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STANDARD CHARTERED PLC

渣打集團有限公司

(Incorporated as a public limited company in England and Wales with limited liability)
(Registered Number: 966425)
(Stock Code: 02888)

Full-Year and Fourth Quarter 2022 Results
Additional Financial information – Part 1

Highlights

Standard Chartered PLC (the Group) today releases its results for the year ended 31 December 2022. The following pages provide additional information related to the announcement.

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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	Description	Supplementary information
Approach for determining expected credit losses	For material loan portfolios, the Group has adopted a statistical modelling approach for determining expected credit losses that makes extensive use of credit modelling. These models leveraged existing advanced internal ratings based (IRB) models, where these were available. Where model performance breaches model monitoring thresholds or validation standards, a post model adjustment may be required to correct for identified model issues, which will be removed once those issues have been remedied.	IFRS 9 expected credit loss methodology Determining lifetime expected credit loss for revolving products Post-model adjustments
Incorporation of forward-looking information	The determination of expected credit loss includes various assumptions and judgements in respect of forward-looking macroeconomic information. Refer to for incorporation of forward-looking information, forecast of key macroeconomic variables underlying the expected credit loss calculation and the impact on non-linearity and sensitivity of expected credit loss calculation to macroeconomic variables. Judgemental adjustments, including management overlays may also be used to capture risks not identified in the models.	Incorporation of forward-looking information and impact of non-linearity Forecast of key macroeconomic variables underlying the expected credit loss calculation Judgemental adjustments and sensitivity to macroeconomic variables
Significant increase in Credit Risk (SICR)	Expected credit loss for financial assets will transfer from a 12-month basis (stage 1) to a lifetime basis (stage 2) when there is a significant increase in Credit Risk (SICR) relative to that which was expected at the time of origination, or when the asset becomes credit-impaired. On transfer to a lifetime basis, the expected credit loss for those assets will reflect the impact of a default event expected to occur over the remaining lifetime of the instrument rather than just over the 12 months from the reporting date. SICR is assessed by comparing the risk of default of an exposure at the reporting date with the risk of default at origination (after considering the passage of time). 'Significant' does not mean statistically significant nor is it reflective of the extent of the impact on the Group's financial statements. Whether a change in the risk of default is significant or not is assessed using quantitative and qualitative criteria, the weight of which will depend on the type of product and counterparty.	Quantitative criteria Significant increase in Credit Risk thresholds Specific qualitative and quantitative criteria per segment: Corporate, Commercial & Institutional Banking (CCIB) clients Consumer and Business Banking clients Private Banking clients Debt securities
Assessment of credit-impaired financial assets	Credit-impaired (stage 3) financial assets comprise those assets that have experienced an observed credit event and are in default. Default represents those assets that are at least 90 days past due in respect of principal and interest payments and/or where the assets are otherwise considered unlikely to pay. This definition is consistent with internal Credit Risk management and the regulatory definition of default. Unlikely to pay factors include objective conditions such as bankruptcy, debt restructuring, fraud or death. It also includes credit-related modifications of contractual cashflows due to significant financial difficulty (forbearance) where the Group has granted concessions that it would not ordinarily consider. Interest income for stage 3 assets is recognised by applying the original effective interest rate to the net asset amount (that is, net of credit impairment provisions). When financial assets are transferred from stage 3 to stage 2, any contractual interest recovered in excess of the interest income recognised while the asset was in stage 3 is reported within the credit impairment line.	Consumer and Business Banking clients CCIB and Private Banking clients
Transfers between stages	Assets will transfer from stage 3 to stage 2 when they are no longer considered to be credit-impaired. Assets will not be considered credit-impaired only if the customer makes payments such that the obligations are current in line with the original contractual terms. Assets may transfer to stage 1 if they are no longer considered to have experienced a significant increase in Credit Risk. This will be immediate when the original probability of default based transfer criteria are no longer met (and as long as none of the other transfer criteria apply). Where assets were transferred using other measures, the assets will only transfer back to stage 1 when the condition that caused the significant increase in Credit Risk no longer applies (and as long as none of the other transfer criteria apply).	Movement in loan exposures and expected credit losses

Modified financial assets	Where the contractual terms of a financial instrument have been modified, and this does not result in the instrument being derecognised, a modification gain or loss is recognised in the income statement representing the difference between the original cashflows and the modified cashflows, discounted at the effective interest rate. The modification gain/loss is directly applied to the gross carrying amount of the instrument. If the modification is credit related, such as forbearance or where the Group has granted concessions that it would not ordinarily consider, then it will be considered credit-impaired. Modifications that are not credit related will be subject to an assessment of whether the asset's Credit Risk has increased significantly since origination by comparing the remaining lifetime PD based on the modified terms with the remaining lifetime PD based on the original contractual terms.	COVID-19 relief measures Forbearance and other modified loans
Governance and application of expert credit judgement in respect of expected credit losses	The models used in determining ECL are reviewed and approved by the Group Credit Model Assessment Committee and have been validated by Group model validation, which is independent of the business. 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 then an assessment of whether an ECL adjustment is required to correct for the identified model issue is completed. The determination of expected credit losses requires a significant degree of management judgement which had an impact on governance processes, with the output of the expected credit models assessed by the IFRS 9 Impairment Committee.	Group Credit Model Assessment Committee IFRS 9 Impairment Committee

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 2022, before and after taking into account any collateral held or other Credit Risk mitigation.

The Group's on-balance sheet maximum exposure to Credit Risk reduced by $6 billion to $790 billion (31 December 2021: $796 billion).

Loans and advances to customers increased by $12 billion to $311 billion (31 December 2021: $298 billion). This includes a $24 billion increase in Treasury and securities backed loans held to collect partly offset by a $13 billion reduction from risk-weighted asset optimisation actions undertaken by CCIB and a $8 billion reduction from currency translation. Excluding the above, there was 3 per cent underlying loan growth, with growth in Trade partly offset by deleveraging in Wealth Management.

Excluding reverse repurchase agreements, loans and advances to customers reduced by $5 billion. The reduction was primarily in the CPBB business and was mainly driven by a decrease in Private Bank exposure (largely from UK, Hong Kong, and Singapore in all classes) and Residential Mortgage segment in Korea (due to tightened Debt Service Ratio following new government guidelines). This was partly offset by $0.6 billion increase in Ventures from portfolio growth in Mox and the launch of Trust Bank in Singapore.

Derivative exposures increased by $11.3 billion to $64 billion and investment debt securities increased by $9 billion to $172 billion. This was offset by a decrease of $14 billion of cash and balances at Central banks.

Off-balance sheet instruments increased by $12 billion to $229 billion, driven by higher undrawn commitments which increased from $159 billion to $169 billion.

	2022				2021			
		Credit risk management				Credit risk management		
	Maximum exposure $million	Collateral[8] $million	Master netting agreements $million	Net exposure $million	Maximum exposure $million	Collateral[8] $million	Master netting agreements $million	Net exposure $million
On-balance sheet								
Cash and balances at central banks	58,263			58,263	72,663			72,663
Loans and advances to banks[1]	39,519	978		38,541	44,383	1,079		43,304
of which – reverse repurchase agreements and other similar secured lending[7]	978	978		–	1,079	1,079		–
Loans and advances to customers[1]	310,647	135,194		175,453	298,468	131,397		167,071
of which – reverse repurchase agreements and other similar secured lending[7]	24,498	24,498		–	7,331	7,331		–
Investment securities – Debt securities and other eligible bills[2]	171,640			171,640	162,700			162,700
Fair value through profit or loss[3,7]	102,575	64,491	–	38,084	123,234	80,009	–	43,225
Loans and advances to banks	976			976	3,847			3,847
Loans and advances to customers	6,546			6,546	9,953			9,953
Reverse repurchase agreements and other similar lending[7]	64,491	64,491		–	80,009	80,009		–
Investment securities – Debt securities and other eligible bills[2]	30,562			30,562	29,425			29,425
Derivative financial instruments[4,7]	63,717	9,206	50,133	4,378	52,445	8,092	39,502	4,851
Accrued income	2,706			2,706	1,674			1,674
Assets held for sale	1,388			1,388	52			52
Other assets[5]	39,295			39,295	40,068			40,068
Total balance sheet	789,750	209,869	50,133	529,748	795,687	220,577	39,502	535,608
Off-balance sheet[6]								
Undrawn Commitments	168,668	2,951		165,717	158,523	3,848		154,675
Financial Guarantees and other equivalents	60,410	2,592		57,818	58,535	2,240		56,295
Total off-balance sheet	229,078	5,543	–	223,535	217,058	6,088	–	210,970
Total	1,018,828	215,412	50,133	753,283	1,012,745	226,665	39,502	746,578

1 An analysis of credit quality is set out in the credit quality analysis section. Further details of collateral held by client segment and stage are set out in the collateral analysis section
2 Excludes equity and other investments of $808 million (31 December 2021: $737 million). Further details are set out in Note 13 Financial instruments
3 Excludes equity and other investments of $3,230 million (31 December 2021: $5,861 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.

Analysis of financial instrument by stage (audited)

The total balance of financial instruments held increased by $15.3 billion to $858 billion (31 December 2021: $843 billion).

Total stage 1 balances increased by $22 billion, of which around $16 billion was in loans and advances to customers, primarily due to increased levels of reverse repurchase agreements in Central and other items segment. CPBB decreased by $5.2 billion due to mortgages and secured wealth. CCIB increased by $4 billion to $126 billion (31 December 2021: $122 billion). Off-balance sheet exposures increased by $15 billion primarily in undrawn commitments from increased customer demand.

Stage 2 financial instruments reduced to $28.1 billion (31 December 2021: $34.6 billion) due to exposure changes and transfers to stage 1 in CCIB, particularly in the Transport, telecoms and utilities and Energy sectors, partly offset by increase in commercial real estate, primarily in Asia. As a result, the proportion of loans and advances to customers classified in stage 2 reduced by $3.8 billion.

Stage 3 financial instruments were stable at $9.3 billion (31 December 2021: $9.1 billion).

	2022											
	Stage 1			Stage 2			Stage 3			Total		
	Gross balance[1] $million	Total credit impair-ment $million	Net carrying value $million	Gross balance[1] $million	Total credit impair-ment $million	Net carrying value $million	Gross balance[1] $million	Total credit impair-ment $million	Net carrying value $million	Gross balance[1] $million	Total credit impair-ment $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	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 letters of credit[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 (2021: $33 million) originated credit-impaired debt securities with impairment of $13 million (2021: Nil)

	2021											
	Stage 1			Stage 2			Stage 3			Total		
	Gross balance[1] $million	Total credit impair-ment $million	Net carrying value $million	Gross balance[1] $million	Total credit impair-ment $million	Net carrying value $million	Gross balance[1] $million	Total credit impair-ment $million	Net carrying value $million	Gross balance[1] $million	Total credit impair-ment $million	Net carrying value $million
Cash and balances at central banks	72,601	–	72,601	66	(4)	62	–	–	–	72,667	(4)	72,663
Loans and advances to banks (amortised cost)	43,776	(12)	43,764	580	(4)	576	54	(11)	43	44,410	(27)	44,383
Loans and advances to customers (amortised cost)	279,178	(473)	278,705	16,849	(524)	16,325	8,095	(4,657)	3,438	304,122	(5,654)	298,468
Debt securities and other eligible bills[5]	157,352	(67)		5,315	(42)		113	(66)		162,780	(175)	
Amortised cost	41,092	(13)	41,079	200	(1)	199	113	(66)	47	41,405	(80)	41,325
FVOCI[2]	116,260	(54)		5,115	(41)		–	–		121,375	(95)	
Accrued income (amortised cost)[4]	1,674		1,674			–			–	1,674	–	1,674
Assets held for sale[4]	52		52			–			–	52	–	52
Other assets	40,067	–	40,067	–	–	–	4	(3)	1	40,071	(3)	40,068
Undrawn commitments[3]	149,530	(42)		8,993	(60)		–	–		158,523	(102)	
Financial guarantees, trade credits and irrevocable letters of credit[3]	54,923	(15)		2,813	(22)		799	(207)		58,535	(244)	
Total	799,153	(609)		34,616	(656)		9,065	(4,944)		842,834	(6,209)	

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 $33 million originated credit-impaired debt securities and Nil impairment

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.

	Corporate, Commercial & Institutional Banking			Private Banking[1]	Consumer & Business Banking[4]
Credit quality description	Internal grade mapping	S&P external ratings equivalent	Regulatory PD range (%)	Internal ratings	Number of days past due
Strong	1A to 5B	AAA/AA+ to BBB-/BB+	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+[2]	0.426 to 15.75	Class II and Class III	Loans past due till 29 days
Higher risk	Grade 12	CCC+ to C[3]	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: BB to CCC/C
3 Banks' rating: CCC to C
4 Medium enterprise clients within Business Banking are managed using the same internal credit grades as CCIB

The table overleaf 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.

Stage 1:

Stage 1 gross loans and advances to customers increased by $16 billion to $295 billion (31 December 2021: $279 billion) and represent an increase of 1 percentage point to 93 per cent of loans and advances to customers (31 December 2021: 92 per cent). The stage 1 coverage ratio remained at 0.2 per cent compared with 31 December 2021.

In CCIB, the proportion of stage 1 loans has increased to $126 billion, being 88 per cent (31 December 2021: 85 per cent), and the percentage of stage 1 loans rated as strong is higher at $90 billion, being 71 per cent (31 December 2021: 64 per cent) as the Group continues to focus on the origination of investment grade lending. This is primarily due to a $10.5 billion increase in exposures in Financing, insurance and non-banking from a few notable clients, $1.5 billion from rating upgrades in Transport, telecom and utilities clients, offset by $2.8 billion decrease in Manufacturing and $5.3 billion decrease in China Real Estate sector from repayments and downgrades into stage 2.

CPBB stage 1 loans decreased by $5 billion to $129 billion (31 December 2021: $134 billion), mainly driven by a decrease in Private Bank exposure (largely from UK, Hong Kong, and Singapore in all classes), and a decrease in exposure of the Residential Mortgage segment in Korea (due to tightened Debt Service Ratio following new government guidelines). The proportion of loans and advances rated as strong increased to 97 per cent (31 December 2021: 96 per cent).

Ventures increased by $609 million to $691 million (31 December 2021: $82 million) from new lending in Mox Bank and the launch of Trust Bank in Singapore.

Central and other items segment increased by $17 billion to $39.1 billion (31 December 2021: $22.4 billion), due to higher levels of reverse repurchase agreements with Non Bank Financial Institutions and placements with governments.

Stage 2:

Stage 2 loans and advances to customers decreased by $4 billion to $13.0 billion (31 December 2021: $16.8 billion), primarily in CCIB due to exposure reductions and rating upgrades in Transport, telecom and utilities sectors, $1 billion decrease in the Energy sector, offset by increase in stage 2 in China commercial real estate. The proportion of stage 2 loans also reduced to 4.1 per cent (31 December 2021: 5.5 per cent).

Stage 2 loans to customers classified as 'Higher risk' was at $1.8 billion due to the downgrade of Pakistan. This was largely offset by downgrades to stage 3 primarily as a result of Sri Lanka and Ghana sovereign rating downgrade.

CPBB stage 2 loans reduced by $0.2 billion primarily due to the transfers into stage 1 arising from the change in Credit Risk thresholds for certain credit card portfolios, largely in Asia.

The overall stage 2 cover ratio increased by 0.3 per cent to 3.4 per cent (31 December 2021: 3.1 per cent). CCIB cover ratio increased to 2.8 per cent (31 December 2021: 2.3 per cent) primarily within higher risk exposures from sovereign downgrades offset by full release of COVID-19 overlay. CPBB stage 2 cover ratio decreased to 7.2 per cent (31 December 2021: 9.5 per cent), primarily driven by the release of $30 million of COVID-19 management overlays arising from the reassessment of residual risk after manifestation of such risk through individual impairments, partly offset by worsening macroeconomic variables and portfolio maturity in the China loan book.

Stage 3:

Gross stage 3 loans decreased by $0.3 billion to $7.8 billion (31 December 2021: $8.1 billion) as a result of upgrades and debt sales in CCIB which was offset by the downgrade of Sri Lanka and Ghana and China commercial real estate clients.

CPBB stage 3 loans were materially unchanged at $1.5 billion, the $0.1 billion decrease was largely in Secured wealth and Mortgages portfolio.

Ventures stage 3 was $1 million primarily driven by downgrades in Mox Bank Hong Kong.

Central and other items stage 3 balances increased to $248 million (31 December 2021: Nil) due to downgrade of local currency loans to Sri Lanka Sovereign.

Loans and advances by client segment (audited)

	2022							
		Customers						
Amortised cost	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
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 balance[1]	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 (S3)	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

	2021 (Restated)[1]							
		Customers						
Amortised cost	Banks $million	Corporate, Commercial & Institutional Banking $million	Consumer, Private & Business Banking[1] $million	Ventures[1] $million	Central & other items $million	Customer Total $million	Undrawn commitments $million	Financial Guarantees $million
Stage 1	43,776	122,368	134,289	82	22,439	279,178	149,530	54,923
– Strong	30,813	77,826	129,486	82	22,333	229,727	132,274	37,418
– Satisfactory	12,963	44,542	4,803	–	106	49,451	17,256	17,505
Stage 2	580	14,818	1,912	9	110	16,849	8,993	2,813
– Strong	126	2,366	1,253	–	–	3,619	2,786	714
– Satisfactory	105	11,180	308	–	–	11,488	5,235	1,546
– Higher risk	349	1,272	351	9	110	1,742	972	553
Of which (stage 2):								
– Less than 30 days past due	–	77	308	–	–	385	–	–
– More than 30 days past due	–	49	351	9	–	409	–	–
Stage 3, credit-impaired financial assets	54	6,520	1,575	–	–	8,095	–	799
Gross balance[2]	44,410	143,706	137,776	91	22,549	304,122	158,523	58,535
Stage 1	(12)	(103)	(369)	(1)	–	(473)	(42)	(15)
– Strong	(4)	(58)	(282)	(1)	–	(341)	(23)	(5)
– Satisfactory	(8)	(45)	(87)	–	–	(132)	(19)	(10)
Stage 2	(4)	(341)	(181)	(2)	–	(524)	(60)	(22)
– Strong	(2)	(62)	(104)	–	–	(166)	(6)	(1)
– Satisfactory	(2)	(179)	(32)	–	–	(211)	(46)	(9)
– Higher risk	–	(100)	(45)	(2)	–	(147)	(8)	(12)
Of which (stage 2):								
– Less than 30 days past due	–	(2)	(32)	–	–	(34)	–	–
– More than 30 days past due	–	(3)	(45)	(2)	–	(50)	–	–
Stage 3, credit-impaired financial assets	(11)	(3,861)	(796)	–	–	(4,657)	–	(207)
Total credit impairment	(27)	(4,305)	(1,346)	(3)	–	(5,654)	(102)	(244)
Net carrying value	44,383	139,401	136,430	88	22,549	298,468		
Stage 1	0.0%	0.1%	0.3%	1.2%	0.0%	0.2%	0.0%	0.0%
– Strong	0.0%	0.1%	0.2%	1.2%	0.0%	0.1%	0.0%	0.0%
– Satisfactory	0.1%	0.1%	1.8%	0.0%	0.0%	0.3%	0.1%	0.1%
Stage 2	0.7%	2.3%	9.5%	22.2%	0.0%	3.1%	0.7%	0.8%
– Strong	1.6%	2.6%	8.3%	0.0%	0.0%	4.6%	0.2%	0.1%
– Satisfactory	1.9%	1.6%	10.4%	0.0%	0.0%	1.8%	0.9%	0.6%
– Higher risk	0.0%	7.9%	12.8%	22.2%	0.0%	8.4%	0.8%	2.2%
Of which (stage 2):								
– Less than 30 days past due	0.0%	2.6%	10.4%	0.0%	0.0%	8.8%	0.0%	0.0%
– More than 30 days past due	0.0%	6.1%	12.8%	22.2%	0.0%	12.2%	0.0%	0.0%
Stage 3, credit-impaired financial assets (S3)	20.4%	59.2%	50.5%	0.0%	0.0%	57.5%	0.0%	25.9%
Cover ratio	0.1%	3.0%	1.0%	3.3%	0.0%	1.9%	0.1%	0.4%
Fair value through profit or loss								
Performing	22,574	69,356	67	–	1,774	71,197	–	–
– Strong	20,132	53,756	67	–	1,772	55,595	–	–
– Satisfactory	2,442	15,600	–	–	2	15,602	–	–
– Higher risk	–	–	–	–	–	–	–	–
Defaulted (CG13-14)	–	38	–	–	–	38	–	–
Gross balance (FVTPL)[3]	22,574	69,394	67	–	1,774	71,235	–	–
Net carrying value (incl FVTPL)	66,957	208,795	136,497	88	24,323	369,703	–	–

