rankings are based on a set of publicly available scores such as ND-Gain Country Index and GermanWatch Climate Risk Index, as well as S&P Global Ratings and Moody's Investors Service.
- The transition risk rankings are based on an internally developed methodology which is a combination of climate and macroeconomic drivers.

Physical and Transition Risk rankings methodological deep dives



Based on their aggregated physical and transition risk scores, sovereigns are split into decile-based buckets ranging from 1 (low risk) to 10 (high risk). These rankings are a qualitative input to our internal Country Risk management process spanning annual sovereign credit grades and limits reviews, inputs to climate-related scenario analysis, and Risk Appetite.

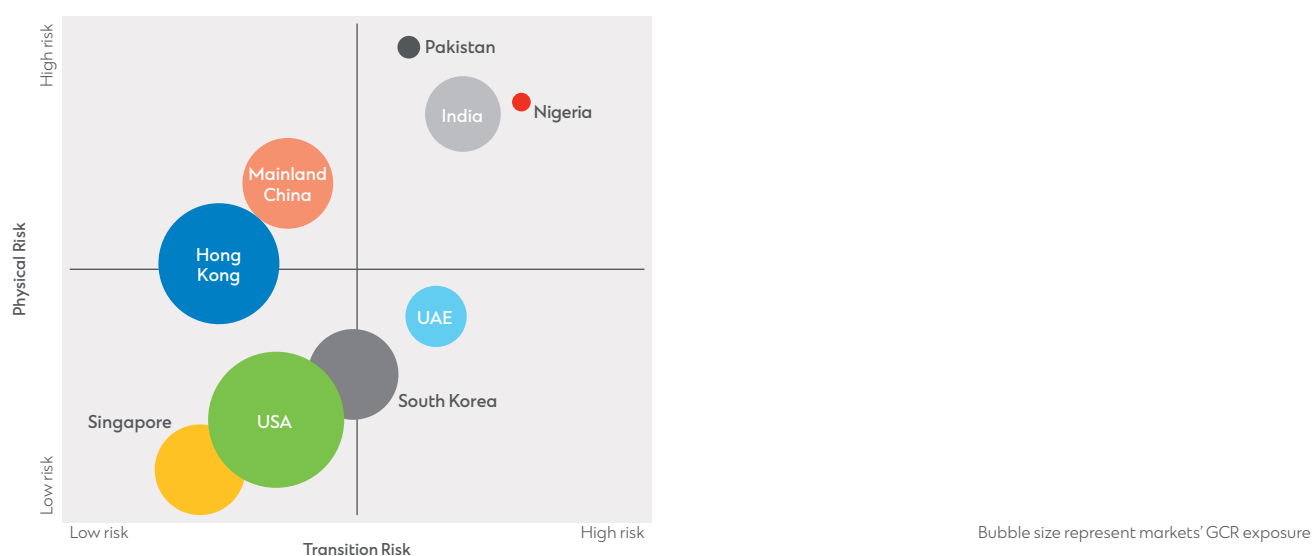
Gross Country Risk (GCR) exposure distribution as of 30 September 2023 across Physical Risk categories

Bucket	1 (Best)	2	3	4	5	6	7	8	9	10 (Worst)
Exposures %	10.5	29.1	20.0	4.4	17.5	8.3	1.9	6.5	0.8	1.1

GCR exposure distribution as of 30 September 2023 across Transition Risk Categories

Bucket	1 (Best)	2	3	4	5	6	7	8	9	10 (Worst)
Exposures %	2.7	14.4	12.0	36.0	18.6	4.3	3.8	7.3	0.7	0.1

Physical and Transition Risk rankings distribution for key markets¹: Key markets' climate risk bucket allocation (as of Sept 2023)



Insights

- For both physical and transition risk, our exposure to high-risk countries (buckets 9 and 10) remains well below Risk Appetite.
- The rankings are largely driven by the level of financial risk countries are exposed to and their ability to absorb these losses. As such, the rankings are largely dependent on countries' development stage, economy-wide diversification, in-country inequalities and gross exposure to physical and transition risk shocks.
- Additionally, we keep close track of transition risk events such as the establishment of the EU's Carbon Border Adjustment Mechanism (EU CBAM) and its potential impact on our key portfolios. Other markets with internal carbon pricing mechanisms (such as Singapore, South Korea, South Africa, etc) are also being monitored as part of country risk annual reviews. From a physical risk standpoint, the rise of El Niño season (expected to peak at the beginning of 2024) is likely to exacerbate climate conditions throughout the Group's footprint regions and we continue to monitor these as part of our annual reviews.

Limitations

- The computation inputs are based on latest available data which may be dated. Proxies have been used where data for the sovereign is not available.
- The ranking uses equally spaced decile scores and provides the results in an ordinal manner. While the simplicity helps in adoption and provides the relative position of the sovereigns, other systems may provide more information.

Operational and Technology Risk

Climate risk primarily impacts Operational and Technology risk as it manifests when physical risk disrupts our properties, data centres and third party arrangements. Thus far, our focus has been on physical risks, and we aim to explore transition risk elements in 2024. We continue exploring enhancements to our control framework across impacted areas. Whilst Continuity Plans for third party arrangements have been enhanced to include climate risk related considerations, we are targeting to gather our material vendors' operating site location data to assess their specific physical risk exposures, such that enhanced continuity plans can be developed.

We continue to assess the physical risk vulnerabilities of our own operating locations on a regular basis. Furthermore, we have expanded the assessment of physical risk exposure at onboarding to include data centres.

Assessment of gross Physical Risk at our own operating locations (as of September 2023)

Physical Risk event	Time horizon	Scenario	Asia	AME	E&A	Global
Flood (Acute)	2023	N/A	24%	8%	17%	20%
Wildfire (Acute)			0%	0%	0%	0%
Storm (Acute)			18%	1%	6%	14%
Sea-level rise (Chronic)	2100	RCP 8.5	1%	5%	0%	2%
Heat Stress (Chronic)	2050	RCP 8.5	24%	35%	0%	26%
Number of operating locations			714	239	35	988

Insights

- From an acute risk perspective, 20 per cent of the Group's locations globally are subjected to flood risk, 14 per cent with storm risk and none at risk from wildfire. Given our footprint, a higher proportion (24 per cent for flood, 18 per cent for storm) of the Group's locations in Asia are subject to acute risks and 17 per cent of locations in Europe and Americas are subjected to flood risks.
- In the locations where weather events such as storms or cyclones are frequent, the buildings are built in consideration of these risks in line with regional standards.
- From a chronic risk perspective, under RCP 8.5 for heat stress is at 26 per cent (35 per cent for AME, 24 per cent for Asia). Exposure to sea level rise remains below 5 per cent.
- A broad range of mitigation options are considered, such as property insurance, operating a diversified location strategy, splitting delivery and therefore reducing concentration risk.

Traded Risk

We manage the climate risk of traded risk exposures through the stress-testing framework. Climate risks are incorporated in the scenarios monitored against the traded risk stress Risk Appetite, covering all fair value exposures in the trading and banking books.

Climate-related stress scenarios are designed to include transition risk effects from climate change policies and shocks to markets due to supply and demand disruption from physical climate events. Three scenarios are currently in place: two physical and one transitional. The assumptions and results are subject to internal governance.

Our climate risk management for traded risk exposures is evolving and we are working closely with industry bodies and academics to better assess and monitor climate-related risks and opportunities.

Treasury Risk

From a capital perspective, climate risk considerations have been part of our Internal Capital Adequacy Assessment Process submissions since 2019. Our approach for assessing climate risk impact on capital adequacy has improved from qualitative judgements to quantitative simulations with the availability of tools and greater understanding of our portfolio.

As understanding of climate risk management and potential forward-looking scenarios develop, our approach and assessment will evolve, including using a wide range of scenario outcomes to determine any potential capital-related impact in the future.

From a liquidity risk perspective, we have started monitoring climate risk-related vulnerabilities and readiness of the top corporate client liquidity portfolios, leveraging the client outreach and data gathering exercise being undertaken on the asset side. The most recent exposure concentration in the 'high transition risk and low readiness' bucket is broadly comparable to what we see for our top corporate client exposures on the asset side. Liquidity providers with high transition risk and low readiness are from commodity traders and utilities sectors. The results of the analysis have been considered as part of our internal liquidity adequacy assessment process and we continue to monitor the profile.

Model Risk

Throughout 2023, we have been building our internal climate risk modelling capabilities to assess impacts from climate risk, through collaboration with various external vendors. These models have been independently validated by the second line of defence and approved by the Credit Model Assessment Committee, and were used to estimate climate impact on ECL for IFRS9. The amount of incremental ECL as a result of climate risk was below the Group's materiality threshold and as such was not included as a quantitative post model adjustment. In future, the models will also be used for stress testing. The development of internal climate risk models has helped us to reduce reliance on external vendor models, and we will continue to enhance our internal capabilities by extending model coverage (e.g. to develop models to cover more portfolios, or to develop more granular sector-specific models) and incorporating model enhancements recommended by internal and external stakeholders.

For the corporate portfolios, we developed transition risk models that adopt the microeconomic theory of demand and supply to determine price changes based on sustainability transition costs in different sectors of the economy. The model accounts for several key market dynamics, such as sensitivities with respect to price, revenue, cost, and profit due to changes in carbon prices. The model is calibrated at portfolio level, covering priority sectors that are carbon-intensive and a generic model that covers non-priority sectors.

For retail mortgages, an asset haircut model was developed to assess physical climate risk impact by estimating the devaluation of property values along different climate pathways. The model takes input from the current and prospective risk profile of a property, which captures the evolution of various hazard types, including river floods and storms.

For sovereigns, the climate adjusted Probability of Defaults is derived by considering benchmarks from the Cambridge Paper (Klusak et al., 2021) and incorporating the country risk rankings currently used by the Group, which covers both physical and transition risks.

Apart from models that are used to estimate ECL, we have also developed temperature alignment models that assess implied temperature rise scores for corporate counterparties. The model methodology is forward-looking and compares the forecasted emissions of a counterparty to relevant benchmark scenarios. The cumulative difference in emissions between the counterparty's forecast and the benchmark scenarios is converted into a temperature score. The output from temperature alignment models will support internal climate risk management processes. We have also partnered with external vendors for a scenario expansion model which has been used to for NGFS Version 3 scenarios.

Assessing the resilience of our strategy using scenario analysis

To assess climate-related risks and opportunities in the short, medium, and long-term we use scenario analysis to consider how risks and opportunities may evolve under different situations. Over two years, we have progressively strengthened our scenario analysis capabilities and developed our infrastructure and capabilities to incorporate climate risk into data, modelling, and analysis. We have expanded our portfolio coverage, built bespoke scenarios, and participated in several regulatory climate stress tests in 2023, including the Hong Kong Monetary Authority (HKMA) and the Central Bank United Arab Emirates stress tests.

Scenarios used at Standard Chartered

The table below summarises the climate risk scenarios used internally by the Group across risk types:

Risk Types	Scenario Family	Number of Scenarios	Risk Measure	Refer Page no
Credit Risk – Corporate, Commercial and Institutional Banking (CCIB)	Network for Greening the Financial System (NGFS) Version 3	3	ECL, RWA	311
Credit Risk – CCIB	Bespoke (Tail and Base)	3	ECL, RWA	311
Credit Risk – Consumer, Private and Business Banking (CPBB)	Intergovernmental Panel on Climate Change's (IPCC) Representative concentration pathways (RCP) scenarios	3	Exposure Concentration to sea level rise risk	298
Operational and Technology Risk	IPCC's RCP 8.5 scenario	1	Physical Risk Concentration for sea level rise risk and heat stress to our own operations	308
Reputational and Sustainability Risk	NGFS Version 3	2	Weighted Average Temperature Alignment	305
Traded Risk	Bespoke (two Physical scenarios and one Transition scenario)	3	Stressed Loss	308

In addition to the internal scenarios, Standard Chartered Bank (Hong Kong) Limited is responding to two HKMA mandated climate risk stress tests to (i) assess the impact on capital for short tenor scenarios across credit, traded and operational risks and (ii) a 30-year scenario based on NGFS Version 3 scenarios. The hybrid bespoke short-term five-year scenario has elements of a macro recession, transition, and physical risk events such as typhoons in Hong Kong, heatwave, and precipitation in China. We have used our existing stress testing models to model the credit risk impact with overlays provided for physical and transition risk using data on client transition mitigation readiness, climate adjusted asset level haircuts, assumptions on stranded assets for consumer mortgages and other available data. For Operational and Technology risk, we are assessing the impact of damage to our premises and business disruption.

Transition (T) and Physical (P) Risk scenarios

We adapted the following scenarios for our CCIB portfolio:

Scenario Family	Scenario Name	Key Features
NGFS v3	Net Zero 2050 (T)	Global warming limited to 1.5°C through stringent climate policies and innovation Global net zero CO ₂ emissions around 2050
	Delayed Transition (T)	Strong policies will be needed to limit warming to below 2°C Annual emissions do not decrease until 2030
	Current Policies (P+T)	No additional policies beyond those currently implemented, along with slow technology change Global temperature rises over 3 degrees by 2100
Bespoke	In-house Base Case (P+T)	Credibility assessment of countries' current sector targets in the short-term (2030) and a durability assessment of reduction commitments in the long-term (2050) Delayed transition to a low-carbon economy and a lack of early climate action resulting in a 2.5°C temperature rise by 2100
	'Green Trade War' Tail (T)	Impact to global trade due to introduction of Carbon Border Adjustment Mechanism leading to trade war escalation Explores risks which are not addressed by NGFS scenarios and may emerge over a short-term horizon
	'Migration' Tail (P)	Increasing severe acute weather events globally impact global food prices and drive migration and displacement

The scenarios used for CCIB clients are characterised by different levels of physical and transition risk, driven by various features in each scenario.

Carbon price: increase in carbon price puts additional cost pressure on clients, squeezes the profit margin, and thus helps to determine level of potential credit losses.

Oil price: increase (or lack thereof) in oil price impacts on clients' revenues and profitability and thus helps to determine level of potential credit losses.