1 Following the increased strategic importance and reporting of Ventures to management, this has been established as a separate operating segment from January 2022. Prior period has been restated

2 Loans and advances includes reverse repurchase agreements and other similar secured lending of $7,331 million under Customers and of $1,079 million under Banks, held at amortised cost

3 Loans and advances includes reverse repurchase agreements and other similar secured lending of $61,282 million under Customers and of $18,727 million under Banks, held at fair value through profit or loss

Loans and advances by client segment credit quality analysis

			Corporate, Commercial & Institutional Banking							
			2022							
			Gross				Credit impairment			
Credit grade	Regulatory 1 year PD range (%)	S&P external ratings equivalent	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
Strong			89,567	2,068	–	91,635	(43)	(30)	–	(73)
1A-2B	0 – 0.045	AA- and above	8,247	117	–	8,364	(4)	–	–	(4)
3A-4A	0.046 – 0.110	A+ to A-	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+/B	9,979	3,116	–	13,095	(20)	(35)	–	(55)
10A-11C	4.001 – 15.75	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)
Credit-impaired			–	–	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)

			2021							
			Gross				Credit impairment			
Credit grade	Regulatory 1 year PD range (%)	S&P external ratings equivalent	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
Strong			77,826	2,366	–	80,192	(58)	(62)	–	(120)
1A-2B	0 – 0.045	AA- and above	14,013	216	–	14,229	(1)	–	–	(1)
3A-4A	0.046 – 0.110	A+ to A-	23,173	515	–	23,688	(3)	–	–	(3)
4B-5B	0.111 – 0.425	BBB+ to BBB-/BB+	40,640	1,635	–	42,275	(54)	(62)	–	(116)
Satisfactory			44,542	11,180	–	55,722	(45)	(179)	–	(224)
6A-7B	0.426 – 1.350	BB+/BB to BB-	27,009	2,894	–	29,903	(21)	(40)	–	(61)
8A-9B	1.351 – 4.000	BB-/B+ to B+/B	11,910	5,592	–	17,502	(13)	(90)	–	(103)
10A-11C	4.001 – 15.75	B to B-/CCC+	5,623	2,694	–	8,317	(11)	(49)	–	(60)
Higher risk			–	1,272	–	1,272	–	(100)	–	(100)
12	15.751 – 99.999	CCC+/C	–	1,272	–	1,272	–	(100)	–	(100)
Credit-impaired			–	–	6,520	6,520	–	–	(3,861)	(3,861)
13-14	100	Defaulted	–	–	6,520	6,520	–	–	(3,861)	(3,861)
Total			122,368	14,818	6,520	143,706	(103)	(341)	(3,861)	(4,305)

	Consumer, Private & Business Banking							
	2022							
	Gross				Credit impairment			
Credit grade	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
Strong	124,734	1,215	–	125,949	(332)	(62)	–	(394)
Secured	107,262	995	–	108,257	(48)	(12)	–	(60)
Unsecured	17,472	220	–	17,692	(284)	(50)	–	(334)
Satisfactory	4,400	146	–	4,546	(74)	(17)	–	(91)
Secured	4,006	115	–	4,121	(11)	(1)	–	(12)
Unsecured	394	31	–	425	(63)	(16)	–	(79)
Higher risk	–	309	–	309	–	(41)	–	(41)
Secured	–	216	–	216	–	(6)	–	(6)
Unsecured	–	93	–	93	–	(35)	–	(35)
Credit-impaired	–	–	1,453	1,453	–	–	(776)	(776)
Secured			1,028	1,028			(552)	(552)
Unsecured	–	–	425	425	–	–	(224)	(224)
Total	129,134	1,670	1,453	132,257	(406)	(120)	(776)	(1,302)

	2021 (Restated[1])							
	Gross				Credit impairment			
Credit grade	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
Strong	129,486	1,253	–	130,739	(282)	(104)	–	(386)
Secured	112,167	884	–	113,051	(48)	(19)	–	(67)
Unsecured	17,319	369	–	17,688	(234)	(85)	–	(319)
Satisfactory	4,803	308	–	5,111	(87)	(32)	–	(119)
Secured	4,524	164	–	4,688	(44)	(1)	–	(45)
Unsecured	279	144	–	423	(43)	(31)	–	(74)
Higher risk	–	351	–	351	–	(45)	–	(45)
Secured	–	250	–	250	–	(11)	–	(11)
Unsecured	–	101	–	101	–	(34)	–	(34)
Credit-impaired	–	–	1,575	1,575	–	–	(796)	(796)
Secured			1,107	1,107			(516)	(516)
Unsecured	–	–	468	468	–	–	(280)	(280)
Total	134,289	1,912	1,575	137,776	(369)	(181)	(796)	(1,346)

1 Following the increased strategic importance and reporting of Ventures to management, this has been established as a separate operating segment from 1 January 2022. Prior period has been restated. Detailed credit quality analysis not presented as amounts are not sufficiently material

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

	2022				2021			
Amortised cost	Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million	Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million
Gross (stage 1)	248,625	17,553	29,041	295,219	235,123	19,990	24,065	279,178
Provision (stage 1)	(454)	(73)	(32)	(559)	(371)	(86)	(16)	(473)
Gross (stage 2)	8,302	3,122	1,619	13,043	8,779	4,077	3,993	16,849
Provision (stage 2)	(337)	(104)	(3)	(444)	(318)	(137)	(69)	(524)
Gross (stage 3)	4,562	2,725	558	7,845	4,448	2,918	729	8,095
Provision (stage 3)	(2,483)	(1,765)	(209)	(4,457)	(2,400)	(1,970)	(287)	(4,657)
Net loans[1]	258,215	21,458	30,974	310,647	245,261	24,792	28,415	298,468

1 Includes reverse repurchase agreements and other similar secured lending

Loans and advances to banks

	2022				2021			
Amortised cost	Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million	Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million
Gross (stage 1)	21,806	3,818	13,525	39,149	29,916	5,828	8,032	43,776
Provision (stage 1)	(3)	(4)	(2)	(9)	(3)	(5)	(4)	(12)
Gross (stage 2)	212	116	9	337	346	144	90	580
Provision (stage 2)	(2)	(1)	–	(3)	(1)	(1)	(2)	(4)
Gross (stage 3)	59	–	–	59	54	–	–	54
Provision (stage 3)	(14)	–	–	(14)	(11)	–	–	(11)
Net loans[1]	22,058	3,929	13,532	39,519	30,301	5,966	8,116	44,383

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 amounts principally reflect repayments although stage 2 may include new business written 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 $35 billion to $720 billion when compared with 31 December 2021. $2 billion net increase was in CCIB, from new originations largely reverse repurchase agreements from a change in booking model and undrawn commitments. There was a $2 billion net increase in CPBB due to an increase in undrawn commitments of $7 billion. Debt securities increased by $9 billion in stage 1. The rest of the increase is largely Central and other items segment due to lending to Governments in Asia.

Total stage 1 provisions increased by $36 million to $645 million. CPBB increase is $36 million primarily in unsecured lending from net change in exposures, MEV changes and book growth in Asia offset by partial release of COVID-19 overlay. CCIB provisions increased by $31 million primarily due to new originations. Debt Security provision decreased by $42 million largely due to stage transfers following sovereign downgrades in Asia and Africa and the Middle East.

Stage 2 gross exposures decreased by $7 billion to $27 billion, primarily driven by $6 billion of net outflows from exposure changes and transfers to stage 1 in CCIB, particularly in the Energy and Transport, Telecom and Utilities sectors. CPBB exposures decreased by $1.9 billion, of which $1.3 billion was from the secured portfolio. Debt securities were broadly stable as exits were offset by the sovereign downgrade of Pakistan.

Stage 2 provisions decreased by $34 million to $618 million compared to 31 December 2021. $14 million decrease is from CCIB from full release of judgemental COVID-19 overlay of $102 million offset by the impact of sovereign downgrades and an increase in provisions for China commercial real estate. CPBB provisions decreased by $67 million, mainly in unsecured lending as a result of significant increase in credit risk thresholds which resulted in a decrease of ECL of $15 million and model changes resulted in ECL decrease of $7 million, and partial release of COVID-19 overlay.

In CCIB, gross stage 3 loans decreased by $0.4 billion compared with 31 December 2021 due to upgrades and repayments offset by sovereign downgrades in Africa and the Middle East and increased exposure to China commercial real estate. CCIB provisions decreased by $0.3 billion to $3.8 billion. CPBB total stage 3 loans decreased by $0.1 billion to $1.5 billion and provision decreased by $21 million driven by Personal loans and other unsecured lending portfolio as markets returned to normalised flows following the expiry of the majority of COVID-19 relief schemes in 2021 offset by increase in provisions secured portfolio. Debt Security Gross assets increased by $31 million to $144 million (31 December 2021: $113 million) due to new downgrade of Ghana Sovereign, offset by one corporate write-off.

All segments (audited)

Amortised cost and FVOCI	Stage 1			Stage 2			Stage 3[5]			Total		
	Gross balance[3] $million	Total credit impair-ment $million	Net $million	Gross balance[3] $million	Total credit impair-ment $million	Net $million	Gross balance[3] $million	Total credit impair-ment $million	Net $million	Gross balance[3] million	Total credit impair-ment $million	Net $million
As at 1 January 2021	642,960	(663)	642,297	39,787	(881)	38,906	10,100	(5,593)	4,507	692,847	(7,137)	685,710
Transfers to stage 1	25,975	(620)	25,355	(25,924)	620	(25,304)	(51)	–	(51)	–	–	–
Transfers to stage 2	(53,994)	211	(53,783)	54,335	(220)	54,115	(341)	9	(332)	–	–	–
Transfers to stage 3	(212)	3	(209)	(2,822)	335	(2,487)	3,034	(338)	2,696	–	–	–
Net change in exposures	84,288	(132)	84,156	(30,551)	169	(30,382)	(2,429)	661	(1,768)	51,308	698	52,006
Net remeasurement from stage changes	–	54	54	–	(157)	(157)	–	(212)	(212)	–	(315)	(315)
Changes in risk parameters	–	79	79	–	(89)	(89)	–	(915)	(915)	–	(925)	(925)
Write-offs	–	–	–	–	–	–	(1,215)	1,215	–	(1,215)	1,215	–
Interest due but unpaid	–	–	–	–	–	–	(189)	189	–	(189)	189	–
Discount unwind	–	–	–	–	–	–	–	227	227	–	227	227
Exchange translation differences and other movements[1]	(14,258)	459	(13,799)	(275)	(429)	(704)	152	(184)	(32)	(14,381)	(154)	(14,535)
As at 31 December 2021[2]	684,759	(609)	684,150	34,550	(652)	33,898	9,061	(4,941)	4,120	728,370	(6,202)	722,168
Income statement ECL (charge)/release		1			(77)			(466)			(542)	
Recoveries of amounts previously written off		–			–			288			288	
Total credit impairment (charge)/release		1			(77)			(178)			(254)	
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 2022[2]	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[6]		14			(420)			(725)			(1,131)	
Recoveries of amounts previously written off		–			–			293			293	
Total credit impairment (charge)/release[4]		14			(420)			(432)			(838)	

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 $101,743 million (2021: $114,464 million) and Total credit impairment of $88 million (2021: $7 million)
3 The gross balance includes the notional amount of off balance sheet instruments
4 Statutory basis
5 Stage 3 gross includes $28 million (2021: $33 million) originated credit-impaired debt securities with impairment of $13 million (2021: Nil)
6 Does not include $2 million (2021: Nil) release relating to Other assets

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

	Stage 1			Stage 2			Stage 3[2]			Total		
Amortised cost and FVOCI	Gross balance $million	Total credit impair-ment $million	Net $million	Gross balance $million	Total credit impair-ment $million	Net $million	Gross balance $million	Total credit impair-ment $million	Net $million	Gross balance $million	Total credit impair-ment $million	Net[3] $million
As at 1 January 2021	149,316	(56)	149,260	3,506	(26)	3,480	114	(58)	56	152,936	(140)	152,796
Transfers to stage 1	403	(11)	392	(403)	11	(392)	–	–	–	–	–	–
Transfers to stage 2	(2,358)	16	(2,342)	2,358	(16)	2,342	–	–	–	–	–	–
Transfers to stage 3	–	–	–	–	–	–	–	–	–	–	–	–
Net change in exposures	14,670	(39)	14,631	(155)	(11)	(166)	–	1	1	14,515	(49)	14,466
Net remeasurement from stage changes	–	13	13	–	(17)	(17)	–	–	–	–	(4)	(4)
Changes in risk parameters	–	21	21	–	8	8	–	(3)	(3)	–	26	26
Write-offs	–	–	–	–	–	–	–	–	–	–	–	–
Interest due but unpaid	–	–	–	–	–	–	–	–	–	–	–	–
Exchange translation differences and other movements[1]	(4,679)	(11)	(4,690)	9	9	18	(1)	(6)	(7)	(4,671)	(8)	(4,679)
As at 31 December 2021	157,352	(67)	157,285	5,315	(42)	5,273	113	(66)	47	162,780	(175)	162,605
Income statement ECL (charge)/release		(5)			(20)			(2)			(27)	
Recoveries of amounts previously written off		–			–			–			–	
Total credit impairment (charge)/release		(5)			(20)			(2)			(27)	
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)	

1 Includes fair value adjustments and amortisation on debt securities

2 Stage 3 gross includes $28 million (2021: $33 million) originated credit-impaired debt securities with impairment of $13 million (2021: Nil)

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 $171,640 million (31 December 2021: $162,700 million. Refer to the Analysis of financial instrument by stage table

Corporate, Commercial & Institutional Banking (audited)

	Stage 1			Stage 2			Stage 3			Total		
Amortised cost and FVOCI	Gross balance[1] $million	Total credit impair-ment $million	Net $million	Gross balance[1] $million	Total credit impair-ment $million	Net $million	Gross balance[1] $million	Total credit impair-ment $million	Net $million	Gross balance[1] $million	Total credit impair-ment $million	Net $million
As at 1 January 2021	292,453	(154)	292,299	31,742	(599)	31,143	8,422	(4,803)	3,619	332,617	(5,556)	327,061
Transfers to stage 1	21,123	(243)	20,880	(21,123)	243	(20,880)	–	–	–	–	–	–
Transfers to stage 2	(45,354)	103	(45,251)	45,556	(112)	45,444	(202)	9	(193)	–	–	–
Transfers to stage 3	(69)	–	(69)	(1,989)	164	(1,825)	2,058	(164)	1,894	–	–	–
Net change in exposures	50,762	(62)	50,700	(28,447)	133	(28,314)	(2,082)	636	(1,446)	20,233	707	20,940
Net remeasurement from stage changes	–	1	1	–	(27)	(27)	–	(145)	(145)	–	(171)	(171)
Changes in risk parameters	–	41	41	–	(105)	(105)	–	(434)	(434)	–	(498)	(498)
Write-offs	–	–	–	–	–	–	(510)	510	–	(510)	510	–
Interest due but unpaid	–	–	–	–	–	–	(224)	224	–	(224)	224	–
Discount unwind	–	–	–	–	–	–	–	191	191	–	191	191
Exchange translation differences and other movements	(5,783)	151	(5,632)	(302)	(122)	(424)	(90)	(103)	(193)	(6,175)	(74)	(6,249)
As at 31 December 2021	313,132	(163)	312,969	25,437	(425)	25,012	7,372	(4,079)	3,293	345,941	(4,667)	341,274
Income statement ECL (charge)/release[2]		(20)			1			57			38	
Recoveries of amounts previously written off		–			–			19			19	
Total credit impairment (charge)/release		(20)			1			76			57	
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)/release[2]		(21)			(131)			(315)			(467)	
Recoveries of amounts previously written off		–			–			49			49	
Total credit impairment (charge)/release		(21)			(131)			(266)			(418)	

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

2 Does not include $2 million (2021: Nil) release relating to Other assets

Consumer, Private and Business Banking (restated)[1] (audited)

	Stage 1			Stage 2			Stage 3			Total		
Amortised cost and FVOCI	Gross balance[2] $million	Total credit impair ment $million	Net $million	Gross balance[2] $million	Total credit impair ment $million	Net $million	Gross balance[2] $million	Total credit impair ment $million	Net $million	Gross balance[2] $million	Total credit impair ment $million	Net $million
As at 1 January 2021	182,044	(445)	181,599	4,534	(259)	4,275	1,561	(730)	831	188,139	(1,434)	186,705
Transfers to stage 1	4,450	(365)	4,085	(4,399)	365	(4,034)	(51)	–	(51)	–	–	–
Transfers to stage 2	(6,270)	89	(6,181)	6,409	(89)	6,320	(139)	–	(139)	–	–	–
Transfers to stage 3	(144)	2	(142)	(833)	172	(661)	977	(174)	803	–	–	–
Net change in exposures	14,055	(28)	14,027	(2,060)	47	(2,013)	(347)	24	(323)	11,648	43	11,691
Net remeasurement from stage changes	–	40	40	–	(113)	(113)	–	(66)	(66)	–	(139)	(139)
Changes in risk parameters	–	17	17	–	8	8	–	(480)	(480)	–	(455)	(455)
Write-offs	–	–	–	–	–	–	(705)	705	–	(705)	705	–
Interest due but unpaid	–	–	–	–	–	–	35	(35)	–	35	(35)	–
Discount unwind	–	–	–	–	–	–	–	36	36	–	36	36
Exchange translation differences and other movements	(3,275)	313	(2,962)	24	(316)	(292)	247	(77)	170	(3,004)	(80)	(3,084)
As at 31 December 2021	190,860	(377)	190,483	3,675	(185)	3,490	1,578	(797)	781	196,113	(1,359)	194,754
Income statement ECL (charge)/release		29			(58)			(522)			(551)	
Recoveries of amounts previously written off		–			–			269			269	
Total credit impairment (charge)/release		29			(58)			(253)			(282)	
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)	

1 Following the increased strategic importance and reporting of Ventures to management, this has been established as a separate operating segment from 2022. Prior period has been restated

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

Consumer, Private and Business Banking – Secured (restated)[1] (audited)

	Stage 1			Stage 2			Stage 3			Total		
Amortised cost and FVOCI	Gross balance[2] $million	Total credit impair-ment $million	Net $million	Gross balance[2] $million	Total credit impair-ment $million	Net $million	Gross balance[2] $million	Total credit impair-ment $million	Net $million	Gross balance[2] $million	Total credit impair-ment $million	Net $million
As at 1 January 2021	127,448	(72)	127,376	3,363	(52)	3,311	1,058	(418)	640	131,869	(542)	131,327
Transfers to stage 1	2,884	(37)	2,847	(2,843)	37	(2,806)	(41)	–	(41)	–	–	–
Transfers to stage 2	(3,888)	9	(3,879)	4,007	(9)	3,998	(119)	–	(119)	–	–	–
Transfers to stage 3	(107)	1	(106)	(400)	8	(392)	507	(9)	498	–	–	–
Net change in exposures	13,009	(9)	13,000	(1,452)	3	(1,449)	(224)	24	(200)	11,333	18	11,351
Net remeasurement from stage changes	–	(1)	(1)	–	(2)	(2)	–	(1)	(1)	–	(4)	(4)
Changes in risk parameters	–	4	4	–	14	14	–	(144)	(144)	–	(126)	(126)
Write-offs	–	–	–	–	–	–	(125)	125	–	(125)	125	–
Interest due but unpaid	–	–	–	–	–	–	(3)	3	–	(3)	3	–
Discount unwind	–	–	–	–	–	–	–	34	34	–	34	34
Exchange translation differences and other movements	(2,746)	9	(2,737)	10	(31)	(21)	50	(131)	(81)	(2,686)	(153)	(2,839)
As at 31 December 2021	136,600	(96)	136,504	2,685	(32)	2,653	1,103	(517)	586	140,388	(645)	139,743
Income statement ECL (charge)/release		(6)			15			(121)			(112)	
Recoveries of amounts previously written off		–			–			68			68	
Total credit impairment (charge)/release		(6)			15			(53)			(44)	
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	

1 Following the increased strategic importance and reporting of Ventures to management, this has been established as a separate operating segment from 2022. Prior period has been restated

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

Consumer, Private and Business Banking – Unsecured (restated)[1] (audited)

	Stage 1			Stage 2			Stage 3			Total		
Amortised cost and FVOCI	Gross balance[2] $million	Total credit impair-ment $million	Net $million	Gross balance[2] $million	Total credit impair-ment $million	Net $million	Gross balance[2] $million	Total credit impair-ment $million	Net $million	Gross balance[2] $million	Total credit impair-ment $million	Net $million
As at 1 January 2021	54,596	(373)	54,223	1,171	(207)	964	503	(312)	191	56,270	(892)	55,378
Transfers to stage 1	1,566	(328)	1,238	(1,556)	328	(1,228)	(10)	–	(10)	–	–	–
Transfers to stage 2	(2,382)	80	(2,302)	2,402	(80)	2,322	(20)	–	(20)	–	–	–
Transfers to stage 3	(37)	1	(36)	(433)	164	(269)	470	(165)	305	–	–	–
Net change in exposures	1,046	(19)	1,027	(608)	44	(564)	(123)	–	(123)	315	25	340
Net remeasurement from stage changes	–	41	41	–	(111)	(111)	–	(65)	(65)	–	(135)	(135)
Changes in risk parameters	–	13	13	–	(6)	(6)	–	(336)	(336)	–	(329)	(329)
Write-offs	–	–	–	–	–	–	(580)	580	–	(580)	580	–
Interest due but unpaid	–	–	–	–	–	–	38	(38)	–	38	(38)	–
Discount unwind	–	–	–	–	–	–	–	2	2	–	2	2
Exchange translation differences and other movements	(529)	304	(225)	14	(285)	(271)	197	54	251	(318)	73	(245)
As at 31 December 2021	54,260	(281)	53,979	990	(153)	837	475	(280)	195	55,725	(714)	55,011
Income statement ECL (charge)/release		35			(73)			(401)			(439)	
Recoveries of amounts previously written off		–			–			201			201	
Total credit impairment (charge)/release		35			(73)			(200)			(238)	
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)	

1 Following the increased strategic importance and reporting of Ventures to management, this has been established as a separate operating segment from 2022. Prior period has been restated

2 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 2022 and 31 December 2021 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'.

	2022														
	Corporate, Commercial & Institutional Banking			Consumer, Private & Business Banking			Ventures			Central & other items			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%

	2021 (Restated)[1]														
	Corporate, Commercial & Institutional Banking			Consumer, Private & Business Banking			Ventures			Central & other items			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	14,737	187	1.3%	2,704	123	4.5%	–	–	0.0%	4,691	22	0.5%	22,132	332	1.5%
Non-purely precautionary early alert	5,000	26	0.5%	83	–	0.0%	–	–	0.0%	–	–	0.0%	5,083	26	0.5%
Higher risk (CG12)	1,075	37	3.4%	27	1	3.2%	–	–	0.0%	631	20	3.1%	1,733	58	3.3%
Sub-investment grade	235	1	0.3%	–	–	0.0%	–	–	0.0%	–	–	0.0%	235	1	0.3%
Top up/Sell down (Private Banking)	–	–	0.0%	493	1	0.2%	–	–	0.0%	–	–	0.0%	493	1	0.2%
Others	4,390	8	0.2%	178	2	1.2%	–	–	0.0%	173	2	1.3%	4,741	12	0.3%
30 days past due	–	–	0.0%	190	16	8.7%	9	2	22.2%	–	–	0.0%	199	18	9.3%
Management overlay	–	166	0.0%	–	42	0.0%	–	–	0.0%	–	–	0.0%	–	208	0.0%
Total stage 2	25,437	425	1.7%	3,675	185	5.0%	9	2	22.2%	5,495	44	0.8%	34,616	656	1.9%

1 Following the increased strategic importance and reporting of Ventures to management, this has been established as a separate operating segment from 1 January 2022. Prior period has been restated

The majority of exposures and the associated expected credit loss provisions continue to be in stage 2 due to increases in the probability of default.

The amount of exposures in CCIB placed on non-purely precautionary early alert and PD have decreased from repayments and upgrades offset by sovereign downgrade of Pakistan.

In CPBB, 10 per cent of the provisions held against stage 2 arise from the application of the 30 days past due backstop, although this represents only 8 per cent of exposures.

Central and other items segment has seen a significant increase in the 'Higher risk' category as at 31 December 2022 due to Pakistan Sovereign downgrade.

'Others' primarily incorporates exposures where origination data is incomplete and the exposures are allocated into stage 2.

Credit impairment charge (restated)[1] (audited)

The ongoing credit impairment was a net charge of $838 million (31 December 2021: $263 million), which consists of $432 million in stage 3 (31 December 2021: $185 million) and $406 million in stage 1 and 2 (31 December 2021: $78 million).

Stage 1 and 2 impairment charge increased by $328 million to $406 million (31 December 2021: $78 million), including a $83 million charge relating to the sovereign ratings downgrade of Pakistan into credit grade 12. The management overlay relating to stage 1 and 2 assets was $210 million (31 December 2021: $344 million). There was a $212 million reduction in the COVID-19 element of the overlay, which now total $37 million, whereas the element relating to China commercial real estate sector increased by $78 million to $173 million.

CCIB Stage 1 and 2 impairments of $148 million are driven by China commercial real estate downgrades including a $78 million increase for China commercial real estate overlay and sovereign downgrades in Africa and the Middle East which is offset by $102 million full release of COVID-19 overlay. Stage 3 impairment of $279 million is largely from China commercial real estate downgrades, clients' rating changes due to the Sri Lanka and Ghana Sovereign rating downgrades, offset by releases and repayments of a few notable clients.

CPBB charge decreased by $20 million to $262 million (31 December 2021: $282 million). Stage 1 and 2 charge increased by $121 million to $150 million (31 December 2021: $29 million). Stage 3 charge decreased by $141 million to $112 million (31 December 2021: $253 million) as markets returned to normalised flows following the expiry of majority of COVID-19 relief schemes in 2021. In 2022, there were increased charges for Korea and Taiwan due to worsening macroeconomic forecasts, as well as China due to portfolio maturity and book growth. This was offset by a net release of $110 million (31 December 2021: $15 million) in management overlays and a $25 million release from significant increase in Credit Risk (SICR) methodology changes and model updates largely in the Asia region.

Ventures impairment charge increased by $13 million to $16 million (31 December 2021: $3 million) due to book growth in Mox Bank and Trust Bank Singapore.

Central and other items stage 1 and 2 impairments of $95 million was driven by the sovereign downgrade in Ghana and Pakistan. Stage 3 charge of $38 million was driven by the sovereign downgrade of Ghana and Sri Lanka.

	2022			2021 (Restated)[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	148	279	427	23	(67)	(44)
Consumer, Private & Business Banking[1]	150	112	262	29	253	282
Ventures[1]	13	3	16	3	–	3
Central & other items	95	38	133	23	(1)	22
Credit impairment charge	406	432	838	78	185	263
Restructuring business portfolio						
Others	(2)	–	(2)	(2)	(7)	(9)
Credit impairment charge	(2)	–	(2)	(2)	(7)	(9)
Total credit impairment charge	404	432	836	76	178	254

1 Following the increased strategic importance and reporting of Ventures to management, this has been established as a separate operating segment from 1 January 2022. Prior period has been restated

COVID-19 relief measures

The table below sets out the extent to which payment reliefs are in place across the Group's CPBB loan portfolio based on the amount outstanding at 31 December 2022. The accounting for temporary changes to loan contractual term is unchanged from that presented on page 220 of the 2021 Annual Report.

COVID-19 payment-related relief measures in most markets have now expired. The CPBB loans under payment relief schemes reduced to $237 million ($184 million is from secured products) compared to $1.2 billion at the end of 2021 and a peak of $8.9 billion in the first half of 2020, with the remaining balance concentrated in Asia. This represents 0.2 per cent of CPBB's gross loans and advances to customers, mainly in Hong Kong, China and India.

Segment[1]/Product	Total Outstanding $million	Total % of portfolio[2]	Asia Outstanding $million	Asia % of portfolio[2]	Africa & Middle East Outstanding $million	Africa & Middle East % of portfolio[2]
Credit card & Personal loans	14	0.1%	14	0.1%	–	–
Mortgages & Auto	90	0.1%	90	0.1%	–	–
Business Banking	133	1.3%	133	1.4%	–	–
Total Consumer, Private & Business Banking at 31 December 2022	237	0.2%	237	0.2%	–	–
Total Consumer, Private & Business Banking at 31 December 2021	1,182	0.9%	1,029	0.9%	153	3.1%

1 Outstanding relief balance for Corporate, Commercial and Institutional Banking are less than $100 million (31 December 2021: $1,195 million) and nil (31 December 2021: nil) for Ventures[3]
2 Percentage of portfolio represents the outstanding amount as a percentage of the gross loans and advances to customers by product and segment
3 Following the increased strategic importance and reporting of Ventures to management, this has been established as a separate segment from 1 January 2022

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 $404 million to $1,125 million (31 December 2021: $1,529 million), of which $176 million decrease was in performing forborne loans and $228 million decrease was in non-performing forborne loans. Performing forborne loans reduction in CCIB was driven by COVID-19 relief measures in 2021 which have expired across most of our markets while non-performing forborne loans reduction was due to a major repayment.

The table below presents loans with forbearance measures by segment.

Amortised cost	2022 Corporate, Commercial & Institutional Banking $million	2022 Consumer, Private & Business Banking $million	2022 Ventures $million	2022 Total $million	2021 Corporate, Commercial & Institutional Banking $million	2021 Consumer, Private & Business Banking $million	2021 Ventures[1] $million	2021 Total $million
All loans with forbearance measures	2,129	377	–	2,506	2,526	406	–	2,932
Credit impairment (stage 1 and 2)	(1)	–	–	(1)	(4)	–	–	(4)
Credit impairment (stage 3)	(1,253)	(127)	–	(1,380)	(1,237)	(162)	–	(1,399)
Net carrying value	875	250	–	1,125	1,285	244	–	1,529
Included within the above table								
Gross performing forborne loans	89	63	–	152	272	59	–	331
Modification of terms and conditions[2]	89	63	–	152	257	59	–	316
Refinancing[3]	–	–	–	–	15	–	–	15
Impairment provisions	(1)	–	–	(1)	(4)	–	–	(4)
Modification of terms and conditions[2]	(1)	–	–	(1)	(4)	–	–	(4)
Refinancing[3]	–	–	–	–	–	–	–	–
Net performing forborne loans	88	63	–	151	268	59	–	327
Collateral	7	60	–	67	65	56	–	121
Gross non-performing forborne loans	2,040	314	–	2,354	2,253	348	–	2,601
Modification of terms and conditions[2]	1,997	314	–	2,311	2,095	348	–	2,443
Refinancing[3]	43	–	–	43	158	–	–	158
Impairment provisions	(1,253)	(127)	–	(1,380)	(1,237)	(162)	–	(1,399)
Modification of terms and conditions[2]	(1,210)	(127)	–	(1,337)	(1,106)	(162)	–	(1,268)
Refinancing[3]	(43)	–	–	(43)	(131)	–	–	(131)
Net non-performing forborne loans	787	187	–	974	1,016	186	–	1,202
Collateral	243	68	–	311	236	62	–	298

1 Following the increased strategic importance and reporting of Ventures to management, this has been established as a separate operating segment from 1 January 2022
2 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
3 Refinancing is a new contract to a lender 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 $404 million to $1,125 million (31 December 2021: $1,529 million), driven by CCIB mainly due to a repayment within Europe and the Americas.

	2022				2021			
Amortised cost	Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million	Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million
Performing forborne loans	129	9	13	151	205	76	46	327
Stage 3 forborne loans	568	144	262	974	572	137	493	1,202
Net forborne loans	697	153	275	1,125	777	213	539	1,529

Credit-impaired (stage 3) loans and advances by client segment (audited)

Gross stage 3 loans for the Group is $7.8 billion (31 December 2021: $8.1 billion). The reduction in loans was primarily driven by the following:

In CCIB, stage 3 loans decreased by $0.4 billion to $6.1 billion (31 December 2021: $6.5 billion) due to $2.4 billion outflows in debt sales, write-offs and material upgrades. This was offset by $2 billion inflows due to downgrades of Ghana and Sri Lanka Sovereign related clients as well as China commercial real estate clients.

CPBB stage 3 loans were materially unchanged at $1.5 billion with $0.1 billion decrease from mortgages and secured wealth products.

Ventures loans increased to $1 million (31 December 2021: Nil) due to downgrades in Mox Bank Hong Kong.

Central and other items includes new inflows relating to local currency default of Sri Lanka.

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.

The CCIB cover ratio increased by 1 per cent to 60 per cent (31 December 2021: 59 per cent) due to repayments and write-offs, which was offset by provisions taken on Ghana Sovereign downgrade and China commercial real estate clients.

The CPBB cover ratio increased by 2 per cent to 53 per cent (31 December 2021: 51 per cent) due to stage 3 loan balances reducing across secured wealth and mortgage portfolios.

	2022					2021 (Restated)[1]				
	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[1] $million	Ventures $million	Central & Others $million	Total $million
Gross credit-impaired	6,143	1,453	1	248	7,845	6,520	1,575	–	–	8,095
Credit impairment provisions	(3,662)	(776)	(1)	(18)	(4,457)	(3,861)	(796)	–	–	(4,657)
Net credit-impaired	2,481	677	–	230	3,388	2,659	779	–	–	3,438
Cover ratio	60%	53%	100%	7%	57%	59%	51%	–	–	58%
Collateral ($ million)	956	543	–	–	1,499	805	641	–	–	1,446
Cover ratio (after collateral)	75%	91%	100%	7%	76%	72%	91%	–	–	75%

1 Following the increased strategic importance and reporting of Ventures to management, this has been established as a separate operating segment from 1 January 2022. Prior period has been restated.

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

Stage 3 gross loans decreased by $0.3 billion to $7.8 billion (31 December 2021: $8.1 billion). The decrease was primarily driven by CCIB debt sales and repayments in Africa and the Middle East and in Europe and the Americas regions offset by the sovereign downgrade of Ghana and Sri Lanka.

	2022				2021			
Amortised cost	Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million	Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million
Gross credit-impaired	4,562	2,725	558	7,845	4,448	2,918	729	8,095
Credit impairment provisions	(2,483)	(1,765)	(209)	(4,457)	(2,401)	(1,970)	(286)	(4,657)
Net credit-impaired	2,079	960	349	3,388	2,047	948	443	3,438
Cover ratio	54%	65%	37%	57%	54%	68%	39%	58%

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.

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, was $345 billon (31 December 2021: $346 billon).

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 overcollateralization 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 increased by $9 billion to $38.2 billion (31 December 2021: $29.4 billion) due to an increase in reverse repurchase agreements.

CPBB collateral decreased by $10 billion to $92.4 billion (31 December 2021: $102.8 billion) due to a decrease in mortgages and secured wealth product balances.

Stage 2 collateral reduced by $1.1 billion to $5.0 billon (31 December 2021: $6.1 billion) due to a decrease in CCIB loan balances.

Total collateral for Central and other items increased by $4.8 billion to $11.2 billion (31 December 2021: $6.4 billion) due to an increase in lending under reverse repurchase agreements.

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.

	2022								
	Net amount outstanding			Collateral			Net exposure		
Amortised cost	Total $million	Stage 2 financial assets $million	Credit-impaired financial assets (S3) $million	Total[2] $million	Stage 2 financial assets $million	Credit-impaired financial assets (S3) $million	Total $million	Stage 2 financial assets $million	Credit-impaired financial assets (S3) $million
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

	2021 (Restated)[3]								
	Net amount outstanding			Collateral			Net exposure		
Amortised cost	Total $million	Stage 2 financial assets $million	Credit-impaired financial assets (S3) $million	Total[2] $million	Stage 2 financial assets $million	Credit-impaired financial assets (S3) $million	Total $million	Stage 2 financial assets $million	Credit-impaired financial assets (S3) $million

Corporate, Commercial & Institutional Banking[1]	183,784	15,053	2,702	29,414	5,077	805	154,370	9,976	1,897
Consumer, Private & Business Banking[3]	136,430	1,731	779	102,769	1,045	641	33,661	686	138
Ventures[3]	88	7	–	–	–	–	88	7	–
Central & other items	22,549	110	–	6,381	–	–	16,168	110	–
Total	342,851	16,901	3,481	138,564	6,122	1,446	204,287	10,779	2,035

1 Includes loans and advances to banks
2 Adjusted for over-collateralisation based on the drawn and undrawn components of exposures
3 Following the increased strategic importance and reporting of Ventures to management, this has been established as a separate operating segment in 2022. Prior period has been restated

Collateral – CCIB (audited)

Collateral held against CCIB exposures amounted to $38 billion.

Collateral taken for longer-term and sub-investment grade corporate loans improved to 53 per cent (31 December 2021: 49 per cent).

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

79 per cent of tangible collateral excluding reverse repurchase agreements (31 December 2021: 76 per cent) held comprises physical assets or is property based, and investment securities. Overall collateral increased by $8.7 billion to $38 billion (31 December 2021: $29 billion) due to an increase in reverse repurchase agreements.