Features of the NGFS and bespoke scenarios used in a Standard Chartered scenario analysis

Feature	Year	NGFS v3			Bespoke Scenarios	
		Net Zero 2050	Delayed Transition	Current policies	Tail Risk (Physical)	Tail Risk (Transition)
Temperature rise	2050	1.4°C	1.6°C	3°C+	NA	NA
Carbon price (\$2015/tCO ₂)	2030	124	6	6	61	66
	2050	487	416	7	70	90
Oil price (\$2015/boe)	2030	84	94	94	50	50
	2050	107	118	125	41	41
Gas price change (vs 2020, %)	2030	56%	43%	43%	15%	15%
	2050	52%	54%	80%	-14%	-14%
Power demand change (vs 2020, %)	2030	27%	35%	35%	20%	20%
	2050	120%	129%	106%	75%	75%
GDP baseline change (vs 2020, %)	2030	34%	36%	36%	-4%	-5%
	2050	111%	110%	118%	-2%	-5%

Physical risk scenarios

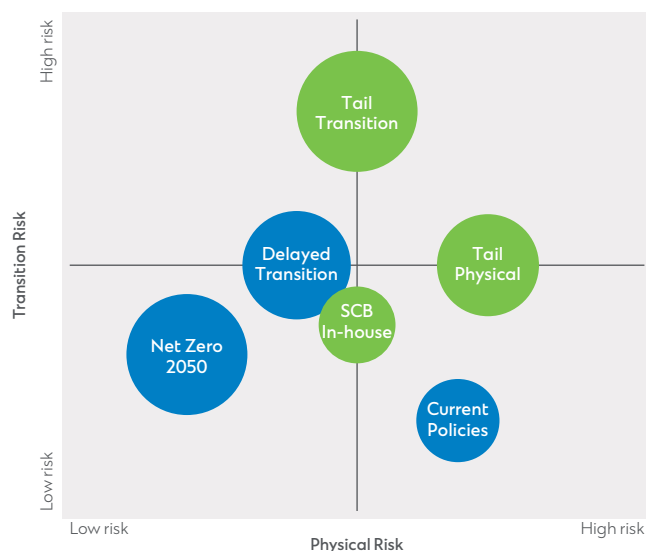
We adapted the following scenarios for our CPBB portfolio. The table below summarises acute and chronic hazards outputs we currently use in the Munich Re's Location Risk Intelligence Platform tool.

Scenario Family	Scenario Name	Key Features
IPCC (2050, 2100)	RCP 2.6 (P)	Pathways of Greenhouse gas (GHG) emissions and atmospheric concentrations, air pollutant emissions and land use to project their consequences for the climate system Current and Projected Hazard scores from Munich Re model: <ul style="list-style-type: none"> • Tropical cyclone zones • River flood zones • Sea level rise zones • Heat stress index based on range of high-temperature indicators • Precipitation stress index based on heavy- precipitation indicators • Climatological index for wildfire hazard • Drought stress index based on Standardised Precipitation- Evapotranspiration Index
	RCP 4.5 (P)	
	RCP 8.5 (P)	

Scenario analysis results for CCIB

We assessed the impact of climate-related risks on our corporate, sovereign, and financial institutions clients under different climate scenarios. This assessment, across the NGFS and bespoke scenarios, covered approximately 95 per cent of our CCIB portfolio for these clients, primarily reflective of the gross transition risks. While client-level transition plans were not factored into the modelling, they were referenced to draw additional insights for priority sectors.

Scenarios used in Standard Chartered Scenario Analysis¹: Loan impairment for corporate portfolio

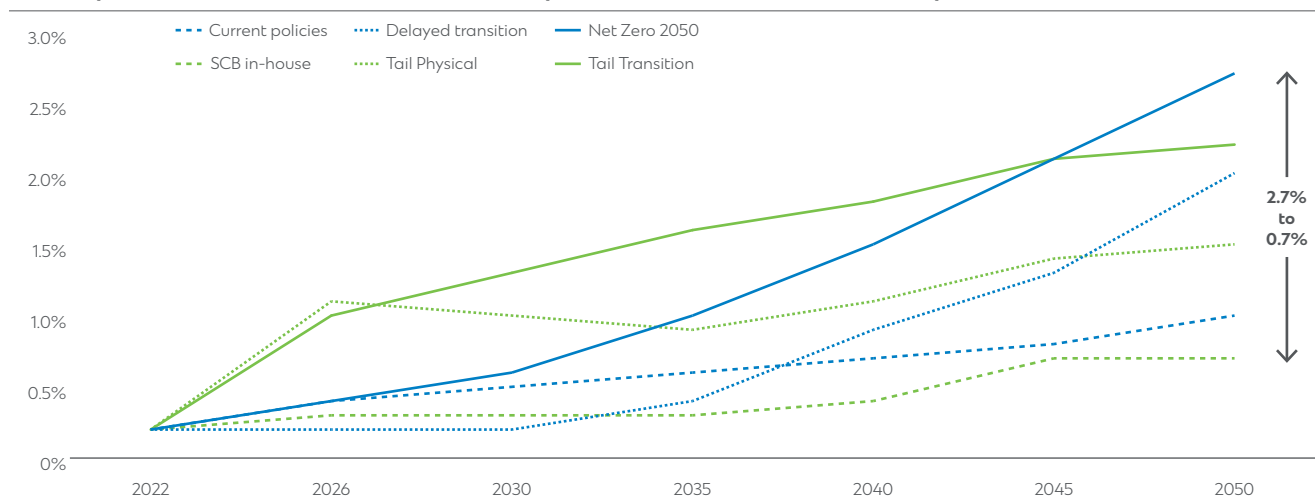


¹ The size of the bubble is indicative of the gross expected losses assessed for 94% of our corporate portfolio

The loan impairment (LI) intensity which measures the level of gross ECL against the exposure at default (EAD) enables us to assess the relative size of our exposure subject to potential losses from climate risks. As the graph below illustrates, LI intensities do not go beyond 3 per cent during the forecast horizon for the climate scenarios considered in our scenario analysis. We expect our LI intensity to rise the most in the NGFS Net Zero 2050 scenario. This is reflective of the high transition risks noted by higher carbon prices, coupled with the needs for greater investment to move to a low carbon economy. The NGFS Delayed Transition scenario also projects high LI intensity reflecting that such delayed transition will be equally disruptive due to lower levels of innovations that limits the ability to decarbonise effectively, and rising carbon prices that squeeze profit margins. Relatively lower LI intensity observed in the NGFS Current Policies scenario reflects the nascent modelling capabilities on assessing the physical risk impact to client asset locations and second-order impacts, such as that on the supply chain.

Among the bespoke scenarios, we expect our LI intensity to rise the most in the tail transition risk scenario. This is reflective of the potential risks to the global economy and subsequent increase in credit losses that may manifest due to the climate subsidy competition and introduction of carbon border adjustment mechanism. Overall, we believe that the level of potential credit losses can be mitigated by continuing to take necessary actions which the Group is already doing across sectors, engaging with our clients on this topic and supporting them in enhancing their climate transition plans.

Loan Impairment intensities for the NGFS and bespoke scenarios (December 2022 snapshot)



For corporate clients, we focused on the below sectors that have been identified as more vulnerable to potential climate impacts. As of December 2022, these sectors represented 55 per cent of our corporate portfolio.

Loan Impairment intensities for key corporate sectors for the NGFS and bespoke scenarios

Long Term - 2050	EAD	NGFS Net Zero 2050	NGFS Delayed Transition	NGFS Current policies	Bespoke Baseline	Bespoke Tail Transition Risk	Bespoke Tail Physical Risk
Automobiles & Components	4%	Medium	Medium	Low	Low	Medium	Medium
Construction	7%	Medium	Medium	Low	Medium	Medium	Medium
Consumer Durables & Apparel	6%	Medium	Medium	Low	Low	Medium	Medium
CRE	8%	Low	Low	Low	Low	Medium	Low
Metal & Mining	5%	Medium	Medium	Low	Low	Medium	Low
O&G	11%	High	High	Low	Medium	High	Medium
Telecomms	2%	Medium	Medium	Low	Low	Low	Low
Transportation	9%	High	Medium	Medium	Medium	High	Medium
Utilities	3%	Medium	Low	Low	Low	Medium	Low
Total portfolio	100%	Medium	Medium	Low	Low	Medium	Medium

As observed in the table above, O&G and transportation sectors are most impacted by a higher LI intensity level across the scenarios. Higher carbon prices, decrease in O&G demand characterised in the NGFS Net Zero 2050 and NGFS Delayed Transition scenario are the main drivers for higher LI levels for these sectors. The extreme physical and transition risk events occurring in the short term and their longer term second order impacts on the global economy result in the higher LI Intensity levels for these sectors in 2050.

The results are used to assess the impact of climate change on our portfolio and provide the management information to monitor stressed LI over the next five-year horizon under plausible and extreme climate scenarios. The results also form part of our Climate Risk Assessments (CRAs). Whilst further enhancements are required to improve our modelling capabilities, the results of scenario analysis have provided further validation to the actions we are taking as a Group in terms of our net zero ambitions and strategy and qualitative management actions in terms of improving the data quality and building in-house modelling expertise. The results have been subject to internal governance, including review and challenge by an expert panel and discussion at the Climate Risk Management Committee and Board Risk Committee.

As more solution providers become available and banks start extensively using them to build internal understanding and capabilities, the transparency and sophistication of modelling methodologies and assumptions will increase. Despite these limitations, our intention is to focus on how climate risk management can inform portfolio management and support opportunity identification with clients on their transition and adaptation pathways. Work is under way to build capability from a people, process, and technology perspective to support stress tests at country level, including in-house training and a plan to implement the in-house models in the Group infrastructure.

Scenario analysis results for CPBB

As part of our internal climate scenario analysis for CPBB, we carried out physical risk assessments for rising sea levels for our top 10 retail mortgage markets. The concentration of the Group's portfolio exposure exposed to extreme rising sea levels risk has been observed to remain stable at 2 per cent in the most extreme RCP 8.5 scenario.

 Further details on the metrics used in the climate scenario analysis for CPBB can be found in [pages 298 and 299](#)

We measured the impact of physical risk on ECL to the retail mortgage portfolio for four key markets (Hong Kong, China, Taiwan and Korea) as part of the HKMA stress test exercise. For our key residential mortgage markets, we have collaborated with our academic partner (Imperial College London) to develop an internal model for revaluating property valuations under different climate scenarios using the forward-looking risk indices from Munich Re. These revaluations are then used to inform haircuts on the property prices and arrive at climate adjusted ECL values for the mortgage book.

Limitations and next steps

Despite the efforts in gathering transition risk data relating to our CPBB credit portfolios, gaps still exist across our footprint markets, and we have not been able to run a forward-looking transition risk scenario for CPBB. We have a plan to address these data gaps by working with third parties, engaging clients to gather more information, and using appropriate proxies for remaining data gaps.

Many of the assumptions and methodologies that underpin the scenario analysis continue to rely significantly on nascent methodologies as well as a dependence on first generation models and data challenges. Many of these limitations are shared across the industry. Given the complexities of climate modelling, it should also be noted that the results do not include the real-world aspects such as the non-linear shifts and complex feedback loops. However, they are intended to provide a strategic direction of the sense of portfolio concentrations subject to potential climate losses.

Enterprise Risk Management Framework

Risk management is at the heart of banking, it is what we do. Managing risk effectively is how we drive commerce and prosperity for our clients and our communities, and it is how we grow sustainably and profitably as an organisation.

Effective risk management is essential in delivering consistent and sustainable performance for all our stakeholders and is a central part of the financial and operational management of the Group. The Group adds value to clients and the communities in which they operate by balancing risk and reward to generate returns for shareholders.

The Enterprise Risk Management Framework (ERMF) enables the Group to manage enterprise-wide risks, with the objective of maximising risk-adjusted returns while remaining within our Risk Appetite (RA). The ERMF is embedded across the Group, including its branches and subsidiaries¹, and is reviewed annually. The latest version is effective from January 2024.

Annual review

In the 2023 review, the concepts of Integrated Risk Types (IRTs) and IRT Owner roles were discontinued. Oversight on IRTs, i.e. Climate Risk, Digital Assets and Third Party Risk, is provided through the Risk Type Frameworks (RTFs) and relevant dedicated policies. The subject matter experts as policy owners for these risks provide overall governance and a holistic view of how risks are monitored and managed across the Principal Risk Types (PRTs).

Risk culture

Risk culture encompasses our general awareness, attitudes, and behaviours towards risk, as well as how risk is managed at enterprise level.

A healthy risk culture is one in which everyone takes personal responsibility to identify and assess, openly discuss, and take prompt action to address existing and emerging risks. We expect those in our control functions to provide oversight and challenge constructively, collaboratively, and in a timely manner. This effort is reflected in our valued behaviours, underpinned by our Code of Conduct and Ethics, and reinforced by how we hire, develop, reward our people, serve our clients, and contribute to communities around the world.

The risks we face constantly evolve, and we must always look for ways to manage them as effectively as possible. While unfavourable outcomes will occur from time to time, a healthy risk culture means that we react quickly and transparently. We can then take the opportunity to learn from our experience and improve our framework and processes.

Strategic risk management

The Group's approach to strategic risk management includes the following:

- Risk identification: impact analyses of risks that arise from the Group's growth plans, strategic initiatives, and business model vulnerabilities are reviewed. This assesses how existing risks have evolved in terms of relative importance or whether new risks have emerged.
- Risk Appetite: impact analysis is performed to assess if strategic initiatives can be achieved within RA and highlight areas where additional RA should be considered.
- Stress testing: the risks highlighted during the strategy review and other risk identification processes are used to develop scenarios for enterprise stress tests. In order to ensure that the Group's Strategy remains within the approved RA, the Group Chief Risk Officer (GCRO) and Group Chief Financial Officer (GCFO) recommend strategic actions based on the stress test results.

Roles and responsibilities

Senior Managers Regime²

Roles and responsibilities under the ERMF are aligned to the objectives of the Senior Managers Regime (SMR). The GCRO is responsible for the overall development and maintenance of the Group's ERMF and for identifying material risks which the Group may be exposed to. The GCRO delegates effective implementation of the RTFs to Risk Framework Owners (RFO) who provide second line of defence oversight for their respective PRTs.

In addition, the GCRO is the senior manager responsible for the development of the Group's Digital Assets Risk Assessment Approach, and management of Climate Risk.

¹ The Group's ERMF and System of Internal Control applies only to wholly controlled subsidiaries of the Group, and not to Associates, Joint Ventures or Structured Entities of the Group.

² Senior managers refers to individuals designated as senior management functions under the FCA and PRA Senior Managers Regime.

The Risk function

The Risk function provides oversight and challenge on the Group's risk management, ensuring that business is conducted in line with regulatory expectations. The GCRO directly manages the Risk function, which is independent from the origination, trading, and sales functions of the businesses. The Risk function is responsible for:

- Determining the RA for approval by Group's Management Team (GMT) and the Board.
- Maintaining the ERMF, ensuring that it remains relevant and appropriate to the Group's business activities, and is effectively communicated and implemented across the Group.
- Ensuring that risks are properly assessed, risk and return decisions are transparent and risks are controlled in accordance with the Group's standards and RA.
- Overseeing and challenging the management of PRTs under the ERMF.
- Ensuring that the necessary balance in making risk and return decisions is not compromised by short-term pressures to generate revenues through the independence of the Risk function.