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	2022 $million	2021 $million
Maximum exposure	179,150	183,784
Property	10,152	10,589
Plant, machinery and other stock	1,168	1,411
Cash	2,797	3,549
Reverse repos	14,305	2,042
A- to AA+	10,551	122
BBB- to BBB+	1,485	483
Unrated	2,269	1,437
Financial guarantees and insurance	5,096	6,616
Commodities	37	198
Ships and aircraft	4,596	5,009
Total value of collateral[1]	38,151	29,414
Net exposure	140,999	154,370

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

Collateral – CPBB (audited)

In CPBB, $113 billion which equates to 86 per cent of the portfolio is fully secured (31 December 2021: 86 per cent).

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

	2022				2021 (Restated)[3]			
Amortised cost	Fully secured $million	Partially secured $million	Unsecured $million	Total $million	Fully secured $million	Partially secured $million	Unsecured $million	Total $million
Maximum exposure	112,556	449	17,950	130,955	117,129	1,329	17,972	136,430
Loans to individuals								
Mortgages	87,212	–	–	87,212	89,222	–	–	89,222
CCPL	221	–	16,711	16,932	150	–	16,943	17,093
Auto	502	–	–	502	542	–	–	542
Secured wealth products	19,551	–	–	19,551	21,495	–	–	21,495
Other	5,070	449	1,239	6,758	5,720	1,329	1,029	8,078
Total collateral[1]				92,350				102,769
Net exposure[2]				38,605				33,661
Percentage of total loans	86%	0%	14%		86%	1%	13%	

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
3 Following the increased strategic importance and reporting of Ventures to management, this has been established as a separate operating segment in 2022. Prior period has been restated

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 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 44.7 per cent (31 December 2021: 41.1 per cent) mainly from Hong Kong due to a drop in the Property Price Index. Hong Kong, which represents 40 per cent of the mortgage portfolio, has an average LTV of 52.6 per cent (31 December 2021: 43.8 per cent). All of our other key markets continue to have low portfolio LTVs (Korea, Singapore and Taiwan at 37.3 per cent, 42.9 per cent and 45.1 per cent respectively).

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

	2022			
Amortised cost	Asia % Gross	Africa & Middle East % Gross	Europe & Americas % Gross	Total % Gross
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

Amortised cost	2021 Asia[1] % Gross	2021 Africa & Middle East % Gross	2021 Europe & Americas % Gross	2021 Total % Gross
Less than 50 per cent	68.2	27.6	16.8	66.4
50 per cent to 59 per cent	11.6	18.6	19.9	11.9
60 per cent to 69 per cent	8.1	19.6	37.5	8.9
70 per cent to 79 per cent	9.1	16.5	17.1	9.4
80 per cent to 89 per cent	2.4	9.1	8.7	2.7
90 per cent to 99 per cent	0.5	4.8	–	0.5
100 per cent and greater	0.1	3.8	–	0.2
Average portfolio loan-to-value	40.5	61.9	60.8	41.1
Loans to individuals – mortgages ($million)	85,765	1,651	1,806	89,222

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 $14.9 million (31 December 2021: $11.8 million).

	2022 $million	2021 $million
Property, plant and equipment	9.6	5.8
Guarantees	5.3	6.0
Total	14.9	11.8

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 $5.1 billion (31 December 2021: $12.1 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 $13.5 billion (31 December 2021: $10.0 billion). The Group continues to hold the underlying assets for which the credit linked notes provide mitigation.

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 exposure, 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.

Contractual maturity analysis of loans and advances by client segment

Loans and advances to the CCIB segment remain predominantly short-term, with $98.3 billion or 68 per cent (31 December 2021: $95.5 billion or 66 per cent) maturing in less than one year.

Loans and advances to banks decreased by $4.9 billion to $39.5 billion (31 December 2021: $44.4 billion) of which 96 per cent mature in less than one year (31 December 2021: 98 per cent).

The CPBB short-term book of one year or less is stable at 25 per cent (31 December 2021: 26 per cent) and long term book over five years increased to 64 per cent (31 December 2021: 62 per cent) of the total portfolio.

	2022			
Amortised cost	One year or less $million	One to five years $million	Over five years $million	Total $million
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

	2021 (Restated)[1]			
Amortised cost	One year or less $million	One to five years $million	Over five years $million	Total $million
Corporate, Commercial & Institutional Banking	95,454	36,953	11,299	143,706
Consumer, Private & Business Banking	35,900	16,783	85,093	137,776
Ventures	91	–	–	91
Central & other items	22,318	224	7	22,549
Gross loans and advances to customers	153,763	53,960	96,399	304,122
Impairment provisions	(5,057)	(462)	(135)	(5,654)
Net loans and advances to customers	148,706	53,498	96,264	298,468
Net loans and advances to banks	43,274	955	154	44,383

1 Following the increased strategic importance and reporting of Ventures to management, this has been established as a separate operating segment from 1 January 2022. Prior period has been restated

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.

From an industry perspective, gross loans and advances increased by $12.0 billion to $316 billion (31 December 2021: $304 billion), of which $16.8 billion was from Central and other items segments, offset by $5.5 billion in CPBB. CCIB was stable at $144 billion with increase in stage 1 loans offset by a decrease in stage 2 loans.

Stage 1 loans increased by $16.0 billion to $295.2 billion (31 December 2021: $279.2 billion), due to an increase in Lending to Governments notably Hong Kong, Singapore and Korea. In CPBB, loans decreased by $4.5 billion to $129.8 billion (31 December 2021: $134.4 billion), mainly driven by a decrease in Private Bank exposure (largely from UK, Hong Kong and Singapore in all classes), and a decrease in exposure of the Residential Mortgage segment in Korea (due to tightened Debt Service Ratio following new government guidelines). This is offset by an increase in credit card portfolio of $1 billion. In CCIB, loans were broadly stable due to $10.5 billion increase in exposures in Financing, insurance and non-banking from a few notable clients, $1.5 billion increase in Transport, telecom and utilities from upgrades offset by $2.8 billion decrease in Manufacturing and $5.3 billion decrease in Commercial real estate sector from repayments.

Stage 2 loans decreased by $3.8 billion to $13 billion (31 December 2021: $16.8 billion) largely due to CCIB, $2.6 billion reductions in Transport, telecom and utilities from upgrades to Stage 1 and repayments, $1.2 billion decrease in Energy. This was offset by an increase in Commercial real estate sector from accounts being placed on Early Alert Non Purely Precautionary and higher risk categories.

Stage 3 loans reduced by $0.3 billion to $7.8 billion (31 December 2021: $8.1 billion) of which CCIB and Central and other items are broadly flat as the effects of the sovereign downgrades of Ghana and Sri Lanka are largely offset by repayments and upgrades. CPBB stage 3 loans reduced in Secured wealth and Mortgages portfolios.

	2022											
	Stage 1			Stage 2			Stage 3			Total		
Amortised cost	Gross balance $million	Total credit impair-ment $million	Net carrying amount $million	Gross balance $million	Total credit impair-ment $million	Net carrying amount $million	Gross balance $million	Total credit impair-ment $million	Net carrying amount $million	Gross balance $million	Total credit impair-ment $million	Net carrying amount $million
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

	2021											
	Stage 1			Stage 2			Stage 3			Total		
Amortised cost	Gross balance $million	Total credit impair-ment $million	Net carrying amount $million	Gross balance $million	Total credit impair-ment $million	Net carrying amount $million	Gross balance $million	Total credit impair-ment $million	Net carrying amount $million	Gross balance $million	Total credit impair-ment $million	Net carrying amount $million
Industry:												
Energy	10,454	(19)	10,435	2,067	(76)	1,991	998	(719)	279	13,519	(814)	12,705
Manufacturing	23,792	(9)	23,783	1,181	(30)	1,151	852	(562)	290	25,825	(601)	25,224
Financing, insurance and non-banking	24,380	(9)	24,371	1,257	(12)	1,245	268	(207)	61	25,905	(228)	25,677
Transport, telecom and utilities	12,778	(5)	12,773	4,926	(51)	4,875	966	(289)	677	18,670	(345)	18,325
Food and household products	8,093	(2)	8,091	721	(26)	695	380	(276)	104	9,194	(304)	8,890
Commercial real estate	17,680	(43)	17,637	1,787	(75)	1,712	833	(335)	498	20,300	(453)	19,847
Mining and quarrying	4,793	(3)	4,790	480	(20)	460	272	(167)	105	5,545	(190)	5,355
Consumer durables	7,069	(3)	7,066	407	(9)	398	425	(346)	79	7,901	(358)	7,543
Construction	2,279	(3)	2,276	506	(19)	487	914	(624)	290	3,699	(646)	3,053
Trading companies & distributors	1,144	(1)	1,143	117	(8)	109	143	(135)	8	1,404	(144)	1,260
Government	26,588	(2)	26,586	678	(1)	677	154	(8)	146	27,420	(11)	27,409
Other	5,757	(4)	5,753	801	(14)	787	316	(194)	122	6,874	(212)	6,662
Retail Products:												
Mortgage	87,987	(22)	87,965	862	(20)	842	599	(184)	415	89,448	(226)	89,222
Credit Cards[2]	5,899	(90)	5,809	388	(74)	314	61	(44)	17	6,348	(208)	6,140
Personal loans and other unsecured lending[2]	10,981	(188)	10,793	182	(58)	124	334	(210)	124	11,497	(456)	11,041
Auto	541	(1)	540	2	–	2	–	–	–	543	(1)	542
Secured wealth products	21,067	(61)	21,006	307	(10)	297	483	(291)	192	21,857	(362)	21,495
Other	7,896	(8)	7,888	180	(21)	159	97	(66)	31	8,173	(95)	8,078
Net carrying value (customers)[1]	279,178	(473)	278,705	16,849	(524)	16,325	8,095	(4,657)	3,438	304,122	(5,654)	298,468

1 Includes reverse repurchase agreements and other similar secured lending held at amortised cost of $7,331 million.

2 Prior year has been re-presented to provide product granularity

Industry 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 10 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 3,330 clients.

The Group provides loans to Commercial real estate counterparties of $16.9 billion, which represents 9 per cent of total customer loans and advances. In total, $9.1 billion of this lending is to counterparties where the source of repayment is substantially derived from rental or sale of real estate and is secured by real estate collateral. The remaining Commercial real estate 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 Commercial real estate portfolio has decreased to 49 per cent, compared with 50 per cent in 2021. The proportion of loans with an LTV greater than 80 per cent has decreased to 1 per cent, compared with 2 per cent in 2021. The China commercial real estate portfolio is being closely monitored and is being separately disclosed below.

The Mortgage portfolio continues to be the largest portion of the CPBB portfolio at $87.4 billion, with Credit Cards at $7.1 billion and Personal loans portfolio at $11.2 billion.

In Asia, the Financing, insurance and non-banking industry increased by $10.5 billion to $24.7 billion (31 December 2021: $14.2 billion), the Government sector increased by $16.7 billion to $39.7 billion (31 December 2021: $23.0 billion) due to increased lending to the Hong Kong, Singapore and Korea Sovereign, the Credit Cards portfolio increased by $0.8 billion to $6.6 billion (31 December 2021: $5.8 billion). This was offset by a $3.4 billion decrease in the Manufacturing Sector, $4.0 billion decrease in Commercial real estate due to repayments in Stage 1 and $3.9 billion decrease in mortgages and secured wealth products.

	2022				2021			
Amortised cost	Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million	Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million
Industry:								
Energy	6,250	2,278	3,938	12,466	6,265	2,721	3,719	12,705
Manufacturing	17,388	1,267	3,633	22,288	20,771	1,751	2,702	25,224
Financing, insurance and non-banking	24,674	761	10,262	35,697	14,184	905	10,588	25,677
Transport, telecom and utilities	10,841	3,567	2,599	17,007	11,661	4,218	2,446	18,325
Food and household products	4,160	2,566	1,928	8,654	5,497	2,360	1,033	8,890
Commercial real estate	13,179	598	2,139	15,916	17,150	1,048	1,649	19,847
Mining and quarrying	3,785	390	1,909	6,084	3,833	572	950	5,355
Consumer durables	5,860	461	532	6,853	6,742	398	403	7,543
Construction	1,775	625	509	2,909	1,839	814	400	3,053
Trading companies and distributors	2,281	101	32	2,414	1,047	176	37	1,260
Government	39,713	3,759	106	43,578	22,987	4,117	305	27,409
Other	3,636	702	790	5,128	4,681	670	1,311	6,662
Retail Products:								
Mortgages	83,954	1,388	1,870	87,212	85,765	1,651	1,806	89,222
Credit Cards[1]	6,642	291	–	6,933	5,849	291	–	6,140
Personal loans and other unsecured lending[1]	9,056	1,541	100	10,697	9,241	1,700	100	11,041
Auto	469	33	–	502	500	42	–	542
Secured wealth products	17,876	1,048	627	19,551	19,984	545	966	21,495
Other	6,676	82	–	6,758	7,265	813	–	8,078
Net loans and advances to customers	258,215	21,458	30,974	310,647	245,261	24,792	28,415	298,468
Net loans and advances to banks	22,058	3,929	13,532	39,519	30,301	5,966	8,116	44,383

1 Prior year has been re-presented to provide product granularity

Vulnerable and Cyclical Sector tables

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.

Total net on-balance sheet exposure to vulnerable and cyclical sectors decreased by $4.7 billion to $30.9 billion (31 December 2021: $35.5 billion) largely due to lower levels of drawn balances particularly in the Commercial real estate sector. The total net on and off-balance sheet exposure for CCIB decreased by $7.8bn to $251.3 billion (31 December 2021: $259.2 billion).

Stage 2 vulnerable and cyclical sector loans decreased by $1.8 billion to $5.6 billion (31 December 2021: $7.4 billion). This was primarily driven by a decrease in the Aviation sector from stage upgrades and in Oil and Gas sectors from repayments, which was partly offset by an increase in Commercial real estate.

Stage 3 vulnerable and cyclical sector loans increased by $0.4 billion to $4 billion (31 December 2021: $3.6 billion), mainly from China commercial real estate clients and the Oil and Gas sector.

Construction sector is included in this section and prior year tables are re-presented.

Maximum exposure

Amortised Cost	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
	2022						
Industry:							
Aviation[1]	3,072	1,597	1,475	1,762	632	2,394	3,869
Commodity Traders	7,571	341	7,230	2,578	6,095	8,673	15,903
Metals & Mining	4,754	321	4,433	3,425	852	4,277	8,710
Construction	2,909	552	2,357	2,762	5,969	8,731	11,088
Commercial real estate	15,916	7,205	8,711	6,258	224	6,482	15,193
Hotels & Tourism	1,741	919	822	1,346	138	1,484	2,306
Oil & Gas	6,643	806	5,837	7,630	7,158	14,788	20,625
Total	42,606	11,741	30,865	25,761	21,068	46,829	77,694
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

Amortised Cost	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
	2021						
Industry:							
Aviation[1]	3,458	2,033	1,425	1,914	431	2,345	3,770
Commodity Traders	8,732	262	8,470	2,434	6,832	9,266	17,736
Metals & Mining	3,616	450	3,166	3,387	637	4,024	7,190
Construction	3,053	544	2,509	2,374	5,860	8,234	10,743
Commercial real estate	19,847	7,290	12,557	7,192	291	7,483	20,040
Hotels & Tourism	2,390	789	1,601	1,363	121	1,484	3,085
Oil & Gas	6,826	1,029	5,797	8,842	6,013	14,855	20,652
Total	47,922	12,397	35,525	27,506	20,185	47,691	83,216
Total Corporate, Commercial & Institutional Banking	139,401	26,294	113,107	96,406	49,666	146,072	259,179
Total Group	342,851	138,564	204,287	158,421	58,291	216,712	420,999

1 In addition to the aviation sector loan exposures, the Group owns $3.2 billion (31 December 2021: $3.1 billion) of aircraft under operating leases. Refer to Operating lease assets

Loans and advances by stage

	2022											
	Stage 1			Stage 2			Stage 3			Total		
Amortised Cost	Gross Balance $million	Total Credit Impair-ment $million	Net Carrying Amount $million	Gross Balance $million	Total Credit Impair-ment $million	Net Carrying Amount $million	Gross Balance $million	Total Credit Impair-ment $million	Net Carrying Amount $million	Gross Balance $million	Total Credit Impair-ment $million	Net Carrying Amount $million
Industry:												
Aviation	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

	2021											
	Stage 1			Stage 2			Stage 3			Total		
Amortised Cost	Gross Balance $million	Total Credit Impair-ment $million	Net Carrying Amount $million	Gross Balance $million	Total Credit Impair-ment $million	Net Carrying Amount $million	Gross Balance $million	Total Credit Impair-ment $million	Net Carrying Amount $million	Gross Balance $million	Total Credit Impair-ment $million	Net Carrying Amount $million
Industry:												
Aviation	1,120	–	1,120	2,174	(11)	2,163	239	(64)	175	3,533	(75)	3,458
Commodity Traders	8,482	(4)	8,478	195	(5)	190	713	(649)	64	9,390	(658)	8,732
Metals & Mining	3,083	(1)	3,082	450	(17)	433	219	(118)	101	3,752	(136)	3,616
Construction	2,279	(3)	2,276	505	(19)	487	916	(626)	290	3,701	(647)	3,053
Commercial real estate	17,680	(43)	17,637	1,787	(75)	1,712	833	(335)	498	20,300	(453)	19,847
Hotels & Tourism	1,562	(1)	1,561	722	(9)	713	182	(66)	116	2,466	(76)	2,390
Oil & Gas	4,999	(5)	4,994	1,595	(34)	1,561	486	(215)	271	7,080	(254)	6,826
Total	39,205	(57)	39,148	7,428	(170)	7,259	3,588	(2,073)	1,515	50,222	(2,299)	47,922
Total Corporate, Commercial & Institutional Banking	122,368	(103)	122,265	14,818	(341)	14,477	6,520	(3,861)	2,659	143,706	(4,305)	139,401
Total Group	322,954	(485)	322,469	17,429	(528)	16,901	8,149	(4,668)	3,481	348,532	(5,681)	342,851

Loans and advances by region (net of credit impairment)

	2022				2021			
	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]	1,105	1,259	708	3,072	1,356	1,214	888	3,458
Commodity Traders	3,497	978	3,096	7,571	4,352	660	3,720	8,732
Metals & Mining	2,966	347	1,441	4,754	2,736	492	388	3,616
Construction	1,776	624	509	2,909	1,781	644	628	3,053
Commercial real estate	13,180	598	2,138	15,916	17,150	1,048	1,649	19,847
Hotel & Tourism	880	465	396	1,741	1,464	397	529	2,390
Oil & Gas	3,574	1,445	1,624	6,643	2,770	2,248	1,808	6,826
Total	26,978	5,716	9,912	42,606	31,609	6,703	9,610	47,922

1 In addition to the aviation sector loan exposures, the Group owns $3.2 billion (31 December 2021: $3.1 billion) of aircraft under operating leases. Refer to Operating lease assets

Credit quality – loans and advances

	2022							
Amortised Cost	Aviation	Commodity Traders	Construction	Metals & Mining	Commercial real estate	Hotel & Tourism	Oil & Gas	Total
Credit Grade	Gross $million	Gross $million	Gross $million	Gross $million	Gross $million	Gross $million	Gross $million	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%

	2021							
Credit Grade	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
Strong	896	5,878	1,181	1,730	9,581	731	3,594	23,591
Satisfactory	2,257	2,788	1,506	1,781	9,735	1,353	2,892	22,312
Higher risk	141	11	123	22	151	200	108	756
Credit impaired (stage 3)	239	713	892	219	833	182	486	3,564
Total Gross Balance	3,533	9,390	3,701	3,752	20,300	2,466	7,080	50,222
Strong	–	(1)	(24)	–	(92)	–	–	(117)
Satisfactory	(8)	(5)	(3)	(14)	(21)	(4)	(24)	(79)
Higher risk	(3)	(3)	(17)	(4)	(5)	(6)	(15)	(53)
Credit impaired (stage 3)	(64)	(649)	(603)	(118)	(335)	(66)	(215)	(2,050)
Total Credit Impairment	(75)	(658)	(647)	(136)	(453)	(76)	(254)	(2,299)
Strong	0.0%	0.0%	2.0%	0.0%	1.0%	0.0%	0.0%	0.5%
Satisfactory	0.4%	0.2%	0.2%	0.8%	0.2%	0.3%	0.8%	0.4%
Higher risk	2.1%	27.3%	14.2%	18.2%	3.3%	3.0%	13.9%	7.1%
Credit impaired (stage 3)	26.8%	91.0%	67.6%	53.9%	40.2%	36.3%	44.2%	57.5%
Cover Ratio	2.1%	7.0%	17.5%	3.6%	2.2%	3.1%	3.6%	4.6%

China commercial real estate

Within CCIB, the Group's gross loans and advances to customers that are exposed to China commercial real estate are $3.2 billion (31 December 2021: $3.7 billion).

The proportion of credit impaired exposures increased to 33 per cent from 12 per cent in 2021 as market conditions continued to deteriorate during the year and provision coverage increased to 57 per cent from 18 per cent in 2021 reflecting increased provision charges during the year. The proportion of the loan book rated as Higher Risk also increased compared to 2021 and the proportion rated as strong reduced from 38 per cent to 15 per cent as the majority of non-credit impaired developer clients were placed on non-purely precautionary early alert.

The Group continues to hold a judgemental management overlay, which increased by $78 million to $173 million compared to 2021, reflecting the increased uncertainty and deterioration in the portfolio. $5 million (2021: $3 million) of this overlay is held against off-balance sheet exposures. Total coverage of the non-credit impaired portfolio is 10 per cent or 2 per cent excluding the judgemental overlay.

The Group is further indirectly exposed to China commercial real estate through its associate investment in China Bohai Bank. Refer to Note 19 Investments in subsidiary undertakings, joint ventures and associates.

	2022			
	China $million	Hong Kong $million	Rest of Group $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)

	2021			
	China $million	Hong Kong $million	Rest of Group $million	Total $million
Loans to customers	881	2,728	130	3,739
Off balance sheet	286	86	20	392
Total as at 31 December 2021	1,167	2,814	150	4,131
Loans to customers – By Credit quality				
Gross				
Strong	278	1,104	46	1,428
Satisfactory	592	1,187	84	1,863
Higher risk	–	–	–	–
Credit impaired (stage 3)	11	437	–	448
Total as at 31 December 2021	881	2,728	130	3,739
Loans to customers – ECL				
Strong	–	(60)	(2)	(62)
Satisfactory	(2)	(31)	(1)	(34)
Higher risk	–	–	–	–
Credit impaired (stage 3)	(4)	(120)	–	(124)
Total as at 31 December 2021	(6)	(211)	(3)	(220)

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.

Total gross debt securities and other eligible bills increased by $8.9 billion to $171.7 billion (31 December 2021: $162.8 billion).

Stage 1 gross balance increased by $8.8 billion to $166.1 billion (31 December 2021: $157.4 billion) of which $7.3 billion increase was unrated. Of the unrated securities, 97 per cent (31 December 2021: 88 per cent) are internally rated as Strong and 3 per cent (31 December 2021: 12 per cent) were internally rated as Satisfactory.

Stage 2 gross balance was broadly flat at $5.5 billion (31 December 2021: $5.3 billion) which includes the sovereign downgrade of Pakistan.

Stage 3 gross balance was at $0.1 billion (31 December 2021: $0.1 billion) which includes the sovereign downgrade of Ghana.

Amortised cost and FVOCI	2022 Gross $million	2022 ECL $million	2022 Net[2] $million	2021 Gross $million	2021 ECL $million	2021 Net[2] $million
Stage 1	166,103	(25)	166,078	157,352	(67)	157,285
AAA	73,933	(10)	73,923	75,920	(23)	75,897
AA- to AA+	42,327	(4)	42,323	40,577	(8)	40,569
A- to A+	29,488	(2)	29,486	23,993	(3)	23,990
BBB- to BBB+	7,387	(1)	7,386	11,071	(27)	11,044
Lower than BBB-	1,047	(2)	1,045	1,123	(1)	1,122
Unrated	11,921	(6)	11,915	4,668	(5)	4,663
Stage 2	5,455	(90)	5,365	5,315	(42)	5,273
AAA	21	–	21	641	(7)	634
AA- to AA+	40	–	40	592	(3)	589
A- to A+	17	(1)	16	22	(1)	21
BBB- to BBB+	2,605	(16)	2,589	2,869	(10)	2,859
Lower than BBB-	2,485	(71)	2,414	809	(21)	788
Unrated	287	(2)	285	382	–	382
Stage 3	144	(106)	38	113	(66)	47
Lower than BBB-	67	(55)	12	–	–	–
Unrated	77	(51)	26	113	(66)	47
Gross balance[1]	171,702	(221)	171,481	162,780	(175)	162,605

1 Stage 3 gross includes $28 million (2021: $33 million) originated credit-impaired debt securities with impairment of $13 million (2021: Nil)
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 $171,640 million (31 December 2021: $162,700 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)	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. 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.
Loss given default (LGD)	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. 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.
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.

In 2022, the behavioural life for corporate overdraft facilities was re-estimated using recent data, and it was confirmed that the existing lifetime of 24 months remains appropriate.

Composition of credit impairment provisions (audited)

The table below summarises the key components of the Group's credit impairment provision balances at 31 December 2022 and 31 December 2021.

Total ECL provisions before management judgements includes model performance post model adjustments and the impact of multiple economic scenarios. Total modelled ECL provisions, which also includes judgemental post model adjustments and management overlays, were 26 per cent (31 December 2021: 23 per cent) of total credit impairment provisions at 31 December 2022. 17 per cent of the modelled ECL provisions at 31 December 2022 related to judgemental adjustments compared with 25 per cent at 31 December 2021.

31 December 2022	Corporate, Commercial & Institutional Banking $million	Consumer, Private & Business Banking $million	Ventures $million	Central & other items $million	Total $million
Modelled ECL provisions (base forecast)	505	556	12	194	1,267
Modelled Impact of multiple economic scenarios[1]	38	6	–	6	50
Total ECL provisions before management judgements	543	562	12	200	1,317
Judgemental post model adjustments					
– Model Calibration	–	10	–	–	10
– Multiple Economic Scenarios	–	34	–	–	34
Management overlays[2]					
– COVID-19 and other	–	37	–	–	37
– China commercial real estate	173	–	–	–	173
– Sri Lanka	9	–	–	–	9
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

31 December 2021	Corporate, Commercial & Institutional Banking $million	Consumer, Private & Business Banking[3] $million	Ventures[3] $million	Central & other items[3,4] $million	Total $million
Modelled ECL provisions (base forecast)	365	529	3	103	1,000
Impact of multiple economic scenarios[1]	32	14	–	9	55
Total ECL provisions before management judgements	397	543	3	112	1,055
Judgemental post model adjustments	–	–	–	–	–
– Model calibration	–	7	–	–	7
– Multiple economic scenarios	–	–	–	–	–
Management Overlays[2]					
– COVID-19	102	147	–	–	249
– China commercial real estate	95	–	–	–	95
Total modelled provisions	594	697	3	112	1,406
Of which: Stage 1	163	377	1	68	609
Stage 2	425	185	2	44	656
Stage 3	6	135	–	–	141
Stage 3 non-modelled provisions	4,073	662	–	68	4,803
Total credit impairment provisions	4,667	1,359	3	180	6,209

1 Includes a post model adjustment (PMA) of $17 million (2021: $51 million)
2 $55 million (2021: $115 million) is in stage 1, $148 million (2021: $208 million) in stage 2 and $16 million (2021: $21 million) in stage 3
3 Following the increased strategic importance and reporting of Ventures to management, this has been established as a separate operating segment from 1 January 2022. Prior period has been restated
4 Includes ECL on cash and balances at central banks, accrued income, assets held for sale and other assets

Post model adjustments

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 an ECL PMA is required to correct for the identified model issue. PMAs 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 2022, PMAs have been applied for 9 models out of the total of 172 models. In aggregate, the PMAs reduce the Group's impairment provisions by $60 million (0.5 per cent of modelled provisions) compared with a $17 million increase at 31 December 2021, and primarily relate to a $17 million decrease for multiple economic scenarios in CCIB and a $24 million decrease in ECL for Malaysian CPBB Business Clients.

On top of these PMAs, a separate judgemental management adjustment that covers risk not captured by the models has also been applied. These adjustments are summarised below.

	2022 $million	2021 $million
Model performance PMAs		
Corporate, Commercial & Institutional Banking	(22)	24
Consumer, Private & Business Banking	(38)	(15)
Central & other items	–	8
Total model performance PMAs	(60)	17

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 in the near term as central banks keep monetary policy restrictive. Global GDP is forecast to grow by less than 3 per cent in 2023. World GDP growth averaged 3.7 per cent for the 10 years prior to COVID-19 (between 2010 and 2019). The multitude of headwinds that have faced most economies in 2022 are likely to persist in the months ahead. However, a recovery in growth is expected to take hold in H2 2023.

The balance of risks to the 2023 outlook is to the downside. They include the impact from higher inflation and interest rates, ongoing geopolitical tensions, renewed lockdowns/restrictions to movement from the spread of COVID-19 and severe corrections in property sectors in key countries.

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 this 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 2022 around economic outcomes and how these outcomes have tended to move in relation to one another (or correlation). 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 growth is expected to accelerate to 5.8 per cent in 2023 from less than 3.5 per cent in 2022. Consumption should start to recover as the country gradually eases its zero-COVID stance and starts to reopen. Recently announced policy support measures for the real estate sector are also expected to lift the outlook for the broader economy in H2 2023. Like China, Hong Kong's GDP growth, is expected to improve to around 2.5 per cent in 2023 from a contraction of 3 per cent in 2022 on the gradual relaxation of travel curbs and social-distancing measures and the much-improved labour market. However, the upside will be limited on the expected weakness in the external sector. Major economies such as the US and Europe are forecast to slow sharply on account of monetary policy tightening and high inflation. Slowing external demand will also be a key factor in Singapore's GDP growth easing to 2.8 per cent in 2023 from around 3.5 per cent in 2022 and Korea's growth easing to around 2 per cent from 2.7 per cent. Growth in India is also forecast to slow with GDP expected to grow by 5.5 per cent in FY24 (ending March 2024) from 7 per cent in FY23. Fading pent-up demand (especially in the services sector), rising interest rates, limited real wage hikes and like other countries in the region easing global demand will weigh on activity.

The slowdown in world GDP growth in the near term will translate to a softening in the growth of demand for commodities in 2023. Brent Crude oil prices are expected to average around $91 in 2023 compared to around $100 in 2022.

	2022							
	China				Hong Kong			
	GDP growth (YoY%)	Unemployment %	3-month interest rates %	House prices (YoY %)	GDP growth (YoY %)	Unemployment %	3-month interest rates %	House prices (YoY %)
Base forecast[1]								
2023	5.8	4.0	1.4	0.6	2.4	3.0	3.6	(4.4)
2024	5.4	3.9	1.9	3.3	2.5	2.9	3.1	3.9
2025	5.2	3.8	2.4	4.9	2.2	2.9	2.5	3.7
2026	4.8	3.8	2.7	4.5	2.3	2.9	2.4	2.8
2027	4.5	3.8	3.0	4.4	2.1	2.9	2.4	2.7
5-year average[2]	5.1	3.9	2.3	3.6	2.3	3.0	2.8	1.7
Peak	7.9	4.1	3.0	5.0	4.3	3.1	3.6	4.9
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							
	Singapore				Korea			
	GDP growth (YoY%)	Unemployment %	3-month interest rates %	House prices (YoY%)	GDP growth (YoY%)	Unemployment %	3-month interest rates %	House prices (YoY %)
Base forecast[1]	2.8	3.2	4.5	1.0	2.1	3.2	3.9	0.0
2023	2.5	3.0	3.3	1.6	2.5	3.2	3.3	2.2
2024	2.6	3.0	2.5	3.9	2.3	3.1	2.9	2.8
2025	2.9	3.0	2.4	3.5	2.0	3.1	2.7	2.8
2026	2.8	3.0	2.4	3.9	1.8	3.0	2.7	2.8
2027	2.7	3.0	3.1	2.8	2.2	3.1	3.1	2.1
5-year average[2]	3.7	3.2	4.7	4.7	2.5	3.3	3.9	2.8
Peak	1.7	3.0	2.4	(2.4)	1.8	3.0	2.7	(0.4)
Trough	2.8	3.2	4.5	1.0	2.1	3.2	3.9	0.0
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				
	India				
	GDP growth (YoY%)	Unemployment %	3-month interest rates %	House prices (YoY%)	Brent Crude $ pb
Base forecast[1]					
2023	5.5	NA	6.0	2.9	91.0
2024	6.0	NA	5.4	5.6	97.5
2025	6.5	NA	5.5	7.1	109.3
2026	7.4	NA	5.5	7.1	116.9
2027	7.5	NA	5.3	7.0	118.3
5-year average[2]	6.4	NA	5.6	5.7	106.6
Peak	7.7	NA	6.3	7.2	118.8
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

	2021							
	China				Hong Kong			
	GDP growth (YoY%)	Unemployment %	3-month interest rates %	House prices (YoY%)	GDP growth (YoY%)	Unemployment %	3-month interest rates %	House prices (YoY%)
5-year average[2]	5.4	3.4	2.8	4.0	2.6	3.8	1.5	3.1
Peak	6.1	3.4	3.1	4.5	3.5	4.4	2.3	5.3
Trough	4.7	3.4	2.1	1.8	1.8	3.7	0.3	2.7
Monte Carlo								
Low[3]	2.6	3.3	1.3	(2.8)	(1.7)	2.4	(0.3)	(12.4)
High[4]	8.3	3.5	4.6	11.1	6.9	5.8	5.0	22.8

	2021							
	Singapore				Korea			
	GDP growth (YoY%)	Unemployment %	3-month interest rates %	House prices (YoY%)	GDP growth (YoY%)	Unemployment %	3-month interest rates %	House prices (YoY%)
5-year average[2]	2.5	3.1	1.4	3.6	2.5	3.3	1.6	2.7
Peak	4.8	3.4	2.2	4.2	2.8	3.7	2.2	10.9
Trough	1.8	3.0	0.5	3.3	2.4	3.1	1.2	(0.3)
Monte Carlo								
Low[3]	(4.0)	2.1	0.1	(4.1)	(3.1)	2.7	0.5	(5.2)
High[4]	9.4	4.5	4.2	15.4	7.1	4.5	4.3	9.5

	2021				
	India				
	GDP growth (YoY%)	Unemployment %	3-month interest rates %	House prices (YoY%)	Brent crude $ pb
5-year average[2]	6.4	N/A	5.4	7.1	63.7
Peak	16.6	N/A	6.2	7.2	73.5
Trough	4.2	N/A	4.0	5.8	60.0
Monte Carlo					
Low[3]	2.0	N/A	3.2	(1.9)	8.9
High[4]	10.5	N/A	8.8	24.9	211.4

1 Annual numbers are for calendar year except for India where it covers fiscal year ending Q1 of each year. For example, 2022 is Q2 2022 to Q1 2023
2 5-year averages reported for 31.12.22 cover Q1 2023 to Q4 2027
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

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 plausible alternative scenarios that cover our global footprint. The Monte Carlo model was redeveloped over 2022 to increase the range of scenarios that the model forecasts.

The redeveloped Monte Carlo model was implemented in Q4 2022 and forecasted a wider range of scenarios. 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 $50 million (31 December 2021: $4 million). The CCIB and Central and other items portfolios accounted for $44 million of the calculated non-linearity with the remaining $6 million attributable to CPBB portfolios. As the non-linearity calculated for the CPBB portfolios remained relatively low a judgemental PMA of $34 million has been applied.

The impact of multiple economic scenarios (which includes the post model adjustment for 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.

	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 2022	1,267	84	229	1,580
Total expected credit loss at 31 December 2021	1,000	55	351	1,406

1 Includes judgemental post model adjustment of $34 million (31 December 2021: $nil) relating to Consumer, Private and Business Banking. 2021 includes model performance post model adjustments of $51 million

2 Total modelled ECL comprises stage 1 and stage 2 balances of $1,281 million (31 December 2021: $1,265 million) and $299 million (31 December 2021: $141 million) of modelled ECL on stage 3 loans

The average expected credit loss under multiple scenarios is 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 2022, 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 PMAs reported and they are reassessed quarterly. They are reviewed and approved by the IFRS 9 Impairment Committee.

	Corporate, Commercial & Institutional Banking	Consumer, Private & Business Banking			
31 December 2022	$million	Mortgages $million	Credit Cards $million	Other $million	Total $million
Judgemental post model adjustments	–	3	11	30	44
Judgemental management overlays:					
– COVID-19 and other overlays	–	2	5	30	37
– China CRE	173	–	–	–	–
– Sri Lanka	9	–	–	–	–
Total judgemental adjustments	182	5	16	60	81
Judgemental adjustments by stage:					
– Stage 1	37	1	5	39	45
– Stage 2	138	3	9	17	29
– Stage 3	9	1	2	4	7

31 December 2021	Corporate, Commercial & Institutional Banking $million	Consumer, Private & Business Banking			
		Mortgages $million	Credit Cards $million	Other $million	Total $million
Judgemental post model adjustments	–	–	–	7	7
Judgemental management overlays:					
– COVID-19	102	36	15	96	147
– China CRE	95	–	–	–	–
– Sri Lanka	–	–	–	–	–
Total judgemental adjustments	197	36	15	103	154
Judgemental adjustments by stage:					
– Stage 1	31	–	13	75	87
– Stage 2	166	25	2	19	46
– Stage 3	–	11	1	9	21

Post model adjustments

As at 31 December 2022, judgemental post model adjustments to increase ECL by $44 million (31 December 2021: $7 million) have been applied to certain CPBB models. $34 million (31 December 2021: $nil) of this relates to multiple economic scenarios. The remainder is primarily to hold back releases of ECL identified from model monitoring breaches because moratoria and other support schemes have suppressed observed defaults. These will be released when the observed defaults normalise.

Management overlays

CCIB

COVID-19

The COVID-19 overlay of $102 million at 31 December 2021 has been fully released in 2022 and no overlay is held at 31 December 2022.

China commercial real estate

Chinese property developers continue to experience liquidity issues, triggered by government policy changes aimed at deleveraging the property sector and ensuring property developers have the financial ability to complete residential properties under construction. The government's 'three red lines' matrix was introduced in August 2020 to tighten the funding conditions for property developers by limiting the growth rate in external debt. With additional controls on sales of properties to end buyers (e.g. mortgage lending control, pricing control, eligibility control) and on restricting developers' ability to access cash from 'escrow accounts' with cash paid by retail residential buyers, the cashflow of developers has been significantly squeezed. Also, with capital markets reacting negatively to the tightening policies, we have seen greater volatility in bond pricing and reduced access to capital markets liquidity for developers. As such, some developers have faced/are facing difficulties in servicing and repaying financing obligations.