In addition, the Risk function provides specialist capabilities relevant to risk management processes in the broader organisation.

The Risk function supports the Group's strategy by building a sustainable ERMF that places regulatory and compliance standards, together with culture of appropriate conduct, at the forefront of the Group's agenda.

Our Conduct, Financial Crime and Compliance (CFCC) function works alongside the Risk function within the ERMF to deliver a unified second line of defence.

Three lines of defence model

The Group applies a three line of defence model to its day-to-day activities for effective risk management, and to reinforce a strong governance and control environment. Typically:

- The businesses and functions engaged in or supporting revenue generating activities that own and manage the risks constitute the first line of defence.
- The control functions, independent of the first line of defence, that provide oversight and challenge of risk management activities act as the second line of defence.
- Internal Audit acts as the third line of defence providing independent assurance on the effectiveness of controls supporting the activities of the first and second line of defence functions.

Risk Appetite and profile

The Group recognises the following constraints which determine the risks that we are willing to take in pursuit of our strategy and the development of a sustainable business:

- Risk capacity is the maximum level of risk the Group can assume, given its current capabilities and resources, before breaching constraints determined by capital and liquidity requirements or the internal operational environment, or otherwise failing to meet the expectations of regulator and law enforcement agencies.
- RA is defined by the Group and approved by the Board. It is the boundary for the risk that the Group is willing to undertake to achieve its strategic objectives and Corporate Plan.

The Board is responsible for approving the RA Statements, which are underpinned by a set of financial and operational control parameters known as RA metrics and their associated thresholds. These directly constrain the aggregate risk exposures that can be taken across the Group.

The Group RA is reviewed at least annually to ensure that it is fit for purpose and aligned with strategy, with focus given to new or emerging risks.

Risk Appetite Framework

The Group RA is defined in accordance with risk management principles that inform our overall approach to risk management and our risk culture. We set RA to enable us to grow sustainably whilst managing our risks, giving confidence to our stakeholders.

The Group RA is supplemented by risk control tools such as granular-level limits, policies, standards, and other operational control parameters that are used to maintain the Group's risk profile within approved RA.

Risk Appetite Statement

The Group will not compromise compliance with its Risk Appetite in order to pursue revenue growth or higher returns.

See Table 1 for the set of RA statements.

Risk identification and assessment

Identification and assessment of potentially adverse risk events is an essential first step in managing the risks of any business or activity. To ensure consistency in communication, we use PRTs to classify our risk exposures.

We also recognise the need to maintain a holistic perspective since:

- a single transaction or activity may give rise to multiple types of risk exposure;
- risk concentrations may arise from multiple exposures that are closely correlated; and
- a given risk exposure may change its form from one risk type to another.

There are also sources of risk that arise beyond our own operations, such as the Group's dependency on suppliers for the provision of services and technology.

As the Group remains accountable for risks arising from the actions of such third parties, failure to adequately monitor and manage these relationships could materially impact the Group's ability to operate.

The Group maintains a dynamic risk-scanning process with inputs on the internal and external risk environment, as well as potential threats and opportunities from the business and client perspectives. The Group maintains a taxonomy of the PRTs, and risk sub-types; as well as the Topical and Emerging Risks (TERs) inventory that includes near-term as well as longer-term uncertainties. Risk assessments of planned growth and strategic initiatives against the Group's RA is undertaken annually.

The GCRO and the Group Risk Committee (GRC) regularly review reports on the risk profile for the PRTs, adherence to Group RA and the Group risk inventory, including TERs. They use this information to escalate material developments and make recommendations to the Board annually on any potential changes to our Corporate Plan.

Stress testing

The objective of stress testing is to support the Group in assessing that it:

- does not have a portfolio with excessive risk concentration that could produce unacceptably high losses under severe but plausible scenarios;
- has sufficient financial resources to withstand severe but plausible scenarios;
- has the financial flexibility to respond to extreme but plausible scenarios;
- understands key business model risks and considers what kind of event might crystallise those risks – even if extreme and with a low likelihood of occurring;
- Identify, as required, actions to mitigate the likelihood or impact of those events;
- considers how the outcome of plausible stress events, including TERs, may impact availability of liquidity and regulatory capital; and
- has set RA metrics at appropriate levels.

Enterprise stress tests incorporate Capital and Liquidity Adequacy Stress Tests, including recovery and resolution, as well as reverse stress tests.

Stress tests are performed at the Group, country, business, and portfolio level under a wide range of risks and at varying degrees of severity. Unless specifically set by the regulator, scenario design is a bespoke process that aims to explore risks that can adversely impact the Group.

The Board delegates approval of the Bank of England (BoE) stress test submissions to the Board Risk Committee (BRC), which reviews the recommendations from the GRC. Based on the stress test results, the GCFO and GCRO can recommend strategic actions to the Board to ensure that the Group's strategy remains within RA.

In addition, analysis is run at PRT level to assess specific risks and concentrations that the Group may be exposed to. These include qualitative assessments such as stressing of credit sectors or portfolios, measures such as Value at Risk (VaR) and multi-factor scenarios in Traded Risk and internal stressed liquidity metrics. Non-financial risk types are also stressed to assess the necessary capital requirements under the Operational & Technology RTE.

The Group has also undertaken a number of Climate Risk stress tests, both those mandated by regulators as well as management scenarios.

Principal Risk Types

PRTs are those risks that are inherent in our strategy and business model and have been formally defined in the Group's ERMF. These risks are managed through distinct RTFs which are approved by the GCRO.

The PRTs and associated RA Statements are reviewed annually.

The table below shows the Group's current PRTs.

Table 1: Principal Risk Types Definition and RA Statement

Principal Risk Types	Definition	Risk Appetite Statement
Credit Risk	Potential for loss due to failure of a counterparty to meet its agreed obligations to pay the Group.	The Group manages its credit exposures following the principle of diversification across products, geographies, client segments and industry sectors.
Traded Risk	Potential for loss resulting from activities undertaken by the Group in financial markets.	The Group should control its financial markets and activities to ensure that market and counterparty credit risk losses do not cause material damage to the Group's franchise.
Treasury Risk	Potential for insufficient capital, liquidity, or funding to support our operations, the risk of reductions in earnings or value from movements in interest rates impacting banking book items and the potential for losses from a shortfall in the Group's pension plans.	The Group should maintain sufficient capital, liquidity and funding to support its operations, and an interest rate profile ensuring that the reductions in earnings or value from movements in interest rates impacting banking book items does not cause material damage to the Group's franchise. In addition, the Group should ensure its pension plans are adequately funded.
Operational and Technology Risk	Potential for loss resulting from inadequate or failed internal processes, technology events, human error, or from the impact of external events (including legal risks).	The Group aims to control operational and technology risks to ensure that operational losses (financial or reputational), including any related to conduct of business matters, do not cause material damage to the Group's franchise.
Financial Crime Risk¹	Potential for legal or regulatory penalties, material financial loss or reputational damage resulting from the failure to comply with applicable laws and regulations relating to international sanctions, anti-money laundering and anti-bribery and corruption, and fraud.	The Group has no appetite for breaches in laws and regulations related to Financial Crime, recognising that whilst incidents are unwanted, they cannot be entirely avoided.
Compliance Risk	Potential for penalties or loss to the Group or for an adverse impact to our clients, stakeholders or to the integrity of the markets we operate in through a failure on our part to comply with laws, or regulations.	The Group has no appetite for breaches in laws and regulations related to regulatory non-compliance; recognising that whilst incidents are unwanted, they cannot be entirely avoided.
Information and Cyber Security Risk	Risk to the Group's assets, operations, and individuals due to the potential for unauthorised access, use, disclosure, disruption, modification, or destruction of information assets and/or information systems.	The Group aims to mitigate and control ICS risks to ensure that incidents do not cause the Bank material harm, business disruption, financial loss or reputational damage – recognising that whilst incidents are unwanted, they cannot be entirely avoided.
Reputational and Sustainability Risk	Potential for damage to the franchise (such as loss of trust, earnings or market capitalisation), because of stakeholders taking a negative view of the Group through actual or perceived actions or inactions, including a failure to uphold responsible business conduct as we strive to do no significant environmental and social harm through our client, third party relationships, or our own operations.	The Group aims to protect the franchise from material damage to its reputation by ensuring that any business activity is satisfactorily assessed and managed with the appropriate level of management and governance oversight. This includes a potential failure to uphold responsible business conduct in striving to do no significant environmental and social harm.
Model Risk	Potential loss that may occur because of decisions or the risk of mis-estimation that could be principally based on the output of models, due to errors in the development, implementation, or use of such models.	The Group has no appetite for material adverse implications arising from misuse of models or errors in the development or implementation of models; whilst accepting some model uncertainty.

¹ Fraud forms part of the Financial Crime RA Statement but in line with market practice does not apply a zero-tolerance approach

In addition to the PRTs, there is a RA statement for Climate Risk: "The Group aims to measure and manage financial and non-financial risks arising from climate change, and reduce emissions related to our own activities and those related to the financing of clients in alignment with the Paris Agreement."

ERMF effectiveness reviews

The GCRO is responsible for annually affirming the effectiveness of the ERMF to the BRC via an effectiveness review. This review uses evidence-based self-assessments for all the RTFs and relevant policies. A top-down review and challenge of the results is conducted by the GCRO with all RFOs and an opinion on the internal control environment is provided by Group Internal Audit.

The ERMF effectiveness review enables measurement of year-on-year progress. The key outcomes of the 2023 review are:

- Continued focus on embedding the ERMF across the organisation.
- Financial risks continue to be more effectively managed and the Group continues to make good progress in embedding non-financial risk management.
- Other aspects of the ERMF, including the key risk committees and key supporting standards, are established.
- Country-led self-assessments ensure adherence to the ERMF. Country and regional risk committees continue to play an active role in managing and overseeing material issues arising in countries.

Ongoing effectiveness reviews allow for a structured approach to identify improvement opportunities and build plans to address them.

In 2024, the Group aims to further strengthen its risk management practices by improving the management of non-financial risks within its businesses, functions and across our footprint.

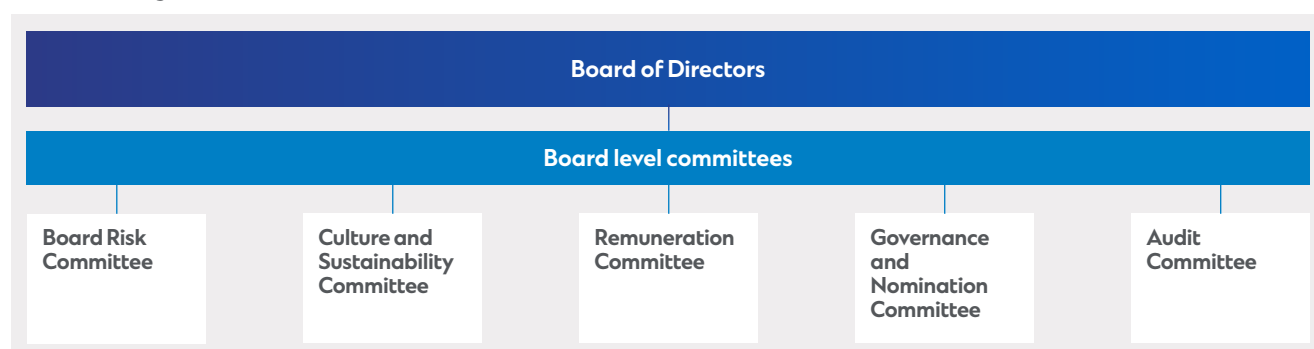
Executive and Board risk oversight

Overview

The Board has ultimate responsibility for risk management and is supported by five core Board level committees. The Board approves the ERMF based on the recommendation from the BRC, which also recommends the Group RA Statement for all PRTs. In addition, the Culture and Sustainability Committee oversees the Group's culture and key sustainability priorities.

Board and Executive level risk committee governance structure

The Committee governance structure below presents the view as of 2023.



Group Risk Committee

The GRC, which derives its authority from the GCRO, is responsible for ensuring the effective management of risk throughout the Group in support of the Group's strategy. The GCRO chairs the GRC, whose members are drawn from the Group Management Team. The GRC oversees the effective implementation of the ERMF for the Group, including the delegation of any part of its authorities to appropriate individuals or sub-committees.

Group Risk Committee sub-committees

- The **Group Non-Financial Risk Committee (GNFRC)**, chaired by the Global Head, Risk, Functions and Operational Risk, governs the non-financial risks throughout the Group, in support of the ERMF and the Group's strategy. The GNFRC also reviews the adequacy of the internal control system across in-scope PRTs.
- The **Group Financial Crime Risk Committee (GFCRC)**, chaired by the Group Head, CFCC, governs the Financial Crime Risk Type (excluding Fraud Risk and Secondary Reputational Risk arising from Financial Crime Risk). The GFCRC ensures that the Financial Crime Risk profile is managed within RA and policies.

- The **Group Responsibility and Reputational Risk Committee (GRRRC)**, chaired by the Group Head, CFCC, ensures the effective management of Reputational and Sustainability Risk across the Group. This includes providing oversight of matters arising from clients, products, transactions and strategic coverage-related decisions and matters escalated by the respective RFOs.
- The **International Financial Reporting Standards (IFRS) 9 Impairment Committee**, co-chaired by the Global Head Enterprise Risk Management (ERM) and Group Head, Central Finance, ensures the effective management of Expected Credit Loss (ECL) computations, as well as stage allocation of financial assets for quarterly financial reporting.
- The **Model Risk Committee**, chaired by the Global Head, ERM, ensures the effective measurement and management of Model Risk in line with internal policies and RA.
- The **Corporate, Commercial and Institutional Banking (CCIB) Risk Committee**, chaired by the Chief Risk Officer (CRO), CCIB and Europe and Americas, ensures the effective management of risk throughout CCIB in support of the Group's strategy.
- The **Consumer, Private and Business Banking (CPBB) Risk Committee**, chaired by the CRO, CPBB, ensures the effective management of risk throughout CPBB in support of the Group's strategy.
- The **Asia Risk Committee** and the **Africa and Middle East Risk Committee** are chaired by the CRO for the respective region. These committees ensure the effective management of risk in the regions in support of the Group's strategy.
- The **Investment Committee**, chaired by representatives from the Risk function (CRO, Stressed Asset Group (SAG), Chief Credit Officer), ensures the optimised wind-down of the Group's existing direct investment activities in equities, quasi-equities (excluding mezzanine), funds and other alternative investments (excluding debt/debt-like instruments). This includes equity or quasi-equity stakes obtained as a result of restructuring of distressed debt, non-core equities and limited partner investments in funds linked to CCIB and managed by the Credit and Portfolio Management.
- The **SC Ventures (SCV) Risk Committee**, chaired by the CRO, SCV, receives authority directly from the GCRO and oversees the effective management of risk throughout SCV and the portfolio of subsidiaries operating under SCV, in support of the Group's strategy.
- The **Climate Risk Management Committee (CRMC)**, chaired by the Global Head, ERM, oversees the effective implementation of the Group's Climate Risk Policy and workplan. This includes relevant regulatory requirements and covers Climate Risk related financial and non-financial risks.
- The **Regulatory Interpretation Committee**, co-chaired by the Global Head ERM and Group Head, Central Finance, provides oversight of material regulatory interpretations for the Capital Requirements Regulation (as amended by UK legislation), the Prudential Regulatory Authority (PRA) rulebook and other relevant regulations impacting Group regulatory capital calculations and reporting. The areas and risk types in scope are credit risk, traded risk, operational risk, large exposures, leverage ratio and securitisation.
- The **Digital Assets Risk Committee**, chaired by the Global Head, ERM, oversees effective risk management of the Digital Assets (DA) Risk profile of the Group. This includes providing oversight and subject matter expertise of DA Risk matters arising from DA-related activities across the PRTs.

Group Asset and Liability Committee

The Group Asset and Liability Committee (GALCO) is chaired by the GCFO. Its members are drawn principally from the Management Team. GALCO is responsible for determining the Group's balance sheet strategy and for ensuring that, in executing the Group's strategy, the Group operates within RA and regulatory requirements relating to capital, loss-absorbing capacity, liquidity, leverage, Interest Rate Risk in the Banking Book (IRRBB), Banking Book Basis Risk and Structural Foreign Exchange Risk. It also monitors the structural impact of decisions around sustainable finance, net zero and climate risk. GALCO is also responsible for ensuring that internal and external recovery planning requirements are met.

Principal risks

We manage and control our PRTs through distinct RTFs, policies and RA.

Credit Risk

The Group defines Credit Risk as the potential for loss due to failure of a counterparty to meet its agreed obligations to pay the Group.

Risk Appetite Statement

The Group manages its credit exposures following the principle of diversification across products, geographies, client segments and industry sectors.

Roles and responsibilities

The Credit RTF for the Group are set and owned by the CROs for the respective business segments.

The Credit Risk control function is the second line of defence responsible for independent challenge, monitoring and oversight of the Credit Risk management practices of the first line of defence. In addition, they ensure that credit risks are properly assessed and transparent; and that credit decisions are controlled in accordance with the Group's RA, credit policies and standards.

Mitigation

Segment-specific policies for CCIB and CPBB are in place for the management of Credit Risk. The Credit Policy for CCIB Client Coverage sets the principles that must be followed for the end-to-end credit process, including credit initiation, credit grading, credit assessment, product structuring, credit risk mitigation, monitoring and control, and documentation.

The CPBB Credit Risk Management Policy sets the principles for the management of CPBB segments, for end-to-end credit process including credit initiation, credit assessment, documentation and monitoring for lending to these segments.

The Group also sets out standards for the eligibility, enforceability, and effectiveness of Credit Risk mitigation arrangements. Potential credit losses from a given account, client or portfolio are mitigated using a range of tools, such as collateral, netting agreements, credit insurance, credit derivatives and guarantees.

Risk mitigants are also carefully assessed for their market value, legal enforceability, correlation, and counterparty risk of the protection provider.

Collateral is valued prior to drawdown and regularly thereafter as required, to reflect current market conditions, the probability of recovery and the period of time to realise the collateral in the event of liquidation. The Group also seeks to diversify its collateral holdings across asset classes and markets.

Where guarantees, credit insurance, standby letters of credit or credit derivatives are used as Credit Risk mitigation, the creditworthiness of the protection provider is assessed and monitored using the same credit approval process applied to the obligor.

Governance committee oversight

At Board level, the BRC oversees the effective management of Credit Risk. At the executive level, the GRC oversees and appoints sub-committees for the management of all risk types including Credit Risk – in particular the CCIB Risk Committee, CPBB Risk Committee, Asia Risk Committee, and Africa and Middle East Risk Committee. The GRC also receives reports from other key Group Committees such as the Standard Chartered Bank Executive Risk Committee (in relation to Credit Risk).

These committees are responsible for overseeing all risk profiles including Credit Risk of the Group within the respective business areas and regions. Meetings are held regularly, and the committees monitor all material Credit Risk exposures, as well as key internal developments and external trends, ensuring that appropriate action is taken where necessary.

Decision-making authorities and delegation

The Credit RTF is the formal mechanism of delegating Credit Risk authorities cascading from the GCRO, as the Senior Manager of the Credit Risk PRT. The delegation is to individuals such as the business segments' CROs. Further delegation of credit authorities to individual credit officers may be undertaken based on risk-adjusted scales by customer type or portfolio.

Credit Risk authorities are reviewed at least annually to ensure that they remain appropriate. In CCIB Client Coverage, the individuals delegating the Credit Risk authorities perform oversight by reviewing a sample of the limit applications approved by the delegated credit officers periodically. In CPBB, where credit decision systems and tools (e.g. application scorecards) are used for credit decisioning, such risk models are subject to performance monitoring and periodic validation. Where manual or discretionary credit decisions are applied, the individuals delegating the Credit Risk authorities perform periodic quality control assessments and assurance checks.

Monitoring

The Group regularly monitors credit exposures, portfolio performance, external trends and emerging risks that may impact risk management outcomes. Internal risk management reports that are presented to risk committees contain information on key political and economic trends across major portfolios and countries, portfolio delinquency and loan impairment performance.

In CCIB Client Coverage, clients and portfolios are subject to additional review when they display signs of actual or potential weakness; for example, where there is a decline in the client's position within the industry, financial deterioration, a breach of covenants, or non-performance of an obligation within the stipulated period. Such accounts are subject to a dedicated process overseen by the Credit Issues Committee in the relevant countries where client account strategies and credit grades are re-evaluated. In addition, remedial actions, including placing accounts on early alert for increased scrutiny, exposure reduction, security enhancement or exiting the account could be undertaken. Certain accounts could also be transferred into the control management of the SAG, which is our specialist recovery unit for CCIB Client Coverage that operates independently from our main business.

On an annual basis, senior members from Business and Risk participate in a more extensive portfolio review for certain corporate industry groups. In addition to a review of the portfolio information, this enhanced review (known as the industry portfolio review) incorporates industry outlook, key elements of business strategy, RA, credit profile and emerging/horizon risks. A condensed version of these industry portfolio reviews will also be shared with the CCIB Risk Committee.

Any material in-country developments that may impact sovereign ratings are monitored closely by the Country Risk Team. The Country Risk Early Warning system, a triage-based risk identification system, categorises countries based on a forward-looking view of possible downgrades and the potential incremental risk-weighted assets (RWA) impact.

For CPBB, exposures and collateral monitoring are performed at the counterparty and/or portfolio level across different client segments to ensure transactions and portfolio exposures remain within RA. Portfolio delinquency trends are also monitored. Accounts that are past due (or perceived as high risk but not yet past due) are subject to collections or recovery processes managed by a specialist independent function. In some countries, aspects of collections and recovery activities are outsourced. For discretionary lending portfolios, similar processes to those of CCIB client coverage are followed.

In addition, an independent Credit Risk Review team (part of ERM function), performs judgement-based assessments of the Credit Risk profiles at various portfolio levels. They focus on selected countries and segments through deep dives, comparative analysis, and review and challenge of the basis of credit approvals. The review ensures that the evolving Credit Risk profiles of CCIB and CPBB are well managed within RA and policies, through forward-looking mitigating actions where necessary.

Credit rating and measurement

All credit proposals are subject to a robust credit risk assessment. It includes a comprehensive evaluation of the client's credit quality, including willingness, ability, and capacity to repay. The primary lending consideration is based on the client's credit quality and the repayment capacity from operating cashflows for counterparties, and personal income or wealth for individual borrowers. The risk assessment gives due consideration to the client's liquidity and leverage position.

Where applicable, the assessment includes a detailed analysis of the Credit Risk mitigation arrangements to determine the level of reliance on such arrangements as the secondary source of repayment in the event of a significant deterioration in a client's credit quality leading to default. Client income, net worth, and the liquidity of asset by class are considered for overall risk assessment for wealth lending. The availability of Wealth Lending credit limits is subject to the availability of qualified collateral.

Risk measurement plays a central role, along with judgement and experience, in informing risk-taking and portfolio management decisions. We adopt the Advanced Internal Ratings Based (AIRB) approach under the Basel regulatory framework to calculate Credit Risk capital requirements. The Group has also established a global programme to assess capital requirements necessary to be implemented to meet the latest revised Basel III finalisation (referred to as Basel 3.1 or Basel IV) regulations.

A standard alphanumeric Credit Risk grade system is used for CCIB Client Coverage. The numeric grades run from 1 to 14 and some of the grades are further sub-classified. Lower numeric credit grades are indicative of a lower likelihood of default. Credit grades 1 to 12 are assigned to performing customers, while credit grades 13 and 14 are assigned to non-performing or defaulted customers.

CPBB internal ratings-based portfolios use application and behavioural credit scores that are calibrated to generate a probability of default. The Risk Decision Framework uses a credit rating system to define the portfolio/new booking segmentation, shape and decision criteria for the unsecured consumer business segment.

AIRB models cover a substantial majority of our exposures and are used in assessing risks at a customer and portfolio level, setting strategy, and optimising our risk-return decisions. The Model Risk Committee approves material internal ratings-based risk measurement models. Prior to review and approval, all internal ratings based models are validated in detail by an independent model validation team. Reviews are also triggered if the performance of a model deteriorates materially against predetermined thresholds during the ongoing model performance monitoring process, which takes place between the annual validations.

Credit Concentration Risk

Credit Concentration Risk may arise from a single large exposure to a counterparty or a group of connected counterparties, or from multiple exposures across the portfolio that are closely correlated. Large exposure Concentration Risk is managed through concentration limits set for a counterparty or a group of connected counterparties based on control and economic dependence criteria. RA metrics are set at portfolio level and monitored to control concentrations, where appropriate, by industry, products, tenor, collateralisation level, top clients, and exposure to holding companies. Single name credit concentration thresholds are set by client group depending on credit grade, and by customer segment. For concentrations that are material at a Group level, breaches and potential breaches are monitored by the respective governance committees and reported to the GRC and BRC.

Credit impairment

ECL is determined for all financial assets that are classified as amortised cost or fair value through other comprehensive income. ECL is computed as an unbiased, probability-weighted provision determined by evaluating a range of plausible outcomes, the time value of money, and forward-looking information such as critical global or country-specific macroeconomic variables. For more detailed information on macroeconomic data feeding into IFRS 9 ECL calculations, please refer to the Risk profile section (pages 273 to 285).

At the time of origination or purchase of a non-credit impaired financial asset (Stage 1), ECL represents cash shortfalls arising from possible default events up to 12 months into the future from the balance sheet date. ECL continues to be determined on this basis until there is a significant increase in the Credit Risk of the asset (Stage 2), in which case ECL is recognised for default events that may occur over the lifetime of the asset. If there is observed objective evidence of credit impairment or default (Stage 3), ECL continues to be measured on a lifetime basis. To provide the Board with oversight and assurance that the quality of assets originated are aligned to the Group's strategy, there is a RA metric to monitor Stage 1 and Stage 2 ECL from assets originated in the past 12 months.

For CCIB, in line with the regulatory guidelines, Stage 3 ECL is considered when an obligor is more than 90 days past due on any amount payable to the Group, or the obligor(s) has symptoms of unlikelihood to pay its credit obligations in full as they fall due. These credit-impaired accounts are managed by SAG.

In CPBB, loans to individuals and small businesses are considered credit-impaired as soon as any payment of interest or principal is 90 days overdue or they meet other objective evidence of impairment, such as bankruptcy, debt restructuring, fraud, or death. Financial assets are written off, in the amount that is determined to be irrecoverable, when they meet conditions set such that empirical evidence suggests the client is unlikely to meet their contractual obligations, or a loss of principal is reasonably expected.

Estimating the amount and timing of future recoveries involves significant judgement and considers the assessment of matters such as future economic conditions and the value of collateral, for which there may not be a readily accessible market. The total amount of the Group's impairment provision is inherently uncertain, being sensitive to changes in economic and credit conditions across the regions in which the Group operates. For further details on sensitivity analysis of ECL under IFRS 9, please refer to the Risk profile section (pages 273 to 285).

Traded Risk

The Group defines Traded Risk as the potential for loss resulting from activities undertaken by the Group in financial markets.

Risk Appetite Statement

The Group should control its financial markets and activities to ensure that market and counterparty credit risk losses do not cause material damage to the Group's franchise.

Roles and responsibilities

The Traded RTF, which sets the roles and responsibilities in respect of Traded Risk for the Group, is owned by the Global Head, Traded Risk Management (TRM). The business, acting as first line of defence, is responsible for the effective management of risks within the scope of its direct organisational responsibilities set by the Board.

TRM is the second line control function that performs independent challenge, monitoring and oversight of the Traded Risk management practices of the first line of defence, predominantly Financial Markets and Treasury Markets.

Mitigation

The Traded RTF requires that Traded Risk limits be defined at a level appropriate to ensure that the Group remains within RA. All businesses incurring Traded Risk must comply with the Traded RTF. The Traded Risk Policy sets the principles that must be followed for the end-to-end traded risk management process, including limit setting, risk capture and measurement, limit monitoring and escalation, risk mitigation and stress testing. Policies and standards ensure that these Traded Risk limits are implemented. Policies are reviewed and approved by the Global Head, TRM periodically to ensure their ongoing effectiveness.

Governance committee oversight

At Board level, the BRC oversees the effective management of Traded Risk. At the executive level, the GRC delegates responsibilities to the CCIB Risk Committee to oversee the Traded Risk profile of the Group. For subsidiaries, the authority for setting Traded Risk limits is delegated from the local board to the local risk committee, Country CRO and Traded Risk managers. Meetings are held regularly, and the committees monitor all material Traded Risk exposures, as well as key internal developments and external trends, and ensure that appropriate action is taken.

Decision-making authorities and delegation

The Traded RTF is the formal mechanism which delegates Traded Risk authorities cascading from the GCRO, as the Senior Manager of the Traded Risk Type, to the Global Head, TRM who further delegates authorities to named individuals.