The Group's loans and advances to China commercial real estate clients was $3.2 billion at 31 December 2022 (31 December 2021: $3.7 billion). Client level analysis continues to be done, with the high-risk clients being placed on purely precautionary or non-purely precautionary early alert. Given the evolving nature of the risks in the China commercial real estate sector, a management overlay of $173 million (31 December 2021: $95 million) has been taken by estimating the impact of further deterioration to those clients placed on early alert.

Sri Lanka

Due to the ongoing economic uncertainty following the Sri Lanka Sovereign default in the first half of 2022, a judgemental overlay of $9 million (31 December 2021: $nil) is held against modelled stage 3 exposures in Sri Lanka that have not yet been individually assessed for impairment.

CPBB

While industry wide government COVID-19 relief measures have ended for most markets, there are a few markets where either the schemes have recently ended or limited reliefs are still available. At 31 December 2022 $21 million (31 December 2021: $147 million) was held for residual COVID-19 related risks in these portfolios.

Overlays of $16 million (31 December 2021: $nil) have also been applied to capture operating environment challenges, in part caused by rising interest rates in certain markets, and the impact of sovereign defaults in the last quarter of 2022, both of which are not fully captured in the modelled outcomes.

Stage 3 assets

Credit-impaired assets managed by Stressed Asset Risk incorporate forward-looking economic assumptions in respect of the recovery outcomes identified, and are assigned individual probability weightings. 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. The first scenario is based on the Bank of England's 2022 regulatory Annual Cyclical Scenario (ACS 2022) and is a deep synchronised global downturn characterised by significantly higher commodity prices relative to base, inflation and interest rates. In the second more modest downside scenario, inflation in advanced economies surprises to the upside in the very near term as the supply-chain crisis intensifies and this prompts additional monetary tightening. Financial markets weaken with bond yields spiking and equities falling sharply. The deterioration in sentiment also leads to adjustments in property markets. Advanced economies are shocked more than emerging markets in the second scenario.

	Baseline		ACS 2022		Advanced Economic Downturn	
	Five year average	Peak/Trough	Five year average	Peak/Trough	Five year average	Peak/Trough
China GDP	5.1	7.9/4.5	3.1	4.7/(2.6)	4.9	7.2/3.7
China unemployment	3.9	4.1/3.8	5.2	5.6/4.6	4.1	4.3/3.8
China property prices	3.6	5.0/0.0	(6.5)	9.2/(22.1)	3.3	6.9/(1.8)
Hong Kong GDP	2.3	4.3/0.5	(0.7)	2.9/(9.7)	2.1	3.4/(0.1)
Hong Kong unemployment	3.0	3.1/2.9	5.8	7.0/2.7	3.1	3.2/3.0
Hong Kong property prices	1.7	4.9/(8.4)	(10.6)	6.2/(24.8)	1.4	5.1/(9.5)
US GDP	1.7	3.1/(0.4)	0.1	2.4/(5.9)	1.6	3.9/(2.6)
Singapore GDP	2.7	3.7/1.7	1.1	4.6/(7.0)	2.6	3.1/1.4
India GDP	6.4	7.7/3.2	4.3	6.6/(0.2)	6.3	7.7/3.2
Crude oil	106.6	118.8/88.0	140.3	148.4/118.8	90.2	104.9/77.3

Period covered from Q1 2023 to Q4 2027

	Base (GDP, YoY%)					ACS 2022 (GDP, YoY%)					Difference from Base				
	2023	2024	2025	2026	2027	2023	2024	2025	2026	2027	2023	2024	2025	2026	2027
China	5.8	5.4	5.2	4.8	4.5	0.1	2.2	4.6	4.2	4.2	(5.7)	(3.2)	(0.6)	(0.6)	(0.4)
Hong Kong	2.4	2.5	2.2	2.3	2.1	(5.7)	(3.5)	2.5	1.7	1.4	(8.1)	(6.0)	0.3	(0.6)	(0.7)
US	(0.2)	1.8	2.6	2.1	2.1	(3.3)	(1.2)	1.7	1.5	1.5	(3.1)	(3.0)	(0.8)	(0.6)	(0.6)
Singapore	2.8	2.5	2.6	2.9	2.8	(3.7)	(0.6)	3.6	3.0	2.9	(6.5)	(3.1)	0.9	0.1	0.1
India	4.9	5.9	6.3	7.2	7.6	1.7	2.7	4.7	6.0	6.4	(3.1)	(3.3)	(1.6)	(1.1)	(1.2)

Each year is from Q1 to Q4. For example 2023 is from Q1 2023 to Q4 2023.

	Base (GDP, YoY%)					Advanced Economic Downturn (GDP, YoY%)					Difference from Base				
	2023	2024	2025	2026	2027	2023	2024	2025	2026	2027	2023	2024	2025	2026	2027
China	5.8	5.4	5.2	4.8	4.5	5.0	5.0	5.2	4.8	4.5	(0.8)	(0.4)	0.1	0.0	0.0
Hong Kong	2.4	2.5	2.2	2.3	2.1	1.6	2.0	2.4	2.3	2.1	(0.8)	(0.5)	0.1	0.0	0.0
US	(0.2)	1.8	2.6	2.1	2.1	(1.6)	1.5	3.1	2.4	2.7	(1.5)	(0.3)	0.6	0.3	0.6
Singapore	2.8	2.5	2.6	2.9	2.8	1.9	2.3	2.8	3.0	3.0	(0.9)	(0.2)	0.2	0.1	0.2
India	4.9	5.9	6.3	7.2	7.6	4.8	5.5	6.2	7.2	7.6	(0.1)	(0.4)	(0.1)	0.0	0.0

Each year is from Q1 to Q4. For example 2023 is from Q1 2023 to Q4 2023

The total modelled stage 1 and 2 ECL provisions (including both on and off-balance sheet instruments) would be approximately $32 million higher under the Advanced Economy Downturn scenario, and $459 million higher under the ACS 2022 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). The proportion of stage 2 assets would increase from 3.1 per cent in the base case to 3.3 per cent and 8.1 per cent respectively under the Advanded Economy Downturn and ACS 2022 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 CCIB came from the main corporate and project finance portfolios in the UAE and Hong Kong being impacted. For the CPBB portfolios most of the increases came from the unsecured retail portfolios with the Taiwan Personal Loans and Singapore Credit Cards portfolios 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[1] $ million	ECL Base case $ million	Advanced economy downturn $ million	ACS 2022 $ million
Stage 1 modelled					
Corporate, Commercial & Institutional Banking	315,437	157	138	148	191
Consumer, Private & Business Banking	193,239	395	372	379	447
Ventures	691	10	10	10	10
Central & Other items	210,745	28	25	26	38
Total excluding management overlays	720,112	590	545	563	686
Stage 2 modelled					
Corporate, Commercial & Institutional Banking	19,432	275	256	269	435
Consumer, Private & Business Banking	1,821	106	89	90	227
Ventures	18	1	1	1	1
Central & Other items	6,208	88	85	85	86
Total excluding management overlays	27,479	470	431	445	749
Total Stage 1 & 2 modelled					
Corporate, Commercial & Institutional Banking	334,869	432	394	417	626
Consumer, Private & Business Banking	195,060	501	461	469	674
Ventures	709	11	11	11	11
Central & Other items	216,953	116	110	111	124
Total excluding management overlays	747,859	1,060	976	1,008	1,435
Stage 3 exposures excluding management overlays	8,975	4,778			
Other financial assets[2]	101,606	18			
ECL from management overlays		219			
Total reported at 31 December 2022	858,172	6,075			

1 Includes both on- and off- balance sheet instruments

2 Includes cash and balances at central banks; Accrued income; Other 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 quantitative significant deterioration thresholds 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 lifetime probability of default 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 IFRS9 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 relative threshold is a 100 per cent increase in IFRS 9 PD and the absolute change in IFRS 9 PD is between 50 and 100 bps.

For Consumer and Business Banking clients, portfolio specific quantitative thresholds in Hong Kong, Singapore, Malaysia, UAE and Taiwan have been introduced in 2022 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%	–

The impact of this change has been to transfer $212 million of credit cards balances and $14 million of personal loans balances from stage 2 to stage 1, which reduced ECL by a net $15 million.

For all other Consumer and Business Banking portfolios, the thresholds remained the same as 2021, with a relative threshold of 100 per cent increase in IFRS 9 PD and an absolute change in IFRS 9 PD is 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.

Debt securities originated before 1 January 2018 with an internal credit rating mapped to an investment grade equivalent are allocated to stage 1 and all other debt securities to stage 2. Debt securities originated after 1 January 2018 apply the same approach and thresholds as for CCIB clients.

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 (30 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 significant increase in credit risk 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, Taiwan credit cards) 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. 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 criteria

Accounts that are 30 days past due (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.

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.

Qualitative criteria

Debt securities utilise the same qualitative criteria as the CCIB client segments, including being placed on 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 chargeoff 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 Assets Risk (SAR). Where any amount is considered irrecoverable, 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 best, worst and most likely recovery outcomes). Where the cashflows include realisable collateral, the values used will incorporate the impact of forward-looking economic information.

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, judgemental management adjustments account for events are not captured in the Base Case Forecast or the resulting ECL calculated by the models (for example, caused by sudden events or as a result of significant levels of uncertainty). All judgemental management adjustments 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. Judgemental management adjustments 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 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 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.

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 as well as commodity baskets
- 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 2022 was $52.5 million, 4.2 per cent lower than 2021 ($54.8 million). The actual level of total trading and non-trading VaR as at the end of 2022 was $55.8 million, 28.6 per cent higher than 2021 ($43.4 million), due to an increase in market volatility in H2 2022, driven by a number of Central Banks increasing interest rates to curb inflation.

For the trading book, the average level of VaR in 2022 was $18.0 million, 4.6 per cent higher than 2021 ($17.2 million). Trading activities have remained relatively unchanged, and client driven.

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

Trading[1] and non-trading[2]	2022 Average $million	2022 High $ million	2022 Low $million	2022 Year End $million	2021 Average $million	2021 High $million	2021 Low $million	2021 Year End $million
Interest Rate Risk	27.8	42.1	21.0	24.7	31.3	68.3	16.4	26.0
Credit Spread Risk	34.2	47.1	20.3	32.9	34.0	97.6	14.8	21.5
Foreign Exchange Risk	6.5	10.3	4.8	6.8	7.3	19.0	4.2	7.0
Commodity Risk	7.0	11.9	3.5	8.3	4.5	10.4	2.3	3.6
Equity Risk	0.1	0.2	–	0.1	1.3	1.7	1.0	1.4
Total	52.5	64.1	40.3	55.8	54.8	140.7	30.7	43.4

Trading[1]	2022 Average $million	2022 High $million	2022 Low $million	2022 Year End $million	2021 Average $million	2021 High $million	2021 Low $million	2021 Year End $million
Interest Rate Risk	8.1	11.7	5.3	9.0	7.6	10.2	5.2	7.2
Credit Spread Risk	9.5	14.9	5.0	8.7	8.6	19.2	4.2	6.2
Foreign Exchange Risk	6.5	10.3	4.8	6.8	7.3	19.0	4.2	7.0
Commodity Risk	7.0	11.9	3.5	8.3	4.5	10.4	2.3	3.6
Equity Risk	–	–	–	–	–	–	–	–
Total	18.0	24.4	12.6	21.8	17.2	28.4	12.3	15.3

Non-trading[2]	2022 Average $million	2022 High $million	2022 Low $million	2022 Year End $million	2021 Average $million	2021 High $million	2021 Low $million	2021 Year End $million
Interest Rate Risk	26.3	44.5	18.1	23.5	32.4	68.2	18.2	24.3
Credit Spread Risk	28.8	37.8	18.7	29.2	29.2	80.0	14.4	20.2
Equity Risk[3]	0.1	0.2	–	0.1	1.3	1.7	1.0	1.4
Total	44.6	52.5	35.1	41.3	47.1	106.3	25.3	38.3

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

	2022 Average $million	2022 High $million	2022 Low $million	2022 Year End $million	2021 Average $million	2021 High $million	2021 Low $million	2021 Year End $million
Trading[1] and non-trading[2]	52.5	64.1	40.3	55.8	54.8	140.7	30.7	43.4
Trading[1]								
Macro Trading[4]	12.8	17.4	10.2	16.9	12.7	21.2	9.0	12.2
Global Credit	10.1	15.7	4.2	8.4	6.9	18.7	3.6	4.8
Equities	–	–	–	–	–	–	–	–
XVA	3.9	5.0	2.4	4.6	5.2	11.9	2.5	2.5
Total	18.0	24.4	12.6	21.8	17.2	28.4	12.3	15.3
Non-trading[2]								
Treasury Markets	38.7	47.5	29.7	40.3	40.5	83.1	22.7	36.4
Treasury Capital Management	9.1	15.3	6.4	9.1	9.2	22.7	4.9	6.5
Global Credit	3.4	5.0	2.3	3.5	5.2	11.7	2.3	2.5
Listed Private Equity	0.1	0.2	–	0.1	1.3	1.7	1.0	1.4
Total	44.6	52.5	35.1	41.3	47.1	106.3	25.3	38.3

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 Non-trading Equity Risk VaR includes only listed equities
4 Macro Trading comprises the Rates, FX and Commodities businesses

Risks not in VaR

In 2022, 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
- 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
- Volatility skew risk due to movements in options volatilities at different strikes while VaR reflects only movements in at-the-money volatilities

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

Backtesting

In 2022, there were eight regulatory backtesting negative exceptions at Group level (in 2021, there were three regulatory backtesting negative exceptions at Group level). Group exceptions occurred on:

- 9 March: When risk assets rallied on hope of a truce agreement between Russia and Ukraine
- 29 March: When oil and base metal prices fell on the prospect of further ceasefire talks between Russia and Ukraine, and following a resurgence of COVID-19 cases in China
- 25 April: When risk assets fell following an announcement by Chinese authorities of expanded COVID-19 testing requirements amidst rising cases
- 29 September: When the Bank of England intervened in the gilts market to protect UK pension funds with Liability Driven Investment (LDI) exposures
- 4 October: When the Reserve Bank of Australia raised Australian interest rates by less than expected. US Treasury yields fell and the USD currency depreciated
- 25 October: When the new UK Prime Minister was appointed and Sterling appreciated sharply
- 26 October: When new economic data indicated that the Federal Reserve would slow anticipated US interest rate rises. USD yields fell and the USD currency depreciated
- 27 October: When the Central Bank of Egypt announced that the Egyptian Pound (EGP) would move to a durably flexible exchange rate regime and raised EGP interest rates by 200 basis points

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

In total, there have been eight Group exceptions in the previous 250 business days which 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 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.

Trading loss days

	2022	2021
Number of loss days reported for Financial Markets trading book total product income[1]	15	15

1 Reflects total product income for Financial Markets:

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

Average daily income earned from Market Risk-related activities[1] (audited)

The average level of total trading daily income in 2022 was $14 million, 43 per cent higher than in 2021 ($9.8 million). The increase is largely attributable to higher client income in Macro Trading driven by increased flows and trading income driven by higher market volatility and a rally in commodity prices.

Trading	2022 $million	2021 $million
Interest Rate Risk	5.0	3.3
Credit Spread Risk	1.4	0.9
Foreign Exchange Risk	6.3	4.7
Commodity Risk	1.3	0.9
Equity Risk	–	–
Total	14.0	9.8

Non-trading	$million	$million
Interest Rate Risk	–	0.4
Credit Spread Risk	0.6	0.2
Equity Risk	–	–
Total	0.6	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 other 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.

	2022 $million	2021 $million
Indian rupee	4,396	4,323
Renminbi	3,497	4,186
Hong Kong dollar	3,333	4,757
Korean won	2,409	1,756
Singapore dollar	1,888	2,228
Malaysian ringgit	1,571	1,532
Taiwanese dollar	1,055	1,188
Thai baht	782	775
UAE dirham	670	643
Pakistani rupee	352	429
Indonesian rupiah	261	289
Other	4,958	4,976
	25,172	27,082

As at 31 December 2022, the Group had taken net investment hedges using derivative financial investments to partly cover its exposure to the Hong Kong dollar of $6,236 million (2021: $4,975 million), Korean won of $3,330 million (2021: $2,856 million), Singapore dollar of $1,608 million (2021: $729 million), Renminbi of $1,608 million (2021: $1,642 million), UAE dirham of $1,334 million (2021: $1,198 million), Taiwanese dollar of $1,075 million (2021: $1,149 million) and Indian rupee of $620 million (2021: $656 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 $421 million (2021: $399 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.

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 Interest Rate Risk management activities.

In 2022, the Group issued approximately $5.2 billion of senior debt securities, $0.75 billion of subordinated debt securities and $1.25 billion of Additional Tier 1 securities from its holding company (HoldCo) Standard Chartered PLC (2021: $6.8 billion of senior debt securities, $1.2 billion of subordinated debt securities and $2.75 billion of Additional Tier 1 securities). In the next 12 months, approximately $5.4 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.

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, external wholesale borrowing, advances-to-deposits ratio (ADR) and net stable funding ratio (NSFR).

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 (CRR) part of the 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 147 per cent (2021: 143 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.

	2022 $million	2021 $million
Liquidity buffer	177,037	172,178
Total net cash outflows	120,720	120,788
Liquidity coverage ratio	147%	143%

Stressed 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.

The Group's 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 – which 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 – which captures the liquidity impact from a market-wide crisis affecting all participants in a country, region or globally; and
- Combined – which 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.

Stress testing results show that a positive surplus was maintained under all scenarios at 31 December 2022, i.e. respective countries are 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 2022 were A+ with stable outlook (Fitch), A+ with stable outlook (S&P) and A1 with stable outlook (Moody's). As of 31 December 2022, the estimated contractual outflow of a three-notch long-term ratings downgrade is $1.5 billion.

External wholesale borrowing

The Board sets a risk limit 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 Board 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 1.7 per cent to 57.4 per cent, driven by a reduction of 2 per cent in customer deposits and 5 per cent in customer loans and advances.

	2022 $million	2021 $million
Total loans and advances to customers[1,2]	271,897	285,922
Total customer accounts[3]	473,383	483,861
Advances-to-deposits ratio	57.4%	59.1%

1 Excludes reverse repurchase agreement and other similar secured lending of $24,498 million and includes loans and advances to customers held at fair value through profit and loss of $6,546 million

2 Loans and advances to customers for the purpose of the advances-to-deposits ratio excludes $20,798 million of approved balances held with central banks, confirmed as repayable at the point of stress (31 December 2021: $15,168 million)

3 Includes customer accounts held at fair value through profit or loss of $11,706 million (31 December 2021: $9,291 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 129.6 per cent.

Liquidity pool

The liquidity value of the Group's LCR eligible liquidity pool at the reporting date was $177 billion. The figures in the table below account for haircuts, currency convertibility and portability constraints, and therefore are not directly comparable with the consolidated balance sheet. A liquidity pool is held to offset stress outflows as defined in the Liquidity Coverage Ratio (CRR) part of the PRA rulebook.

	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

	2021			
	Asia $million	Africa & Middle East $million	Europe & Americas $million	Total $million
Level 1 securities				
Cash and balances at central banks	28,076	890	46,973	75,939
Central banks, governments/public sector entities	40,328	2,096	27,389	69,813
Multilateral development banks and international organisations	7,812	356	7,366	15,534
Other	–	–	478	478
Total Level 1 securities	76,216	3,342	82,206	161,764
Level 2A securities	3,447	186	5,047	8,680
Level 2B securities	114	–	1,620	1,734
Total LCR eligible assets	79,777	3,528	88,873	172,178

Encumbrance

Encumbered assets

Encumbered assets represent on-balance sheet assets pledged or subject to any form of arrangement to secure, collateralise or credit enhance a transaction from which it cannot be freely withdrawn. Cash collateral pledged against derivatives and Hong Kong Government certificates of indebtedness, which secure the equivalent amount of Hong Kong currency notes in circulation, are included within Other assets.