Traded Risk authorities are reviewed at least annually to ensure that they remain appropriate and to assess the quality of decisions taken by the authorised person. Key risk-taking decisions are made only by certain individuals with the skills, judgement, and perspective to ensure that the Group's control standards and risk-return objectives are met.

Market Risk

The Group uses a VaR model to measure the risk of losses arising from future potential adverse movements in market rates, prices, and volatilities. VaR is a quantitative measure of Market Risk that applies recent historical market conditions to estimate the potential future loss in market value that will not be exceeded in a set time period at a set statistical confidence level. VaR provides a consistent measure that can be applied across trading businesses and products over time and can be set against actual daily trading profit and loss outcomes.

For day-to-day risk management, VaR is calculated as at the close of business, generally at UK time for expected market movements over one business day and to a confidence level of 97.5 per cent. Intra-day risk levels may vary from those reported at the end of the day.

The Group applies two VaR methodologies:

- Historical simulation: this involves the revaluation of all existing positions to reflect the effect of historically observed changes in Market Risk factors on the valuation of the current portfolio. This approach is applied for general Market Risk factors and the majority of specific (credit spread) risk VaRs.
- Monte Carlo simulation: this methodology is similar to historical simulation but with considerably more input risk factor observations. These are generated by random sampling techniques, but the results retain the essential variability and correlations of historically observed risk factor changes. This approach is applied for some of the specific (credit spread) risk VaRs in relation to idiosyncratic exposures in credit markets.

A one-year historical observation period is applied in both methods.

As an input to regulatory capital, trading book VaR is calculated for expected movements over 10 business days and to a confidence level of 99 per cent. Some types of Market Risk are not captured in the regulatory VaR measure, and these Risks not in VaR are subject to capital add-ons.

An analysis of VaR results in 2023 is available in the Risk profile section (pages 286 to 289).

Counterparty Credit Risk

The Group uses a Potential Future Exposure (PFE) model to measure the credit exposure arising from the positive mark-to-market of traded products and future potential movements in market rates, prices, and volatilities. PFE is a quantitative measure of Counterparty Credit Risk that applies recent historical market conditions to estimate the potential future credit exposure that will not be exceeded in a set time period at a confidence level of 97.5 per cent. PFE is calculated for expected market movements over different time horizons based on the tenor of the transactions.

The Group applies two PFE methodologies: simulation based, which is predominantly used, and an add-on based PFE methodology.

Underwriting

The underwriting of securities and loans is in scope of the RA set by the Group for Traded Risk. Additional limits approved by the GCRO are set on the sectoral concentration, and the maximum holding period. The Underwriting Committee, under the authority of the GCRO, approves individual proposals to underwrite new security issues and loans for our clients.

Monitoring

TRM monitors the overall portfolio risk and ensures that it is within specified limits and therefore RA. Limits are typically reviewed twice a year. Most of the Traded Risk exposures are monitored daily against approved limits. Traded Risk limits apply at all times unless separate intra-day limits have been set. Limit excess approval decisions are based on an assessment of the circumstances driving the excess and of the proposed remediation plan. Limits and excesses can only be approved by a Traded Risk manager with the appropriate delegated authority.

Treasury Risk

The Group defines Treasury Risk as the potential for insufficient capital, liquidity, or funding to support our operations, the risk of reductions in earnings or value from movements in interest rates impacting banking book items and the potential for losses from a shortfall in the Group's pension plans.

Risk Appetite Statement

The Group should maintain sufficient capital, liquidity and funding to support its operations, and an interest rate profile ensuring that the reductions in earnings or value from movements in interest rates impacting banking book items does not cause material damage to the Group's franchise. In addition, the Group should ensure its pension plans are adequately funded.

Roles and responsibilities

The Global Head, ERM is responsible for the RTF for Treasury Risk under the ERMF.

The Group Treasurer is supported by teams in Treasury and Finance to implement the Treasury RTF as the first line of defence and is responsible for managing Treasury Risk.

At Regional and Country level, Chief Executive Officers (CEOs) supported by Regional and Country level Finance and Treasury teams are responsible for managing Treasury Risk as the first line of defence. Regional Treasury CROs and Country CROs for Treasury Risk (except Pension Risk) and Head of Pensions (for Pension Risk) are responsible for overseeing and challenging the first line of defence.

Mitigation

The Group develops policies to address material Treasury Risks and aims to maintain its risk profile within RA. In order to do this, metrics are set against Capital Risk, Liquidity and Funding Risk and IRRBB. Where appropriate, RA metrics are cascaded down to regions and countries in the form of Limits and Management Action Triggers.

Capital Risk

In order to manage Capital Risk, strategic business, and capital plans (Corporate Plan) are drawn up covering a five-year horizon which are approved by the Board annually. The plan ensures that adequate levels of capital, including loss absorbing capacity, and an efficient mix of the different components of capital are maintained to support our strategy and business plans.

Treasury is responsible for the ongoing assessment of the demand for capital and the updating of the Group's capital plan.

RA metrics including capital, leverage, Minimum Requirement for own funds and Eligible Liability (MREL) and double leverage are assessed within the Corporate Plan to ensure that the strategy can be achieved within risk tolerances.

Structural Foreign Exchange (FX) Risk

The Group's structural FX position results from the Group's non-US dollar investment in the share capital and reserves of subsidiaries and branches. The FX translation gains, or losses, are recorded in the Group's translation reserves with a direct impact on the Group's Common Equity Tier 1 ratio.

The Group contracts hedges to manage its structural FX position in accordance with the RA, and as a result the Group has taken net investment hedges to partially cover its exposure to certain non-US dollar currencies to mitigate the FX impact of such positions on its capital ratios.

Liquidity and Funding Risk

At Group, regional and country level we implement various business-as-usual and stress risk metrics to monitor and manage liquidity and funding risk. This ensures that the Group maintains an adequate and well-diversified liquidity buffer, as well as a stable funding base, and that it meets its liquidity and funding regulatory requirements. The approach to managing risks and the RA is assessed annually through the Internal Liquidity Adequacy Assessment Process. A funding plan is also developed for efficient liquidity projections to ensure that the Group is adequately funded in the required currencies, to meet its obligations and client funding needs. The funding plan is part of the overall Corporate Plan process aligning to the capital requirements.

Interest Rate Risk in the Banking Book

This risk arises from differences in the repricing profile, interest rate basis, and optionality of banking book assets liabilities and off-balance sheet items. IRRBB represents an economic and commercial risk to the Group and its capital adequacy. The Group monitors IRRBB against the RA.

Pension Risk

Pension Risk is the potential for loss due to having to meet an actuarially assessed shortfall in the Group's pension plans. Pension obligation risk to a firm arises from its contractual or other liabilities to or with respect to an occupational pension plan or other long-term benefit obligation. For a funded plan it represents the risk that additional contributions will need to be made because of a future shortfall in the funding of the plan. Or, for unfunded obligations, it represents the risk that the cost of meeting future benefit payments is greater than currently anticipated. The Pension Risk position against RA metric is reported to the GRC. This metric is calculated as the total capital requirement (including both Pillar 1 and Pillar 2A capital) in respect of Pension Risk, expressed as a number of basis points of RWA.

Recovery and Resolution Planning

In line with PRA requirements, the Group maintains a Recovery Plan which is a live document to be used by management in the event of stress in order to restore the Group to a stable and sustainable position. The Recovery Plan includes a set of recovery indicators, an escalation framework, and a set of management actions capable of being implemented during a stress. A Recovery Plan is also maintained within each major entity, and all recovery plans are subject to periodic fire-drill testing.

As the UK resolution authority, the BoE is required to set a preferred resolution strategy for the Group. The BoE's preferred resolution strategy is whole Group single point of entry bail-in at the ultimate holding company level (Standard Chartered PLC) and would be led by the BoE. In support of this strategy, the Group has been developing a set of capabilities, arrangements, and resources to achieve the required outcomes. Following the BoE's first resolvability assessment and public disclosure for major UK firms in 2022, the second Resolvability Assessment Framework (RAF) cycle is under way. The Group submitted its Resolvability Assessment Report to the BoE and PRA on 6 October 2023 and is due to publish its resolvability public disclosure in June 2024.

Governance committee oversight

At the Board level, the BRC oversees the effective management of Treasury Risk. At the executive level, the GALCO ensures the effective management of risk throughout the Group in support of the Group's strategy, guides the Group's strategy on balance sheet optimisation and ensures that the Group operates within the RA and other internal and external requirements relating to Treasury Risk (except Pension Risk). The GRC and Regional Risk Committees provide oversight for Pension Risk.

Regional and country oversight resides with regional and country Asset and Liability Committees. Regions and countries must ensure that they remain in compliance with Group Treasury policies and practices, as well as local regulatory requirements.

Decision-making authorities and delegation

The GCFO has responsibility for capital, funding, and liquidity under the SMR. The GCRO has delegated the RFO responsibilities associated with Treasury Risk to the Global Head, ERM. The Global Head, ERM delegates second line of defence oversight and challenge responsibilities to the Treasury CRO and Country CROs for Capital Risk, Liquidity and Funding Risk and IRRBB, and to Head of Pensions for Pension Risk.

Monitoring

On a day-to-day basis, Treasury Risk is managed by Treasury, Finance and Country CEOs. The Group regularly reports and monitors Treasury Risk inherent in its business activities and those that arise from internal and external events.

Internal risk management reports covering the balance sheet and the capital and liquidity position are presented to the relevant country Asset and Liability Committee. The reports contain key information on balance sheet trends, exposures against RA and supporting risk measures which enable members to make informed decisions around the overall management of the balance sheet.

In addition, an independent Treasury CRO as part of ERM reviews the prudence and effectiveness of Treasury Risk management.

Pension Risk is actively managed by the Head of Pensions and monitored by the Head of Country Risk, Scenario Analysis, Insurable and Pension Risk. The Head of Pensions ensures that accurate, complete, and timely updates on Pension Risk are shared with the Head of Country Risk, Scenario Analysis and Pension Risk, the Treasury CRO and the Global Head, ERM on a periodic basis.

Operational and Technology Risk

The Group defines Operational and Technology risk as the potential for loss resulting from inadequate or failed internal processes, technology events, human error, or from the impact of external events (including legal risks).

Risk Appetite Statement

The Group aims to control operational and technology risks to ensure that operational losses (financial or reputational), including any related to conduct of business matters, do not cause material damage to the Group's franchise.

Changes to Third Party Risk

With effect from January 2024, the Group has removed the IRT classification and formally included Third Party Risk as a sub risk under Operational and Technology Risk. Third Party Risk is defined as the potential for loss or adverse impact due to the failure to manage the onboarding, lifecycle and exit strategy of a third party. The Third Party Risk Management Policy and Standard, in conjunction with the respective PRT policies and standards, holistically set out the Group's minimum controls requirements for the identification, mitigation and management of risks arising from the use of Third Parties.

Roles and responsibilities

The Operational and Technology RTF sets the roles and responsibilities in respect of Operational and Technology risk for the Group. The Operational and Technology RTF defines the Group's Operational and Technology risk sub-types and sets standards for the identification, control, monitoring and treatment of risks. These standards are applicable across all PRTs and risk sub-types in the Operational and Technology RTF. The list of risk sub-types includes Execution Capability, Governance, Reporting and Obligations, Legal Enforceability, and Operational Resilience (including client service, change management, people management, safety and security, and technology risk).

The Operational and Technology RTF reinforces clear accountability for managing risk throughout the Group and delegates second line of defence responsibilities to identified SMEs. For each risk sub-type, the subject matter expert sets policies and standards for the organisation to comply with, and provides guidance, oversight, and challenge over the activities of the Group. They ensure that key risk decisions are only taken by individuals with the requisite skills, judgement, and perspective to ensure that the Group's risk-return objectives are met.

Mitigation

The Operational and Technology RTF sets out the Group's overall approach to the management of Operational and Technology risk in line with the Group's Operational and Technology RA. This is supported by the Risk and Control Self-Assessment (RCSA) which defines roles and responsibilities for the identification, control, and monitoring of risks (applicable to all PRTs, risk sub-types and IRTs).

The RCSA is used to determine the design strength and reliability of each process, and requires:

- the recording of processes run by client segments, products, and functions into a process universe;
- the identification of potential failures in these processes and the related risks of such failures;
- an assessment of the impact of the identified risks based on a consistent scale;
- the design and monitoring of controls to mitigate prioritised risks; and
- assessments of residual risk and timely actions for elevated risks.

Risks that exceed the Group's Operational and Technology RA require treatment plans to address underlying causes.

Governance committee oversight

At Board level, the BRC oversees the effective management of Operational and Technology risk. At the executive level, the GRC is responsible for the governance and oversight of Operational and Technology risk for the Group. The GRC, supported by the GNFRFC, monitors the Group's Operational and Technology RA and relies on other key committees for the management of Operational and Technology risk.

Regional business segments and functional committees also provide governance oversight of their respective processes and related Operational and Technology risk. In addition, Country Non-Financial Risk Committees (CNFRFCs) oversee the management of Operational and Technology Risk at the country (or entity) level. In smaller countries, the responsibilities of the CNFRFC may be exercised directly by the Country Risk Committee (for branches) or Executive Risk Committee (for subsidiaries).

Decision-making authorities and delegation

The GCRO has delegated the RFO responsibilities associated with the Operational and Technology RTF to the Global Head of Risk, Functions and Operational Risk (GHRFOR).

The Operational and Technology RTF is the formal mechanism through which the delegation of Operational and Technology Risk authorities is made. The GHRFOR places reliance on the respective SMEs for second line of defence oversight of the relevant Operational and Technology risk sub-types through the Operational and Technology RTF.

Monitoring

To deliver services to clients and to participate in the financial services sector, the Group runs processes which are exposed to Operational and Technology risks. The Group prioritises and manages risks which are significant to clients and to the financial services sectors. Control indicators are regularly monitored to determine the Group's exposure to residual risk.

The residual risk assessments and reporting of events form the Group's Operational and Technology Risk profile.

The completeness of the Operational and Technology Risk profile ensures appropriate prioritisation and timeliness of risk decisions, including risk acceptances with treatment plans for risks that exceed acceptable thresholds.

The Board Risk Committee is informed on adherence to Operational and Technology RA through metrics reported for selected risks. These metrics are monitored, and escalation thresholds are devised based on the materiality and significance of the risk. These Operational and Technology RA metrics are consolidated on a regular basis and reported at relevant Group committees. This provides senior management with the relevant information to inform their risk decisions.

Financial Crime Risk

The Group defines Financial Crime Risk as the potential for legal or regulatory penalties, material financial loss or reputational damage resulting from the failure to comply with applicable laws and regulations relating to international sanctions, anti-money laundering and anti-bribery and corruption, and fraud.

Risk Appetite Statement

The Group has no appetite for breaches in laws and regulations related to financial crime, recognising that whilst incidents are unwanted, they cannot be entirely avoided.

Roles and responsibilities

The Group Head, CFCC has overall responsibility for Financial Crime Risk and is responsible for the establishment and maintenance of effective systems and controls to meet legal and regulatory obligations in respect of Financial Crime Risk. The Group Head, CFCC is the Group's Compliance and Money-Laundering Reporting Officer and performs the Financial Conduct Authority (FCA) controlled function and senior management function in accordance with the requirements set out by the FCA, including those set out in their handbook on systems and controls. As the first line of defence, the business process owners have responsibility for the application of policy controls and the identification and measurement of risks relating to financial crime. The business must communicate risks and any policy non-compliance to the second line of defence for review and approval following the model for delegation of authority.

Mitigation

There are four Group policies in support of the Financial Crime RTF:

- Group Anti-Bribery and Corruption Policy
- Group Anti-Money Laundering and Counter Terrorist Financing Policy
- Group Sanctions Policy
- Group Fraud Risk Management Policy

The Group operates risk-based assessments and controls in support of its Financial Crime Risk programme, including (but not limited to):

- Group Risk Assessment: the Group monitors enterprise-wide Financial Crime Risks through the CFCC Risk Assessment process consisting of Financial Crime Risk and Compliance Risk assessments. The Financial Crime Risk assessment is a Group-wide risk assessment undertaken annually to assess the inherent Financial Crime Risk exposures and the associated processes and controls by which these exposures are mitigated.
- Financial Crime Surveillance: risk-based systems and processes to prevent and detect financial crime.

The strength of controls is tested and assessed through the Group's Operational and Technology RTF, in addition to oversight by CFCC Assurance.

Governance committee oversight

Financial Crime Risk within the Group is governed by the GFCRC and the GNFRFC for Fraud Risk.

The GFCRC is responsible for ensuring effective oversight for operational risk relating to Financial Crime Risk. Board Level oversight of Financial Crime risk is performed by the Audit Committee and the BRC.

Decision-making authorities and delegation

The Financial Crime RTF is the formal mechanism through which the delegation of Financial Crime Risk authorities is made. The Group Head, CFCC is the RFO for Financial Crime Risk under the Group's ERMF. Certain aspects of Financial Crime Compliance, second line of defence oversight and challenge, are delegated within the CFCC function. Approval frameworks are in place to allow for risk-based decisions on client onboarding, potential breaches of sanctions regulation or policy, situations of potential money laundering (and terrorist financing), bribery and corruption or internal and external fraud.

Monitoring

The Group monitors Financial Crime Risk compliance against a set of RA metrics. These metrics are reviewed periodically and reported regularly to the GFCRC, GNFRFC, BRC, GRC, and relevant Board committees.

Compliance Risk

The Group defines Compliance Risk as the potential for penalties or loss to the Group or for an adverse impact to our clients, stakeholders or to the integrity of the markets we operate in through a failure on our part to comply with laws, or regulations.

Risk Appetite Statement

The Group has no appetite for breaches in laws and regulations related to regulatory non-compliance; recognising that whilst incidents are unwanted, they cannot be entirely avoided.

Roles and responsibilities

The Group Head, CFCC as RFO for Compliance Risk provides support to senior management on regulatory and compliance matters by:

- providing interpretation and advice on CFCC regulatory requirements and their impact on the Group; and
- setting enterprise-wide standards for management of compliance risks through the establishment and maintenance of the Compliance RTF.

The Group Head, CFCC also performs the FCA controlled function and senior management function of Compliance Risk oversight in accordance with the requirements set out by the FCA.

All activities that the Group engages in must be designed to comply with the applicable laws and regulations in the countries in which we operate. The CFCC function provides second line of defence oversight and challenge of the first line of defence risk management activities that relate to Compliance Risk. Where Compliance Risk arises, or could arise, from failure to manage another PRT or sub-type, the Compliance RTF outlines that the responsibility rests with the respective RFO or control function to ensure that effective oversight and challenge of the first line of defence can be provided by the appropriate second line of defence function.

Each of the assigned second line of defence functions have responsibilities, including monitoring relevant regulatory developments from Non-Financial Services regulators at both Group and country levels, policy development, implementation, and validation as well as oversight and challenge of first line of defence processes and controls. In addition, the remit of CFCC has been further clarified in 2023 in relation to Compliance risk and the boundary of responsibilities with other PRTs.

Mitigation

The CFCC function is responsible for the establishment and maintenance of policies, standards and controls to ensure continued legal and regulatory compliance, and the mitigation of Compliance Risk. In this, the requirements of the Operational and Technology RTF are followed to ensure a consistent approach to the management of processes and controls.

The deployment of technological solutions to improve efficiencies and simplify processes has continued in 2023. These include launch of a new Regulatory Change Management System for Group regulatory obligations management, and further enhancement of the Ask Compliance platform.

Governance committee oversight

Both Compliance Risk and the risk of non-compliance with laws and regulations resulting from failed processes and controls are reported at the respective country, business, product, function, Risk and CFCC Non-Financial Risk Committees. Relevant matters, as required, are further escalated to the GNFRFC and GRC. At Board level, oversight of Compliance Risk is primarily provided by the Audit Committee, and by the BRC for relevant issues.

Whilst not a formal governance committee, the CFCC Oversight Group provides oversight of CFCC risks including the effective implementation of the Compliance RTF. The Regulatory Change Oversight Forum provides visibility and oversight of material and/or complex large-scale regulatory change emanating from Financial Services regulators impacting Non-Financial Risks. The CFCC Policy Council provides oversight, challenge and direction to Compliance and FCC Policy Owners on material changes and positions taken in CFCC-owned policies, including issues relating to regulatory interpretation and Group's CFCC RA.

Decision-making authorities and delegation

The Compliance RTF is the formal mechanism through which the delegation of Compliance Risk authorities is made. The Group Head, CFCC has the authority to delegate second line of defence responsibilities within the CFCC function to relevant and suitably qualified individuals.

Monitoring

The monitoring of controls designed to mitigate the risk of regulatory non-compliance in processes is governed in line with the Operational and Technology RTF. The Group has a monitoring and reporting process in place for Compliance Risk, which includes escalation and reporting to Risk and CFCC Non-Financial Risk Committee, GNFRFC, GRC, BRC, and relevant Board committees.

Information and Cyber Security (ICS) Risk

The Group defines ICS Risk as the risk to the Group's assets, operations, and individuals due to the potential for unauthorised access, use, disclosure, disruption, modification, or destruction of information assets and/or information systems.

Risk Appetite Statement

The Group aims to mitigate and control ICS risks to ensure that incidents do not cause the Bank material harm, business disruption, financial loss or reputational damage - recognising that whilst incidents are unwanted, they cannot be entirely avoided.

Roles and responsibilities

The Group's ICS RTF defines the roles and responsibilities of the first and second lines of defence in managing and governing ICS Risk across the Group. It emphasises business ownership and individual accountability.

The Group Chief Transformation, Technology & Operations Officer (CTTO) has the first line of defence responsibility for ICS Risk and is accountable for the Group's ICS strategy. The Group Chief Information Security Officer (CISO) leads the development and execution of the ICS strategy. The first line of defence also manages all key ICS Risks, breaches and risk treatment plans. ICS Risk profile, RA breaches and remediation status are reported at Board and Executive committees, alongside business, function and country governance committees.

The Group Chief Information Security Risk Officer (CISRO) function within Group Risk is the second line of defence and sets the framework, policy, standards, and methodology for assessing, scoring, and prioritising ICS Risks across the Group. The ICS Policy and standards are aligned to industry best practice models including the National Institute of Standards and Technology Cyber Security Framework and ISO 27001. This function has the responsibility for governance, oversight, and independent challenge of first line of defence's pursuit of the ICS strategy. Group ICS Risk Framework Strategy remains the responsibility of the ICS RFO (RFO), delegated from the GCRO to the Group CISRO.

Mitigation

ICS Risk is managed through the ICS RTF, comprising a risk assessment methodology and supporting policy, standards, and methodologies. These are aligned to industry recommended practice. We undertake an annual ICS Effectiveness Review to evaluate ICS Risk management practices in alignment with the ERMF.

Governance committee oversight

The BRC oversees the effective management of ICS Risk. The GRC has delegated authority to the GNFRFC to ensure effective implementation of the ICS RTF. The GRC and GNFRFC are responsible for oversight of ICS Risk profile and RA breaches. Sub-committees of the GNFRFC have oversight of ICS Risk management arising from the businesses, countries and functions.

Decision-making authorities and delegation

The ICS RTF defines how the Group manages ICS Risk. The Group CISRO delegates authority to designated individuals through the ICS RTF, including at a business, function, region and country level.

The Group CISO is responsible for implementing ICS Risk Management within the Group, and to cascade ICS risk management into the businesses, functions and countries to comply with the ICS RTF, policy, and standards.

Monitoring

Group CISO performs a threat-led risk assessment to identify key threats, in-scope applications and key controls required to ensure the Group remains within RA.

The ICS Risk profiles of all businesses, functions and countries are consolidated to present a holistic Group-level ICS Risk profile for ongoing monitoring. Mandatory ICS learning, phishing exercises and role-specific training support colleagues to monitor and manage this risk.

During these reviews, the status of each risk is assessed against the Group's controls to identify any changes to impact and likelihood, which affects the overall risk rating.

Group CISO and Group CISRO monitor the ICS Risk profile and ensure that breaches of RA are escalated to the appropriate governance committee or authority levels for remediation and tracking. A dedicated Group CISRO team supports this work by executing offensive security testing exercises, including vulnerability assessments and penetration tests, which show a wider picture of the Group's risk profile, leading to better visibility on potential 'in flight' risks. The Group also tracks remediation of security matters identified by external reviews such as the BoE CBEST Threat Intelligence-Led Assessment and the Hong Kong Monetary Authority's (HKMA) Intelligence-led Cyber Attack Simulation Testing (iCAST).

Reputational and Sustainability Risk

The Group defines Reputational and Sustainability Risk as the potential for damage to the franchise (such as loss of trust, earnings, or market capitalisation), because of stakeholders taking a negative view of the Group through actual or perceived actions or inactions, including a failure to uphold responsible business conduct as we strive to do no significant environmental and social harm through our client, third party relationships or our own operations.

Risk Appetite Statement

The Group aims to protect the franchise from material damage to its reputation by ensuring that any business activity is satisfactorily assessed and managed with the appropriate level of management and governance oversight. This includes a potential failure to uphold responsible business conduct in striving to do no significant environmental and social harm.

Roles and responsibilities

The Global Head, ERM is responsible as RFO for Reputational and Sustainability Risk under the Group's ERMF.

Our Reputational and Sustainability RTF allocates responsibilities in a manner consistent with the three lines of defence model.

In the first line of defence, the Chief Sustainability Officer (CSO) manages the overall Group Sustainability strategy and engagements. A dedicated Sustainable Finance solutions team is responsible for sustainable finance products and frameworks to help identify green and sustainable finance, and transition finance opportunities to aid our clients on their sustainability journey. The CSO team works with businesses to launch various sustainable finance products. Furthermore, the Environmental and Social Risk Management (ESRM) team provides dedicated advisory and challenge to businesses on the management of environmental and social risks and impacts arising from the Group's client relationships and transactions.

In the second line of defence, the responsibility for Reputational and Sustainability Risk management is delegated to the Group Environmental, Social, and Corporate Governance (ESG) and Reputational Risk team, as well as CROs at region, country and client-business levels. They constitute the second line responsible to oversee and challenge the first line, which resides with the CEOs, business heads, product heads and function heads. The Group ESG and Reputational Risk team is responsible for establishing RA, framework and policies for managing Reputational and Sustainability risk, in line with emerging regulatory expectations across our markets.

Mitigation

In line with the principles of Responsible Business Conduct and Do No Significant Harm, the Group deems Reputational and Sustainability Risk to be driven by:

- negative shifts in stakeholder perceptions, including shifts as a result of greenwashing claims, due to decisions related to clients, products, transactions, third parties and strategic coverage;
- potential material harm or degradation to the natural environment (environmental) through actions/inactions of the Group; and
- potential material harm to individuals or communities (social) risks through actions/inactions of the Group.

The Group's Reputational Risk policy sets out the principal sources of Reputational Risk driven by negative shifts in stakeholder perceptions as well as responsibilities, control and oversight standards for identifying, assessing, escalating and effectively managing Reputational Risk. The assessment of risks associated with how individual client, transaction, product and strategic coverage decisions may affect perceptions of the organisation and its activities is based on explicit principles including, but not limited to, human rights and climate change. The assessment of stakeholder perception risk considers a variety of factors. Whenever potential for stakeholder concerns is identified, issues are subject to review and decision by both first and second lines of defence.

The Group's Sustainability Risk policy sets out the requirements and responsibilities for managing environmental and social risks for the Group's clients, third parties and in our own operations. This includes management of greenwashing risks through the ongoing monitoring of Sustainable Finance products and transactions and clients throughout their lifecycle, from labelling to disclosures in line with emerging local and international regulatory obligations.

- Clients are expected to adhere to the minimum regulatory and compliance requirements, including criteria from the Group's Position Statements to sensitive sectors where environmental and social risks are heightened. The Group also defines the approach to certain specialist sectors where there are conflicting stakeholder views.
- Third parties such as suppliers must comply with the Group's Supplier Charter, which sets out the Group's expectations on ethics, anti-bribery and corruption, human rights, environmental, health and safety standards, labour and protection of the environment. The Group is committed to respecting universal human rights, and we assess our clients and suppliers against various international principles, as well as through our social safeguards.
- Within our operations, the Group seeks to minimise its impact on the environment and have targets to reduce energy, water and waste. We are committed to becoming Net Zero in our own operations by 2025.
- We rely on our frameworks to help the labelling of Sustainable Finance Use of Proceeds products and transactions as well as the classification of pureplay clients.

Reputational and Sustainability Risk policies and standards are applicable to all Group entities. However, where local regulators impose additional requirements, these are complied with in addition to existing Group requirements.

Governance committee oversight

At Board level, the Culture and Sustainability Committee provides oversight for our Sustainability strategy while the BRC oversees Reputational and Sustainability Risk as part of the ERMF. The GRC provides executive level committee oversight and delegates the authority to ensure effective management of Reputational and Sustainability Risk to the GRRRC.