Unencumbered – readily available for encumbrance

Unencumbered assets that are considered by the Group to be readily available in the normal course of business to secure funding, meet collateral needs, or be sold to reduce potential future funding requirements and are not subject to any restrictions on their use for these purposes.

Unencumbered – other assets capable of being encumbered

Unencumbered assets that, in their current form, are not considered by the Group to be readily realisable in the normal course of business to secure funding, meet collateral needs, or be sold to reduce potential future funding requirements and are not subject to any restrictions on their use for these purposes. Included within this category are loans and advances which could be suitable for use in secured funding structures such as securitisations.

Unencumbered – cannot be encumbered

Unencumbered assets that have not been pledged and cannot be used to secure funding, meet collateral needs, or be sold to reduce potential future funding requirements, as assessed by the Group.

Derivatives, reverse repurchase assets and stock lending

These assets are shown separately as these on-balance sheet amounts cannot be pledged. However, these assets can give rise to off-balance sheet collateral which can be used to raise secured funding or meet additional funding requirements.

The following table provides a reconciliation of the Group's encumbered assets to total assets.

	2022									
		Assets encumbered as a result of transactions with counterparties other than central banks			Other assets (comprising assets encumbered at the central bank and unencumbered assets)					
						Assets not positioned at the central bank				
	Assets $million	As a result of securitisations $million	Other $million	Total $million	Assets positioned at the central bank (ie pre-positioned plus encumbered) $million	Readily available for encumbrance $million	Other assets that are capable of being encumbered $million	Derivatives and reverse repo/stock lending $million	Cannot be encumbered $million	Total $million
Cash and balances at central banks	58,263	–	–	–	9,166	49,097	–	–	–	58,263
Derivative financial instruments	63,717	–	–	–	–	–	–	63,717	–	63,717
Loans and advances to banks[1]	64,449	–	163	163	–	27,735	11,048	24,932	571	64,286
Loans and advances to customers[1]	357,730	–	4,635	4,635	–	–	274,695	65,035	13,365	353,095
Investment securities[2]	206,240	–	16,989	16,989	222	152,962	31,550	–	4,517	189,251
Other assets[1]	50,390	–	19,621	19,621	–	–	11,640	–	19,129	30,769
Current tax assets	503	–	–	–	–	–	–	–	503	503
Prepayments and accrued income	3,149	–	–	–	–	–	1,753	–	1,396	3,149
Interests in associates and joint ventures	1,631	–	–	–	–	–	–	–	1,631	1,631
Goodwill and intangible assets	5,869	–	–	–	–	–	–	–	5,869	5,869
Property, plant and equipment	5,522	–	–	–	–	–	448	–	5,074	5,522
Deferred tax assets	834	–	–	–	–	–	–	–	834	834
Assets classified as held for sale	1,625	–	–	–	–	–	–	–	1,625	1,625
Total	819,922	–	41,408	41,408	9,388	229,794	331,134	153,684	54,514	778,514

1 Includes held at fair value through profit or loss and amortised cost balances

2 Includes held at fair value through profit or loss, fair value through other comprehensive income and amortised cost balances

	2021									
		Assets encumbered as a result of transactions with counterparties other than central banks			Other assets (comprising assets encumbered at the central bank and unencumbered assets)					
						Assets not positioned at the central bank				
	Assets $million	As a result of securitisations $million	Other $million	Total $million	Assets positioned at the central bank (ie pre-positioned plus encumbered) $million	Readily available for encumbrance $million	Other assets that are capable of being encumbered $million	Derivatives and reverse repo/stock lending $million	Cannot be encumbered $million	Total $million
Cash and balances at central banks	72,663	–	–	–	8,147	64,516	–	–	–	72,663
Derivative financial instruments	52,445	–	–	–	–	–	–	52,445	–	52,445
Loans and advances to banks[1]	66,957	–	89	89	–	34,834	9,931	19,806	2,297	66,868
Loans and advances to customers[1]	369,703	–	4,539	4,539	–	–	282,761	68,612	13,791	365,164
Investment securities[2]	198,723	–	13,940	13,940	96	142,965	35,637	–	6,085	184,783
Other assets[1]	49,958	–	16,501	16,501	–	–	13,140	–	20,317	33,457
Current tax assets	766	–	–	–	–	–	–	–	766	766
Prepayments and accrued income	2,176	–	–	–	–	–	937	–	1,239	2,176
Interests in associates and joint ventures	2,147	–	–	–	–	–	–	–	2,147	2,147
Goodwill and intangible assets	5,471	–	–	–	–	–	–	–	5,471	5,471
Property, plant and equipment	5,616	–	–	–	–	–	448	–	5,168	5,616
Deferred tax assets	859	–	–	–	–	–	–	–	859	859
Assets classified as held for sale	334	–	–	–	–	–	–	–	334	334
Total	827,818	–	35,069	35,069	8,243	242,315	342,854	140,863	58,474	792,749

1 Includes held at fair value through profit or loss and amortised cost balances
2 Includes held at fair value through profit or loss, fair value through other comprehensive income and amortised cost balances

The Group received $123,759 million (31 December 2021: $117,408 million) as collateral under reverse repurchase agreements that was eligible for repledging; of this, the Group sold or repledged $44,628 million (31 December 2021: $57,879 million) under repurchase agreements.

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 value 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 61 per cent maturing in less than one year. The less than three-month cumulative net funding gap improved by $22 billion from the previous year.

	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

	2021								
	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	64,516	–	–	–	–	–	–	8,147	72,663
Derivative financial instruments	11,695	10,489	7,332	3,583	2,731	4,738	6,493	5,384	52,445
Loans and advances to banks[1,2]	25,486	17,987	11,347	4,415	4,506	1,455	1,466	295	66,957
Loans and advances to customers[1,2]	92,181	68,361	26,276	13,255	14,992	21,391	36,299	96,948	369,703
Investment securities[1]	11,813	13,590	12,070	13,266	13,407	26,424	53,189	54,964	198,723
Other assets[1]	24,283	19,776	989	67	491	35	32	21,654	67,327
Total assets	229,974	130,203	58,014	34,586	36,127	54,043	97,479	187,392	827,818
Liabilities									
Deposits by banks[1,3]	34,858	1,134	1,244	408	477	116	206	4	38,447
Customer accounts[1,4]	430,071	52,051	27,436	11,738	12,023	4,857	2,152	2,127	542,455
Derivative financial instruments	11,715	11,573	7,254	4,061	2,788	5,042	7,117	3,849	53,399
Senior debt[5]	190	642	1,036	320	397	5,336	15,225	11,845	34,991
Other debt securities in issue[1]	2,233	12,968	7,786	3,118	3,281	782	1,411	320	31,899
Other liabilities	14,545	22,582	2,044	1,148	1,180	797	990	14,059	57,345
Subordinated liabilities and other borrowed funds	1,007	64	24	240	894	2,430	2,593	9,394	16,646
Total liabilities	494,619	101,014	46,824	21,033	21,040	19,360	29,694	41,598	775,182
Net liquidity gap	(264,645)	29,189	11,190	13,553	15,087	34,683	67,785	145,794	52,636

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 $88.4 billion
3 Deposits by banks include repurchase agreements and other similar secured borrowing of $7.1 billion
4 Customer accounts include repurchase agreements and other similar secured borrowing of $58.6 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.

	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[1]	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

	2021								
	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	34,866	1,140	1,246	409	481	117	208	3	38,470
Customer accounts	430,190	52,112	27,510	11,813	12,120	4,930	2,212	2,495	543,382
Derivative financial instruments[1]	52,783	9	22	12	106	76	212	179	53,399
Debt securities in issue	2,526	13,618	9,015	3,586	3,891	6,743	17,966	17,659	75,004
Subordinated liabilities and other borrowed funds	1,114	134	48	261	928	2,546	3,030	16,044	24,105
Other liabilities	17,759	22,460	1,952	1,133	1,170	797	990	9,955	56,216
Total liabilities	539,238	89,473	39,793	17,214	18,696	15,209	24,618	46,335	790,576

1 Derivatives are on a discounted basis

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) 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. 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, customer behaviour and risk management strategy, the interest rates assumed in setting the base case and other market conditions. 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:	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

Estimated one-year impact to earnings from a parallel shift in yield curves at the beginning of the period of:	2021						
	USD bloc $million	HKD bloc $million	SGD bloc $million	KRW bloc $million	CNY bloc $million	Other currency bloc $million	Total $million
+ 50 basis points	200	150	70	50	50	140	660
- 50 basis points	(210)	(170)	(70)	(40)	(50)	(130)	(670)
+ 100 basis points	380	280	130	80	90	300	1,260

As at 31 December 2022, 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 $370 million. The equivalent impact from a parallel decrease of 50 basis points would result in a reduction in projected NII of $370 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 $740 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 all scenarios has decreased versus 31 December 2021. The change in NII sensitivity reflects updates to the Group's base case scenario to factor in higher interest rates as at 31 December 2022. In addition, NII sensitivities have reduced due to the migration of the HKD mortgage book from HIBOR to Prime rate, the dampening effect of USD hedging strategies intended to provide short term income certainty and smooth longer term NII volatility, and 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.

Operational and Technology Risk

Operational and Technology Risk is defined 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)". The Group can be impacted from a range of operational risks which are inherent in the Group's strategy and business model.

Operational and Technology Risk profile

Risk management practices help the business grow safely and ensures governance and management of Operational and Technology Risk through the delivery and embedding of effective frameworks and policies, together with continuous oversight and assurance.

The Group continues to ensure the operational and technology risk framework supports the business and functions in effectively managing risk and controls within risk appetite to meet their strategic objectives.

Overall, the Group's Operational Risk profile has remained stable with the quality of risk understanding and identification improving. Operational and Technology Risks remain heightened in areas such as Fraud, Data Management, and Information and Cyber Security. Other focus risk areas are Third Party Risk,

Technology Risk, People Risk and Change Management. The Group continues to enhance its operational resilience and defences against these risks, as well as continue to monitor impacts of the ongoing pandemic, through vigorous enhancement programmes.

Digitalisation and wider technological improvements remain a key focus for the Group, to keep pace with new business developments whilst ensuring control frameworks and Risk Appetite evolve accordingly.

Operational resilience

In line with regulatory expectations, the Standard Chartered PLC Board has approved the Group's Important Business Services,

Impact Tolerance Statements and the Operational Resilience self-assessment. By 31 March 2025, the authorities expect the Group to complete mapping, continue scenario testing to identify vulnerabilities, remediate identified vulnerabilities, and embed sustainable governance, assurance and testing.

Operational 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 2022 and 2021 is summarised in the table below. It shows the percentage distribution of gross operational losses by Basel business line.

	% Loss	
Distribution of Operational Losses by Basel business line	2022	2021[1]
Agency Services	2.6%	0.6%
Asset Management	0.2%	0.0%
Commercial Banking	9.2%	3.1%
Corporate Finance	0.0%	2.9%
Corporate Items	3.8%	41.6%
Payment and Settlements	45.0%	32.9%
Retail Banking	24.1%	12.6%
Retail Brokerage	0.0%	0.0%
Trading and Sales	15.1%	6.3%

1 Losses in 2021 have been restated to include incremental events recognised in 2022

The Group's profile of operational loss events in 2022 and 2021 is also summarised by Basel event type in the table below. It shows the percentage distribution of gross operational losses by Basel event type.

	% Loss	
Distribution of Operational Losses by Basel event type	2022	2021[1]
Business disruption and system failures	4.5%	0.3%
Clients products and business practices	6.9%	3.1%
Damage to physical assets	0.0%	0.0%
Employment practices and workplace safety	0.1%	0.0%
Execution delivery and process management	79.4%	87.6%
External fraud	8.1%	8.8%
Internal fraud	1.0%	0.2%

1 Losses in 2021 have been restated to include incremental events recognised in 2022

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.

Enterprise Risk Management Framework

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 taking and managing appropriate levels of risk, which in turn generates 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. The ERMF has been designed with the explicit goal of improving the Group's risk management, and since its launch in January 2018, it has been embedded across the Group and rolled out to its branches and subsidiaries [1].

The ERMF is reviewed annually and the latest version is effective from January 2023.

Risk culture

The Group's risk culture provides guiding principles for the behaviours expected from our people when managing risk. The Board has approved a risk culture statement that encourages the following behaviours and outcomes:

- An enterprise-level ability to identify and assess current and future risks, openly discuss these and take prompt actions.
- The highest level of integrity by being transparent and proactive in disclosing and managing all types of risks.
- A constructive and collaborative approach in providing oversight and challenge, and taking decisions in a timely manner.
- Everyone to be accountable for their decisions and feel safe in using their judgement to make these considered decisions.

We acknowledge that banking inherently involves risk-taking and undesired outcomes will occur from time to time; however, we shall take the opportunity to learn from our experience and formalise what we can do to improve. We expect managers to demonstrate a high awareness of risk and control by self-identifying issues and managing them in a manner that will deliver lasting change.

Strategic risk management

The Group approaches strategic risk management as follows:

- By conducting an impact analysis on the risk profile from growth plans, strategic initiatives and business model vulnerabilities, with the aim of proactively identifying and managing new risks or existing risks that need to be reprioritised as part of the strategy review process.
- By confirming that growth plans and strategic initiatives can be delivered within the approved Risk Appetite and/or proposing additional Risk Appetite for Board consideration as part of the strategy review process.
- By validating the Corporate Plan against the approved or proposed Risk Appetite Statement to the Board. The Board approves the strategy review and the five-year Corporate Plan with a confirmation from the Group Chief Risk Officer (GCRO) that it is aligned with the ERMF and the Group Risk Appetite Statement where projections allow.
- Country Risk management approach and Country Risk reviews are used to ensure the country limits and exposures are reasonable and in line with Group strategy, country strategy, and the operating environment, considering the identified risks.

Roles and responsibilities

Senior Managers Regime[2]

Roles and responsibilities under the ERMF are aligned to the objectives of the Senior Managers Regime. The GCRO is responsible for the overall development and maintenance of the Group's ERMF and for identifying material risk types to which the Group may be potentially exposed. The GCRO delegates effective implementation of the Risk Type Frameworks (RTFs) to Risk Framework Owners who provide second line of defence oversight for the Principal Risk Types (PRTs). In addition, the GCRO has been formally identified as the relevant senior manager responsible for the development of the Group's Digital Asset Risk Assessment Approach, as well as the senior manager responsible for Climate Risk management as it relates to financial and non-financial risks to the Group arising from climate change. This does not include elements of corporate social responsibility, the Group's contribution to climate change and the Sustainable Finance strategy supporting a low-carbon transition, which are the responsibility of other relevant senior managers.

The Risk function

The Risk function is responsible for the sustainability of our business through good management of risk across the Group by providing oversight and challenge, thereby ensuring that business is conducted in line with regulatory expectations.

The GCRO directly manages the Risk function, which is separate and independent from the origination, trading and sales functions of the businesses. The Risk function is responsible for:

- 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, and administering related governance and reporting processes.
- Upholding the overall integrity of the Group's risk and return decisions to ensure that risks are properly assessed, that these decisions are made transparently on the basis of proper assessments and that risks are controlled in accordance with the Group's standards and Risk Appetite
- Overseeing and challenging the management of Principal Risk Types and Integrated Risk Types under the ERMF.

The independence of the Risk function ensures that the necessary balance in making risk and return decisions is not compromised by short-term pressures to generate revenues.

In addition, the Risk function is a centre of excellence that provides specialist capabilities relevant to risk management processes in the broader organisation.

The Risk function supports the Group's commitment to be 'Here for good' by building a sustainable framework that places regulatory and compliance standards and a culture of appropriate conduct at the forefront of the Group's agenda, in a manner proportionate to the nature, scale and complexity of the Group's business.

Conduct, Financial Crime and Compliance (CFCC), under the Management Team leadership of the Group Head, CFCC, works alongside the Risk function within the framework of the ERMF to deliver a unified second line of defence.

Three lines of defence model

Roles and responsibilities for risk management are defined under a three lines of defence model. Each line of defence has a specific set of responsibilities for risk management and control, as shown in the table below.

Lines of defence	Definition	Key responsibilities include
1st	The businesses and functions engaged in or supporting revenue-generating activities that own and manage the risks	• Propose the risks required to undertake revenue-generating activities • Identify, assess, monitor and escalate risks and issues to the second line and senior management and promote a healthy risk culture and good conduct • Validate and self-assess compliance to RTFs and policies, confirm the quality of validation, and provide evidence-based affirmation to the second line • Manage risks within Risk Appetite, set and execute remediation plans and ensure laws and regulations are being complied with • Ensure systems meet risk data aggregation, risk reporting and data quality requirements set by the second line.
2nd	The control functions independent of the first line that provide oversight and challenge of risk management to provide confidence to the GCRO, senior management and the Board	• Identify, monitor and escalate risks and issues to the GCRO, senior management and the Board and promote a healthy risk culture and good conduct • Oversee and challenge first-line risk-taking activities and review first-line risk proposals • Propose Risk Appetite to the Board, monitor and report adherence to Risk Appetite and intervene to curtail business if it is not in line with an existing or adjusted Risk Appetite, there is material non-compliance with policy requirements, or when operational controls do not effectively manage risk • Set risk data aggregation, risk reporting and data quality requirements • Ensure that there are appropriate controls to comply with applicable laws and regulations, and escalate significant non-compliance matters to senior management and the appropriate committees.
3rd	The Internal Audit function provides independent assurance on the effectiveness of controls that support first line's risk management of business activities, and the processes maintained by the second line	• Independently assess whether management has identified the key risks in the businesses and whether these are reported and governed in line with the established risk management processes • Independently assess the adequacy of the design of controls and their operating effectiveness.

Risk Appetite and profile

We recognise 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, before breaching constraints determined by capital and liquidity requirements and internal operational environment, or otherwise failing to meet the expectations of regulators and law enforcement agencies.
- Risk Appetite is defined by the Group and approved by the Board. It is the maximum amount and type of risk the Group is willing to assume in pursuit of its strategy. Risk Appetite cannot exceed risk capacity.

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

The Group Risk Appetite is reviewed at least on an annual basis to ensure that it is fit for purpose and aligned with strategy, and focus is given to emerging or new risks. The Risk Appetite Statement is supplemented by an overarching statement outlining the Group's Risk Appetite principles.

Risk Appetite principles

The Group Risk Appetite is defined in accordance with risk management principles that inform our overall approach to risk management and our risk culture. We follow the highest ethical standards and ensure a fair outcome for our clients, as well as facilitating the effective operation of financial markets, while at the same time meeting the expectations of regulators and law enforcement agencies. We set our Risk Appetite to enable us to grow sustainably and to avoid shocks to earnings or our general financial health, as well as manage our Reputational Risk in a way that does not materially undermine the confidence of our investors and all internal and external stakeholders.

Risk Appetite Statement

The Group will not compromise adherence to its Risk Appetite in order to pursue revenue growth or higher returns. The Group Risk Appetite is supplemented by risk control tools such as granular level limits, policies, standards and other operational control parameters that are used to keep the Group's risk profile within Risk Appetite. The Group's risk profile is its overall exposure to risk at a given point in time, covering all applicable risk types. Status against Risk Appetite is reported to the Board, Board Risk Committee and the Group Risk Committee, including the status of breaches and remediation plans where applicable. To keep the Group's risk profile within Risk Appetite (and therefore also risk capacity), we have cascaded critical Group Risk Appetite metrics across our Principal Risk Types to our footprint markets with significant business operations.