The GRRRC's remit is to:

- Challenge, constrain and, if required, stop business activities where Reputational and Sustainability risks are not aligned with the Group's RA;
- Make decisions on Reputational and Sustainability Risk matters assessed as high or very high based on the Group's Reputational and Sustainability Risk Materiality Assessment Matrix, and matters escalated from the regions or client businesses;
- Provide oversight of material Reputational and Sustainability Risk and/or thematic issues arising from the potential failure of other risk types;
- Identify TERs, as part of a dynamic risk scanning process;
- Monitor existing or new regulatory priorities.

The Sustainable Finance Governance Committee, appointed by the GRRRC, provides leadership, governance, and oversight for delivering the Group's sustainable finance offering. This includes:

- Reviewing and supporting the Group's frameworks for Green and Sustainable Products, and Transition Finance for approval of GRRRC. These frameworks set out the guidelines for approval of products and transactions which carry the sustainable finance and/or transition finance label;
- Decision-making authority on the eligibility of a sustainable asset for any RWA relief;
- Approving sustainable finance and transition finance labels for products in addition to regular product management and governance;
- Reviewing the reputational risks arising from greenwashing claims related to Sustainable Finance products and services.

The GNFRFC has oversight of the control environment and effective management of Reputational Risk incurred when there are negative shifts in stakeholder perceptions of the Group due to failure of other PRTs. The regional and client-business risk committees provide oversight on the Reputational and Sustainability Risk profile within their remit. The CNFRFC provides oversight of the Reputational and Sustainability Risk profile at a country level.

Decision-making authorities and delegation

The Global Head, ERM delegates risk acceptance authorities for stakeholder perception risks to designated individuals in the first line and second line or to committees such as the GRRRC via risk authority matrices.

These risk authority matrices are tiered at country, regional, business segment or Group levels and are established for risks incurred in strategic coverage, clients, products, or transactions. For environmental and social risks, the ESRM team reviews and supports the risk assessments for clients and transactions and escalates to the Group ESG and Reputational Risk team as required.

Monitoring

Exposure to stakeholder perception risks arising from transactions, clients, products and strategic coverage is monitored through established triggers to prompt the right levels of appropriate risk-based consideration and assessment by the first line and escalations to the second line where necessary. Risk acceptance decisions and thematic trends are also reviewed on a periodic basis.

Exposure to Sustainability Risk is monitored through triggers embedded within the first line of defence processes. The Environmental and Social Risks are considered for clients and transactions via the environmental and social risk assessments and for vendors in our supply chain through the Modern Slavery questionnaires.

Furthermore, monitoring and reporting on the RA metrics ensures that there is appropriate oversight by the MT and Board over performance and breaches of thresholds across key metrics.

Model Risk

The Group defines Model Risk as potential loss that may occur because of decisions or the risk of mis-estimation that could be principally based on the output of models due to errors in the development, implementation, or use of such models.

Risk Appetite Statement

The Group has no appetite for material adverse implications arising from misuse of models or errors in the development or implementation of models; whilst accepting some model uncertainty.

Roles and responsibilities

The Global Head, ERM is the RFO for Model Risk under the Group's ERMF. Responsibility for the oversight and implementation of the Model RTF is delegated to the Global Head, Model Risk Management.

The Model RTF sets out clear accountability and roles for Model Risk management through the three lines of defence model. First line of defence ownership of Model Risk resides with Model Sponsors, who are business or function heads and assign a Model Owner and provide oversight of Model Owner activities. Model Owners are accountable for the model development process, represent model users, are responsible for the overall model design process, coordinate the submission of models for validation and approval, and ensure appropriate implementation and use. Model Developers are responsible for the development of models and are responsible for documenting and testing the model in accordance with Policy requirements, and for engaging with Model Users.

Second line of defence oversight is provided by Model Risk Management, which comprises Group Model Validation (GMV) to independently review and grade models, and the Model Risk Policy and Governance team, which provides oversight of model risk activities and reports to senior management via respective committees.

The Group adopts an industry standard model definition as specified in the Group Model Risk Policy, together with a scope of applicability represented by defined model family types as detailed within the Model Risk Framework. Model Owners are accountable for ensuring that all models under their purview have been independently validated by GMV. Models are validated before use and then on an ongoing basis, with schedule determined by the perceived level of model risk associated with the model, or more frequently if there are specific regulatory requirements.

The Model Risk Framework is cascaded to in-scope countries by way of local addendum or local framework documentation, along with specific responsibilities of the Country Model RFO. In-scope countries are selected with reference to regulatory capital requirements with credit risk (AIRB), counterparty credit risk Internal Model Method (IMM), or market risk Internal Model Approach (IMA) permissions for use of models for regulatory capital calculations; and countries where regulators have stipulated specific model risk requirements. Additional criteria, including financial materiality, regulatory importance, presence of important business services or critical economic functions are also considered.

The main responsibilities of Country Model RFO are to ensure model usage is correctly identified, a suitable local governance process is established, and fundamental model risk training is provided for respective country stakeholders.

Based on respective levels of regulatory expectations regarding Model Risk, a tiering approach is adopted to provide appropriate risk-based levels of depth and rigour of the associated requirements.

Mitigation

The Model Risk policy and standards define requirements for model development and validation activities, including regular model performance monitoring. Any model issues or deficiencies identified through the validation process are mitigated through model monitoring, model overlays and/or a model redevelopment plan, which undergoes robust review, challenge, and approval. Operational controls govern all Model Risk-related processes, with regular risk assessments performed to assess appropriateness and effectiveness of those controls, in line with the Operational and Technology RTF, with remediation plans implemented where necessary.

Governance committee oversight

At Board level, the BRC exercises oversight of Model Risk within the Group. At the executive level, the GRC has appointed the Model Risk Committee to ensure effective measurement and management of Model Risk. Sub-committees such as the Credit Model Assessment Committee, Traded Risk Model Assessment Committee and Financial Crime Compliance Model Assessment Committee oversee their respective in-scope models and escalate material Model Risks to the Model Risk Committee. In parallel, business and function-level risk committees provide governance oversight of the models used in their respective processes.

Decision-making authorities and delegation

The Model RTF is the formal mechanism through which the delegation of Model Risk authorities is made.

The Global Head, ERM delegates authorities to designated individuals or Policy Owners through the Model RTF. The second line of defence ownership for Model Risk at country level is delegated to Country CROs at the applicable branches and subsidiaries.

The Model Risk Committee is responsible for approving models for use. Model approval authority is also delegated to the Credit Model Assessment Committee, Traded Risk Model Assessment Committee, Financial Crime Compliance Model Assessment Committee, and individual designated model approvers for less material models.

Monitoring

The Group monitors Model Risk via a set of RA metrics. Adherence to Model RA and any threshold breaches are reported to the BRC, GRC and Model Risk Committee. These metrics and thresholds are reviewed twice per year to ensure that threshold calibration remains appropriate, and the themes adequately cover the current risks.

Models undergo regular monitoring based on their level of perceived Model Risk, with monitoring results and breaches presented to Model Risk Management and delegated model approvers.

Model Risk Management produces Model Risk reports covering the model landscape, which include performance metrics, identified model issues and remediation plans. These are presented for discussion at the Model Risk governance committees on a regular basis.

Climate Risk (Oversight has moved to Reputational and Sustainability Risk with effect from January 2024)

With effect from January 2024, the Group has removed the IRT classification. Climate Risk is defined as the potential for financial loss and non-financial detriments arising from climate change and society's response to it. We are developing methodologies to identify, measure and manage the physical and transition risks that we are exposed to through our own operations, our suppliers, our clients, and the markets we operate in.

Risk Appetite Statement

The Group aims to measure and manage financial and non-financial risks arising from climate change, and reduce emissions related to our own activities and those related to the financing of clients in alignment with the Paris Agreement.

Roles and responsibilities

The GCRO has the ultimate second line of defence and responsibility for Climate Risk, with support by the Global Head, ERM who has day-to-day oversight and central responsibility for second line of defence Climate Risk activities. As Climate Risk is embedded into the relevant PRTs, second line of defence responsibilities lie with those RFOs (at Group, regional and country level), with SME support from the central Climate Risk team.

Mitigation

We have completed c.4,100 Climate Risk Assessments (CRAs) in 2023 (c.85 - 90 per cent of the CCIB corporate portfolio limits), which measures transition risk of our clients. Concentration of Black and Red rated clients remain within proposed RA levels at 6 per cent. Linkages to Credit Underwriting Principles have been finalised for four sectors (Oil and Gas (O&G), Shipping, Commercial Real Estate (CRE) and Mining), including improved climate-related analysis, portfolio-level caps and additional data gathering measures. A key focus area going forward is to embed Climate Risk and net zero targets into business and credit decisions. To enable this, we have established a Net Zero Climate Risk Working Forum to facilitate discussions on account plans for high Climate Risk and net zero divergent clients. As of September 2023, we have assessed physical risk for 79 per cent and transition risk for 54 per cent of our CPBB book.

The focus for Operational and Technology Risk has been to assess physical risks for our properties and data centres, as well as third parties. Concentration of top corporate liquidity providers to high transition risk and low levels of mitigation is being monitored.

Governance committee oversight

Board level oversight is exercised through the BRC, with regular updates on Climate Risk. At an executive level, the GRC has appointed the Climate Risk Management Committee (CRMC), which meets at least six times a year to oversee the implementation of Climate Risk workplans and monitoring the Group's Climate Risk profile.

In 2023, we have strengthened country and regional governance oversight for the Climate Risk profile across our key markets by cascading identified RA metrics, and rolling out climate risk management information.

Decision-making authorities and delegation

The Global Head, ERM is supported by a Climate Risk team within the ERM function. The Global Head, ESG and Reputational Risk is responsible for executing the delivery of the Climate Risk workplan which will define decision-making authorities and delegations across the Group.

Monitoring

The Climate RA Statement is approved and reviewed annually by the Board, following the recommendation of the BRC.

The Group has developed its first-generation Climate Risk reporting and Board/MT Level RA metrics and these will continue to be enhanced in 2024. Management information and RA metrics are also being progressively rolled out at the regional and country level. Management information is reviewed at a quarterly frequency and any breaches in RA are reported to the GRC and BRC.

Digital Assets Risk

With effect from January 2024, the Group has removed the IRT classification. The Group recognises Digital Assets (DA) as an asset class which is managed under the ERMF. DA Risk is defined as the potential for regulatory penalties, financial loss and/or reputational damage to the Group resulting from DA-related activities arising from the Group's businesses across clients, products, investments and projects.

Risk Appetite Statement

As DA Risk manifests through the various PRTs, the individual RA statements for each PRT take account of the risks specific to DAs.

Roles and responsibilities

Senior managers within the first line of defence are responsible for the overall management of DA risks, initiatives and exposures that may arise within their business segments.

The GCRO has the second line of defence responsibility for defining the Group's framework for managing DA-related risks, through the Digital Assets Risk Management Approach (DARMA). The GCRO is supported by the Global Head, ERM and the Global Head, DA Risk Management, who have day-to-day responsibility for second line of defence oversight of the DARMA. As DA Risk management is embedded into the relevant PRTs, RFOs and dedicated SMEs across the PRTs have second line of defence responsibilities of DA Risks for their respective PRTs.

Mitigation

The Group deploys a DA Risk management policy (DA Policy) to define the incremental risk management requirements for DA-related activities under the DARMA. The respective PRTs then include specific risk mitigation requirements within the relevant processes, policies and standards for their PRTs. DA Risk Assessments are conducted on certain higher-risk DA-related projects and products. These risk assessments detail the specific inherent risks, residual risks, controls and mitigants across the PRTs, and are reviewed and supported by the respective businesses, RFOs and DA SMEs.

Governance committee oversight

Board level oversight is exercised through the BRC, and DA Risk updates are provided to the Board and BRC, as requested. At the executive level, the GRC oversees the risk management of DA. The GCRO has also appointed a dedicated DA Risk Committee (DRC) consisting of senior business representatives, RFOs and DA SMEs across the Group. The DRC meets a minimum of four times per year to review and assess the risk assessments related to DA Projects and Products, discuss development and implementation of the DARMA, and to provide structured governance around DA Risk.

Decision-making authorities and delegation

The Global Head, ERM is supported by a centralised DA Risk team within the ERM Function and is responsible for the design and maintenance of the DARMA. Decision-making authorities and delegation are defined in the DA Policy, outlining the incremental responsibilities and the embedding of risk management within associated policies and risk artefacts.

The businesses are responsible for implementation of the DARMA and respective business governance forums, PRT RFOs and DA SMEs utilise decision-making authorities granted to them by their respective businesses, PRTs or in individual capacities to assess and approve DA activities and exposures that may give rise to risk.

DA Risk follows prescribed robust risk management practices across the PRTs, with specific expertise applied from DA experts. Risk management practices are informed by the "Dear CEO" letters published by the PRA and the FCA in June 2018, with updated notices in June 2022. Further guidance from the recent publication of the BCBS d545 on the prudential treatment of crypto assets, which will be in effect from January 2025, has refined the risk management approach. DA is a developing area which will continue to mature and stabilise over time as the technology, together with its use in financial services and associated research, become more established.

Monitoring

DA Risks are monitored through the existing Group RA metrics across the PRTs. In addition, specific DA Risk Management Monitoring level metrics are reviewed and monitored by the relevant individual PRTs. DA risk decisions relating to other PRTs are taken within the authorities for the respective PRT.

Capital review

The Capital review provides an analysis of the Group's capital and leverage position, and requirements.

Capital summary

The Group's capital, leverage and minimum requirements for own funds and eligible liabilities (MREL) position is managed within the Board-approved risk appetite. The Group is well capitalised with low leverage and high levels of loss-absorbing capacity.

	2023	2022
CET1 capital	14.1%	14.0%
Tier 1 capital	16.3%	16.6%
Total capital	21.2%	21.7%
Leverage ratio	4.7%	4.8%
MREL ratio	33.3%	32.1%
Risk-weighted assets (RWA) \$million	244,151	244,711

The Group's capital, leverage and MREL positions were all above current requirements and Board-approved risk appetite. For further detail see the Capital section in the Standard Chartered PLC Pillar 3 Disclosures for FY 2023. The Group's CET1 capital increased 10 basis points to 14.1 per cent of RWA since FY2022. Profits, gains from the aviation leasing sale, movements in FVOCI and RWA optimisations were partly offset by distributions (including ordinary share buybacks of \$2.0 billion during the year), impairments of the Group's investment in Bohai, lower FX translation reserves and an increase in regulatory deductions.

The PRA updated the Group's Pillar 2A requirement during Q4 2023. As at 31 December 2023 the Group's Pillar 2A was 3.8 per cent of RWA, of which at least 2.1 per cent must be held in CET1 capital. The Group's minimum CET1 capital requirement was 10.5 per cent at 31 December 2023. The UK countercyclical buffer increased to 2.0 per cent which impacts Group CET1 minimum requirement by approximately 8 basis points from July 2023.

The Group CET1 capital ratio at 31 December 2023 reflects the share buy-backs of \$2 billion completed during the year. The CET1 capital ratio also includes an accrual for the FY 2023 dividend. The Board has recommended a final dividend for FY 2023 of \$560 million or 21 cents per share resulting in a full year 2023 dividend of 27 cents per share, a 50 percent increase on the 2022 dividend. In addition, the Board has announced a further share buy-back of \$1 billion, the impact of this will reduce the Group's CET1 capital by around 40 basis points in the first quarter of 2024.

The Group expects to manage CET1 capital dynamically within our 13-14 per cent target range, in support of our aim of delivering future sustainable shareholder distributions.

The Group's MREL requirement as at 31 December 2023 was 27.4 per cent of RWA. This is composed of a minimum requirement of 23.5 per cent of RWA and the Group's combined buffer (comprising the capital conservation buffer, the G-SII buffer and the countercyclical buffer). The Group's MREL ratio was 33.3 per cent of RWA and 9.6 per cent of leverage exposure at 31 December 2023.

During 2023, the Group successfully raised \$8.1 billion of MREL eligible securities from its holding company, Standard Chartered PLC. Issuance was entirely in callable senior debt.

The Group is a G-SII, with a 1.0 per cent G-SII CET1 capital buffer. The Standard Chartered PLC G-SII disclosure is published at: sc.com/en/investors/financial-results.

Capital base¹ (audited)

	2023 \$million	2022 \$million
CET1 capital instruments and reserves		
Capital instruments and the related share premium accounts	5,321	5,436
Of which: share premium accounts	3,989	3,989
Retained earnings ²	24,930	25,154
Accumulated other comprehensive income (and other reserves)	9,171	8,165
Non-controlling interests (amount allowed in consolidated CET1)	217	189
Independently audited year-end profits	3,542	2,988
Foreseeable dividends	(768)	(648)
CET1 capital before regulatory adjustments	42,413	41,284
CET1 regulatory adjustments		
Additional value adjustments (prudential valuation adjustments)	(730)	(854)
Intangible assets (net of related tax liability)	(6,128)	(5,802)
Deferred tax assets that rely on future profitability (excludes those arising from temporary differences)	(41)	(76)
Fair value reserves related to net losses on cash flow hedges	(91)	564
Deduction of amounts resulting from the calculation of excess expected loss	(754)	(684)
Net gains on liabilities at fair value resulting from changes in own credit risk	(100)	63
Defined-benefit pension fund assets	(95)	(116)
Fair value gains arising from the institution's own credit risk related to derivative liabilities	(116)	(90)
Exposure amounts which could qualify for risk weighting of 1,250%	(44)	(103)
Other regulatory adjustments to CET1 capital ³	-	(29)
Total regulatory adjustments to CET1	(8,099)	(7,127)
CET1 capital	34,314	34,157
Additional Tier 1 capital (AT1) instruments	5,512	6,504
AT1 regulatory adjustments	(20)	(20)
Tier 1 capital	39,806	40,641
Tier 2 capital instruments	11,965	12,540
Tier 2 regulatory adjustments	(30)	(30)
Tier 2 capital	11,935	12,510
Total capital	51,741	53,151
Total risk-weighted assets (unaudited)	244,151	244,711

1 Capital base is prepared on the regulatory scope of consolidation

2 Retained earnings includes IFRS9 capital relief (transitional) of nil (2022: \$106 million)

3 Other regulatory adjustments to CET1 capital includes Insufficient coverage for non-performing exposures of nil (2022: \$(29) million)

Movement in total capital (audited)

	2023 \$million	2022 \$million
CET1 at 1 January	34,157	38,362
Ordinary shares issued in the period and share premium	–	–
Share buy-back	(2,000)	(1,258)
Profit for the period	3,542	2,988
Foreseeable dividends deducted from CET1	(768)	(648)
Difference between dividends paid and foreseeable dividends	(372)	(301)
Movement in goodwill and other intangible assets	(326)	(1,410)
Foreign currency translation differences	(477)	(1,892)
Non-controlling interests	28	(12)
Movement in eligible other comprehensive income	464	(1,224)
Deferred tax assets that rely on future profitability	35	74
Increase in excess expected loss	(70)	(104)
Additional value adjustments (prudential valuation adjustment)	124	(189)
IFRS 9 transitional impact on regulatory reserves including day one	(106)	(146)
Exposure amounts which could qualify for risk weighting of 1,250%	59	(67)
Fair value gains arising from the institution's own credit risk related to derivative liabilities	(26)	(30)
Others	50	14
CET1 at 31 December	34,314	34,157
AT1 at 1 January	6,484	6,791
Net issuances (redemptions)	(1,000)	241
Foreign currency translation difference and others	8	9
Excess on AT1 grandfathered limit (ineligible)	–	(557)
AT1 at 31 December	5,492	6,484
Tier 2 capital at 1 January	12,510	12,491
Regulatory amortisation	1,416	778
Net issuances (redemptions)	(2,160)	(1,098)
Foreign currency translation difference	146	(337)
Tier 2 ineligible minority interest	19	102
Recognition of ineligible AT1	–	557
Others	4	17
Tier 2 capital at 31 December	11,935	12,510
Total capital at 31 December	51,741	53,151

The main movements in capital in the period were:

- CET1 capital increased by \$0.2 billion as retained profits of \$3.5 billion, movement in FVOCI of \$0.6bn were partly offset by share buy-backs of \$2.0 billion, distributions paid and foreseeable of \$1.1 billion, foreign currency translation impact of \$0.5 billion and an increase in regulatory deductions and other movements of \$0.3bn.
- AT1 capital decreased by \$1.0 billion following the redemption of \$1.0 billion of 7.75 per cent securities.
- Tier 2 capital decreased by \$0.6 billion due to the redemption of \$2.2 billion of Tier 2 during the year partly offset by the reversal of regulatory amortisation and foreign currency translation impact.

Risk-weighted assets by business

	2023			
	Credit risk \$million	Operational risk \$million	Market risk \$million	Total risk \$million
Corporate, Commercial & Institutional Banking	102,675	18,083	21,221	141,979
Consumer, Private & Business Banking	42,559	8,783	–	51,342
Ventures	1,885	35	3	1,923
Central & Other items	44,304	960	3,643	48,907
Total risk-weighted assets	191,423	27,861	24,867	244,151

	2022			
	Credit risk \$million	Operational risk \$million	Market risk \$million	Total risk \$million
Corporate, Commercial & Institutional Banking	110,103	17,039	16,440	143,582
Consumer, Private & Business Banking	42,091	8,639	–	50,730
Ventures	1,350	6	2	1,358
Central & Other items	43,311	1,493	4,237	49,041
Total risk-weighted assets	196,855	27,177	20,679	244,711

Risk-weighted assets by geographic region

	2023 \$million	2022 \$million
Asia	155,995	150,816
Africa & Middle East	38,393	40,716
Europe & Americas	46,106	50,174
Central & Other items	3,657	3,005
Total risk-weighted assets	244,151	244,711

Movement in risk-weighted assets

	Credit risk							
	Corporate, Commercial & Institutional Banking \$million	Consumer, Private & Business Banking \$million	Ventures \$million	Central & Other items \$million	Total \$million	Operational risk \$million	Market risk \$million	Total risk \$million
At 31 December 2021	125,813	42,731	756	50,288	219,588	27,116	24,529	271,233
At 1 January 2022	125,813	42,731	756	50,288	219,588	27,116	24,529	271,233
Assets growth & mix	(13,213)	(985)	594	(10,033)	(23,637)	–	–	(23,637)
Asset quality	(4,258)	431	–	7,344	3,517	–	–	3,517
Risk-weighted assets efficiencies	–	–	–	–	–	–	–	–
Model Updates	4,329	1,420	–	–	5,749	–	(1,000)	4,749
Methodology and policy changes	2,024	85	–	93	2,202	–	1,500	3,702
Acquisitions and disposals	–	–	–	–	–	–	–	–
Foreign currency translation	(4,883)	(1,591)	–	(3,376)	(9,850)	–	–	(9,850)
Other, Including non-credit risk movements	291	–	–	(1,005)	(714)	61	(4,350)	(5,003)
At 31 December 2022	110,103	42,091	1,350	43,311	196,855	27,177	20,679	244,711
Assets growth & mix	(4,424)	728	535	1,183	(1,978)	–	–	(1,978)
Asset quality	(391)	390	–	2,684	2,683	–	–	2,683
Risk-weighted assets efficiencies	–	–	–	(688)	(688)	–	–	(688)
Model Updates	(597)	(151)	–	(151)	(899)	–	500	(399)
Methodology and policy changes	–	(196)	–	–	(196)	–	(800)	(996)
Acquisitions and disposals	(1,630)	–	–	–	(1,630)	–	–	(1,630)
Foreign currency translation	(386)	(303)	–	(2,035)	(2,724)	–	–	(2,724)
Other, Including non-credit risk movements	–	–	–	–	–	684	4,488	5,172
At 31 December 2023	102,675	42,559	1,885	44,304	191,423	27,861	24,867	244,151

Movements in risk-weighted assets

RWA decreased by \$0.6 billion, or 0.2 per cent from 31 December 2022 to \$244.2 billion. This was due to a decrease in Credit Risk RWA of \$5.4 billion, an increase in Market Risk RWA of \$4.2 billion and an increase in Operational Risk RWA of \$0.7 billion.

Corporate, Commercial & Institutional Banking

Credit Risk RWA decreased by \$7.4 billion, or 6.7 per cent from 31 December 2022 to \$102.7 billion mainly due to:

- \$4.4 billion decrease from changes in asset growth & mix of which:
 - \$10.3 billion decrease from optimisation actions including reduction in lower returning portfolios
 - \$5.9 billion increase from asset balance growth across the rest of the portfolio
- \$1.6 billion decrease from sale of Aviation business
- \$0.9 billion decrease from industry-wide regulatory changes to align IRB model performance
- \$0.4 billion decrease from foreign currency translation
- \$0.4 billion decrease from asset quality movements, reflecting client upgrades in Asia, Europe & Americas, partially offset by sovereign downgrades in Africa & Middle East
- \$0.3 billion increase from model changes in Financial Markets and Lending

Consumer, Private & Business Banking

Credit Risk RWA increased by \$0.5 billion, or 1.1 per cent from 31 December 2022 to \$42.6 billion mainly due to:

- \$0.7 billion increase from changes in asset growth and mix, mainly from Asia
- \$0.4 billion increase due to deterioration in asset quality mainly in Asia
- \$0.3 billion decrease from foreign currency translation
- \$0.2 billion decrease from methodology change relating to an unsecured lending portfolio in Africa & Middle East
- \$0.1 billion decrease from industry-wide regulatory changes to align IRB model performance

Ventures

Ventures is comprised of Mox Bank Limited, Trust Bank and SC Ventures. Credit Risk RWA increased by \$0.5 billion, or 39.7 per cent from 31 December 2022 to \$1.9 billion from asset balance growth, mainly from SC Ventures.

Central & Other items

Central & Other items RWA mainly relate to the Treasury Markets liquidity portfolio, equity investments and current & deferred tax assets.

Credit Risk RWA increased by \$1 billion, or 2.3 per cent from 31 December 2022 to \$44.3 billion mainly due to:

- \$2.7 billion increase due to deterioration in asset quality mainly from sovereign downgrades in Africa & Middle East
- \$1.2 billion increase from changes in asset growth & mix
- \$2.0 billion decrease from foreign currency translation
- \$0.7 billion decrease from RWA efficiencies
- \$0.2 billion decrease from model changes in Treasury Markets

Market Risk

Total Market Risk RWA increased by \$4.2 billion, or 20.3 per cent from 31 December 2022 to \$24.9 billion due to:

- \$2.4 billion increase in Standardised Approach (SA) RWA driven by higher Specific Interest Rate Risk relating to the traded credit portfolio, offset by lower net Structural FX positions
- \$2.1 billion increase in Internal Models Approach (IMA) RWA due to increased positions and increased market volatility
- \$0.5 billion increase in IMA RWA due to introduction of a new VaR model to address the rise in VaR backtesting exceptions in 2022
- \$0.8 billion decrease in IMA RWA due to reduction in the IMA multiplier with fewer VaR backtesting exceptions in 2023 than in 2022

Operational Risk

Operational Risk RWA increased by \$0.7 billion, or 2.5 per cent from 31 December 2022 to \$27.9 billion, mainly due to a marginal increase in average income as measured over a rolling three-year time horizon for certain products.

Leverage ratio

The Group's UK leverage ratio, which excludes qualifying claims on central banks was 4.7 per cent, which is above the current minimum requirement of 3.7 per cent. The leverage ratio was 6 basis points lower than FY22. Tier 1 Capital decreased by \$0.8 billion as CET1 capital increased by \$0.2 billion and was more than offset by the redemption of \$1 billion 7.75 per cent AT1 securities. Leverage exposure decreased by \$7.2 billion benefiting from an increase in deduction for central bank claims of \$19.6 billion, a decrease in securities financing transactions and add-on of \$1.3 billion, partly offset by increase in Other Assets of \$7.2 billion, Off-balance sheet items of \$4.5 billion and Derivatives of \$2 billion.

Leverage ratio

	2023 \$million	2022 \$million
Tier 1 capital	39,806	40,641
Derivative financial instruments	50,434	63,717
Derivative cash collateral	10,337	12,515
Securities financing transactions (SFTs)	97,581	89,967
Loans and advances and other assets	664,492	653,723
Total on-balance sheet assets	822,844	819,922
Regulatory consolidation adjustments¹	(92,709)	(71,728)
Derivatives adjustments		
Derivatives netting	(39,031)	(47,118)
Adjustments to cash collateral	(9,833)	(10,640)
Net written credit protection	1,359	548
Potential future exposure on derivatives	42,184	35,824
Total derivatives adjustments	(5,321)	(21,386)
Counterparty risk leverage exposure measure for SFTs	6,639	15,553
Off-balance sheet items	123,572	119,049
Regulatory deductions from Tier 1 capital	(7,883)	(7,099)
Total exposure measure excluding claims on central banks	847,142	854,311
Leverage ratio excluding claims on central banks (%)	4.7%	4.8%
Average leverage exposure measure excluding claims on central banks	853,968	864,605
Average leverage ratio excluding claims on central banks (%)	4.6%	4.7%
Countercyclical leverage ratio buffer	0.1%	0.1%
G-SII additional leverage ratio buffer	0.4%	0.4%

1 Includes adjustment for qualifying central bank claims and unsettled regular way trades