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 Principal Risk Types to classify our risk exposures.

Nevertheless, 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 and could have an impact on our ability to continue to provide services that are material to the Group.

To facilitate risk identification and assessment, 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 Principal Risk Types, Integrated Risk Types and risk sub-types that are inherent to the strategy and business model; as well as Topical and Emerging Risks (TERs) inventory that includes near-term as well as longer-term uncertainties. Near-term risks are those that are on the horizon and can be measured and mitigated to some extent, while uncertainties are longer-term matters that should be on the radar but are not yet fully measurable.

The GCRO and the Group Risk Committee review regular reports on the risk profile for the Principal Risk Types, adherence to the approved Risk Appetite and the Group risk inventory including emerging risks and uncertainties. They use this information to escalate material developments in each risk event 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; and
- understands the Group's key business model risks and considers what kind of event might crystallise those risks - even if extreme with a low likelihood of occurring - and identifies as required, actions to mitigate the likelihood or impact of those events

Enterprise stress tests incorporate Capital and Liquidity Adequacy Stress Tests, including in the context of capital adequacy, recovery and resolution, and stress tests that assess scenarios where our business model becomes challenged, such as the Bank of England (BoE) Biennial Exploratory Scenario, or unviable, such 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 set by the BoE, scenario design is a bespoke process that aims to explore risks that can adversely impact the Group.

The Board delegates approval of stress test submissions to the BoE to the Board Risk Committee, which reviews the recommendations from the Group Risk Committee.

Based on the stress test results, the Group Chief Financial Officer and Group Chief Risk Officer can recommend strategic actions to the Board to ensure that the Group strategy remains within the Board-approved Risk Appetite.

Principal Risk Types

Principal Risk Types 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 Group Chief Risk Officer.

The Principal Risk Types and associated Risk Appetite Statements are approved by the Board.

The Group currently recognises Climate Risk, Digital Asset Risk and Third-Party Risk as Integrated Risk Types. Climate Risk is defined as "the potential for financial loss and non-financial detriments arising from climate change and society's response to it"; Digital Asset Risk is defined as "the potential for regulatory penalties, financial loss and or reputational damage to the Group resulting from digital asset exposure or digital asset related activities arising from the Group's Clients, Products and Projects" and Third-Party Risk is defined as "the potential for loss or adverse impact from failure to manage multiple risks arising from the use of third parties, and is the aggregate of these risks."

In future reviews, we will continue to consider if existing Principal Risk Types or incremental risks should be treated as Integrated Risk Types. The table below shows the Group's current Principal Risk Types.

Principal Risk Types	Definition
Credit Risk	• Potential for loss due to the failure of a counterparty to meet its agreed obligations to pay the Group.
Traded Risk	• Potential for loss resulting from activities undertaken by the Group in financial markets.
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.
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).
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.
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.
Financial Crime Risk	• 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, anti-bribery and corruption, and fraud.
Model Risk	• Potential loss that may occur as a consequence 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.
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 or lapses in our commitment to do no significant environmental and social harm through our client, third-party relationships, or our own operations.

ERMF effectiveness reviews

The GCRO is responsible for annually affirming the effectiveness of the ERMF to the Board Risk Committee. An ERMF effectiveness review was established in 2018 to facilitate this affirmation, which follows the principle of evidence-based self-assessments for all the Risk Type Frameworks and relevant policies. A top-down review and challenge of the results is conducted by the GCRO with all Risk Framework Owners and an opinion on the internal control environment is provided by Group Internal Audit.

The ERMF effectiveness review is conducted annually and enables measurement of progress against the 2018 baseline. The key outcomes of the 2022 effectiveness review are:

- The focus in 2022 continued on the effective embedding of the framework across the organisation.
- While the more mature financial risks continued to be more effectively managed, the Group continues to make progress in embedding the non-financial risk management
- Other aspects of the ERMF, including the key risk committees and key supporting standards, are established.
- Self-assessments performed in our footprint markets reflect the embeddedness of ERMF adoption with an emphasis on first-line ownership of risks. Country and regional risk committees continue to play an active role in managing and overseeing material issues arising in countries.

Ongoing ERMF effectiveness reviews allow for a structured approach to identify improvement opportunities and build plans to address them. Over the course of 2023, the Group aims to further strengthen its risk management practices by further improving on the management of non-financial risks and integrated risks within its businesses, functions and across the 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 Board Risk Committee, which also recommends the Group Risk Appetite Statement for all Principal Risk Types. In addition, the Culture and Sustainability Committee oversees the Group's culture and key sustainability priorities.

Group Risk Committee

The Group Risk Committee, 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 Group Risk Committee, whose members are drawn from the Group's Management Team. The Committee oversees the effective implementation of the ERMF for the Group, including the delegation of any part of its authorities to appropriate individuals or properly constituted sub-committees.

Group Risk Committee sub-committees

The Group Non-Financial Risk Committee, chaired by the Global Head, Risk Functions and Operational Risk, governs the non-financial risks across clients, businesses, products and functions. The Committee also reviews the adequacy of the internal control system across all Principal Risk Types.

The Group Financial Crime Risk Committee, chaired by the Group Head, Conduct, Financial Crime and Compliance, governs the Financial Crime Risk Type (excluding Fraud Risk and Secondary Reputational Risk that is consequential in nature arising from risks pertaining to Financial Crime Risk) across the Group. The Committee ensures that the Financial Crime Risk profile is managed within approved Risk Appetite and policies.

The Group Responsibility and Reputational Risk Committee, chaired by the Group Head, Conduct, Financial Crime and Compliance, 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 Risk Framework Owners.

The IFRS 9 Impairment Committee, co-chaired by the Global Head Enterprise Risk Management and Group Head, Central Finance, ensures the effective management of the expected credit loss computations as well as stage allocation of financial assets for quarterly financial reporting within the authorities set by the Group Risk Committee.

The Model Risk Committee, chaired by the Global Head, Enterprise Risk Management, ensures the effective measurement and management of Model Risk in line with internal policies and Model Risk Appetite.

The Corporate, Commercial and Institutional Banking (CCIB) Risk Committee, chaired by the Chief Risk Officer, CCIB and Europe & Americas, ensures the effective management of risk throughout CCIB and Europe & Americas, in support of the Group's strategy.

The Consumer, Private and Business Banking (CPBB) Risk Committee, chaired by the Chief Risk Officer, 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 Chief Risk Officer for the respective region. These ensure the effective management of risk in the regions in support of the Group's strategy.

The Investment Committee, chaired by a representative of the Risk function, 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) as well as equity or quasi-equity stake obtained as a result of restructuring of distressed debt, non-core equities and limited partner investments in funds linked to CCIB and managed by Credit and Portfolio Management.

The Investment Committee for Transportation Assets, chaired by the Chief Risk Officer, CCIB and Europe & Americas or Global Head, Credit and Portfolio Management, CCIB ensures the optimisation of the Group's investment in aviation operating lease assets with the aim of delivering better returns through the cycle and wind down of shipping operating lease assets.

The SC Ventures (SCV) Risk Committee, chaired by the Chief Risk Officer, SCV, receives authority directly from the GCRO and oversees the effective management of risk throughout SCV and the individual entities operating under SCV.

The Climate Risk Management Committee, chaired by the Global Head, Enterprise Risk Management, oversees the effective implementation of the Group's Climate Risk 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 Enterprise Risk Management and Group Head, Central Finance, provides oversight of material regulatory interpretations for the Capital Requirements Regulation (as amended by UK legislation), the 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 and leverage ratio.

The Digital Assets Risk Committee, chaired by the Global Head, Enterprise Risk Management, ensures effective management of Digital Assets (DA) related risks across the Group. This includes providing oversight of DA risk related matters arising from projects, products and clients and third parties in relation to the DA services that they will be providing to any of the Businesses.

Group Asset and Liability Committee

The Group Asset and Liability Committee is chaired by the Group Chief Financial Officer. Its members are drawn principally from the Management Team. The Committee is responsible for determining the Group's approach to balance sheet strategy and recovery planning. The Committee is also responsible for ensuring that, in executing the Group's strategy, the Group operates within the internally approved Risk Appetite and external requirements relating to capital, loss-absorbing capacity, liquidity, leverage, Interest Rate Risk in the Banking Book, Banking Book Basis Risk and Structural Foreign Exchange Risk, as well as monitoring the structural impact of decisions around sustainable finance, net zero and climate risk. The Committee is also responsible for ensuring that internal and external recovery planning requirements are met.

Principal risks

We manage and control our Principal Risk Types through distinct Risk Type Frameworks, policies and Board-approved Risk Appetite.

Credit Risk

The Group defines Credit Risk as the potential for loss due to the 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 Risk Type Frameworks for the Group are set and owned by the Chief Risk Officers for the business segments. The Credit Risk function is the second-line control function responsible for independent challenge, monitoring and oversight of the Credit Risk management practices of the business and functions engaged in or supporting revenue-generating activities which constitute 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 Risk Appetite, credit policies and standards.

Mitigation

Segment-specific policies 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, that must be followed for end-to-end credit process including credit initiation, credit assessment 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 must be 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 Board Risk Committee oversees the effective management of Credit Risk among other risks within the bank. At the executive level, the Group Risk Committee (GRC) oversees and appoints sub-committees for the management of all risk types including Credit Risk – in particular the Corporate, Commercial and Institutional Banking Risk Committee, (CCIBRC), Consumer, Private and Business Banking Risk Committee (CPBBRC), and the regional risk committees for Asia, and Africa & Middle East. The GRC also receives reports from other key Group Committees such as the Standard Chartered Bank Executive Risk Committee (which cover Credit risk as well).

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, and ensure that appropriate action is taken.

Decision-making authorities and delegation

The Credit Risk Type Frameworks are the formal mechanism by which delegate Credit Risk authorities cascading from the GCRO, as the Senior Manager of the Credit Risk Type, to individuals such as the business segments' Chief Risk Officers. Named individuals further delegate credit authorities to individual credit officers 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 on a monthly basis. 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, periodic quality control assessments and assurance checks are performed by the individuals delegating the Credit Risk authorities.

Monitoring

We regularly monitor 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.

The Industry Portfolio Mandate, developed jointly by the CCIB Client Coverage business and the Risk function, provides a forward-looking assessment of risk using a platform from which business strategy, risk considerations and client planning are performed with one consensus view of the external industry outlook, portfolio overviews, Risk Appetite, underwriting principles and stress test insights.

In CCIB Client Coverage, clients and portfolios are subjected 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 subjected to a dedicated process overseen by the Credit Issues Committees 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 Stressed Assets Group (SAG), which is our specialist recovery unit for CCIB Client Coverage that operates independently from our main business.

Any material in-country developments that may impact the sovereign ratings are monitored closely by the Country Risk Team. A Country Risk Early Warning system, a triage-based risk identification system was developed to categorise countries based on forward looking view of possible downgrade and expected incremental RWA impact of potential downgrade.

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 Risk Appetite. Portfolio delinquency trends are monitored on an ongoing basis. Accounts that are past due (or perceived as high risk but not yet past due) are subject to a collections or recovery process managed by a specialist function independent from the origination function. In some countries, aspects of collections and recovery activities are outsourced. For discretionary lending portfolios, similar processes as those of Commercial client coverage are followed.

In addition, an independent Credit Risk Review team (part of Enterprise Risk Management), performs judgement-based assessments of the Credit Risk profiles at various portfolio levels, with 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 our Risk Appetite and policies through prompt and forward-looking mitigating actions.

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. For Wealth Lending, Collateral is considered primary source of repayment hereby loan agreement envisages that the repayment of loan is based on sale of collateral provided.

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 approach under the Basel regulatory framework to calculate Credit Risk capital requirements. The Group has also established a global programme to undertake a comprehensive assessment of capital requirements necessary to be implemented to meet the latest revised Basel III finalisation (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. Risk Decision Framework as a credit rating system supports the delivery of optimum risk-adjusted-returns with controlled volatility and is used to define the portfolio/new booking segmentation, shape and decision criteria for the unsecured consumer business segment.

Advanced internal ratings-based 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. Material internal ratings-based risk measurement models are approved by the Model Risk Committee. Prior to review and approval, all internal ratings-based models are validated in detail by a model validation team, which is separate from the teams that develop and maintain the models. Models undergo annual validation 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. Risk Appetite metrics are set at portfolio level and monitored to control concentrations, where appropriate, by industry, specific 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 Group Risk Committee and Board Risk Committees.

Credit impairment

Expected credit losses (ECL) are 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.

At the time of origination or purchase of a non-credit-impaired financial asset (stage 1), ECL represent cash shortfalls arising from possible default events up to 12 months into the future from the balance sheet date. ECL continue to be determined on this basis until there is a significant increase in the Credit Risk of the asset (stage 2), in which case an 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 continue 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 Risk Appetite metric to monitor the stage 1 and stage 2 expected credit losses from assets originated in the past 12 months.

In CCIB Client Coverage, a loan is considered credit-impaired where analysis and review indicate that full payment of either interest or principal, including the timeliness of such payment, is questionable, or as soon as payment of interest or principal is 90 days overdue. These credit-impaired accounts are managed by our specialist recovery unit, SAG.

In CPBB, a loan to individuals and small businesses is considered credit-impaired as soon as payment of interest or principal is 90 days overdue or meets other objective evidence of impairment such as bankruptcy, debt restructuring, fraud or death. Financial assets are written-off when it meets certain threshold conditions which are set at the point where empirical evidence suggests that the client is unlikely to meet their contractual obligations, or a loss of principal is 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 expected credit losses under IFRS 9, please refer to the Risk profile section.

Stress testing

Stress testing is a forward-looking risk management tool that constitutes a key input into the identification, monitoring and mitigation of Credit Risk, as well as contributing to Risk Appetite calibration. Periodic stress tests are performed on credit portfolios/segments to anticipate vulnerabilities from stressed conditions and initiate timely right-sizing and mitigation plans. Additionally, multiple enterprise-wide and country-level stress tests are mandated by regulators to assess the ability of the Group and its subsidiaries to continue to meet their capital requirements during a plausible, adverse shock to the business. These regulatory stress tests are conducted in line with the principles stated in the Enterprise Stress Testing Policy. Stress tests for key portfolios are reviewed by the Credit Risk Type Framework Owners (or delegates) as part of portfolio oversight; and matters considered material to the Group are escalated to the GCRO and respective regional risk committee.

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 activities to ensure that Traded Risk losses do not cause material damage to the Group's franchise.

Roles and responsibilities

The TRTF, 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 core 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. The first and second lines of defence are supported by the organisation structure, job descriptions and authorities delegated by Traded Risk control owners.

Mitigation

The TRTF requires that Traded Risk limits are defined at a level appropriate to ensure that the Group remains within Risk Appetite. All businesses incurring Traded Risk must comply with the TRTF. 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 at least once every two years to ensure their ongoing effectiveness.

Governance committee oversight

At Board level, the Board Risk Committee oversees the effective management of Traded Risk. At the executive level, the Group Risk Committee delegates responsibilities to the CCIBRC 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 Chief Risk Officer 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 TRTF 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 Value at Risk (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 2022 is available in the Risk profile section.

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 Risk Appetite 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 Risk Appetite. 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.

Stress testing

The VaR and PFE measurements are complemented by stress testing of Market Risk and Counterparty Credit Risk to highlight the potential risk that may arise from severe but plausible market events.

Stress testing is an integral part of the Traded Risk management framework and considers both historical market events and forward-looking scenarios. A consistent stress testing methodology is applied to trading and non-trading books. The stress testing methodology assumes that management action would be limited during a stress event, reflecting the expected decrease in market liquidity. Stress test scenarios are applied to interest rates, credit spreads, exchange rates, commodity prices and equity prices. Stress scenarios are reviewed and updated where necessary to reflect changes in risk profile and economic events.

TRM reviews the stress testing results and, where necessary, enforces reductions in overall Traded Risk exposures. The Group Risk Committee considers the results of stress tests as part of its supervision of Risk Appetite. Group and business-wide stress testing are supplemented by legal entity stress testing, subject to the relevant local governance.

Treasury Risk

Treasury Risk is defined 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, Enterprise Risk Management is responsible for the Risk Type Framework for Treasury Risk under the Enterprise Risk Management Framework.

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

At Regional and Country level, Chief Executive Officers supported by Regional and Country level Finance and Treasury teams are responsible for managing Treasury Risk as the first line of defence. Regional Treasury Chief Risk Officers and Country Chief Risk Officers 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 Risk Appetite. In order to do this, metrics are set against Capital Risk, Liquidity and Funding Risk and Interest Rate Risk in the Banking Book (IRRBB). Where appropriate, Risk Appetite 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.

Risk Appetite 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 FX Risk

The Group's structural 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 Board-approved Risk Appetite, 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 and monitor these against Limits and Management Action Triggers. In addition to these, where relevant, Monitoring Metrics are also set against specific risks. 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 Board Risk Appetite are 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 Board Risk Appetite.

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. Pension Risk position against defined Risk Appetite metrics is reported to the Group Risk Committee. These metrics include the current IAS 19 deficit, and the total capital requirement (including both Pillar 1 and Pillar 2A capital) in respect of Pension Risk, both 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 in 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 as the Group's home resolution authority. In support of this strategy, the Group has been developing a set of capabilities, arrangements and resources to achieve the required outcomes. On 10 June 2022, the Group and other major UK banks published their resolvability disclosures, alongside the BoE's public assessment of the industry's preparations for resolution. No major deficiencies were identified by the BoE on the Group's resolution capability, but there were some shortcomings and areas for further enhancement identified. Addressing these points remains a key priority for the Group. Significant progress has been made and we are on track to meet the commitments made to the BoE.

Governance committee oversight

At the Board level, the Board Risk Committee oversees the effective management of Treasury Risk . At the executive level, the Group Asset and Liability Committee (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 internally approved Risk Appetite and other internal and external requirements relating to Treasury Risk (except Pension Risk) The Group Risk Committee 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 Group Chief Financial Officer has responsibility for capital, funding and liquidity under the Senior Managers Regime. The GCRO has delegated the Risk Framework Owner responsibilities associated with Treasury Risk to the Global Head, Enterprise Risk Management. The Global Head, Enterprise Risk Management delegates second-line oversight and challenge responsibilities to the Treasury Chief Risk Officer and Country Chief Risk Officers for Capital Risk, Liquidity and Funding Risk and Interest Rate Risk in the Banking Book and to Head of Pensions for Pension Risk.

Monitoring

On a day-to-day basis, Treasury Risk is managed by Treasury, Finance and Country Chief Executive Officers. 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 Risk Appetite and supporting risk measures which enable members to make informed decisions around the overall management of the balance sheet.

In addition, an independent Treasury Chief Risk Officer as part of Enterprise Risk Management reviews the prudency 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; Treasury CRO and the Global Head, ERM on a periodic basis.

Stress testing

Stress testing and scenario analysis are an integral part of the Treasury Risk Framework and are used to ensure that the Group's internal assessment of capital and liquidity considers the impact of extreme but plausible scenarios on its risk profile. A number of stress scenarios, some designed internally, some required by regulators, are run periodically.

They provide an insight into the potential impact of significant adverse events on the Group's capital and liquidity position and how this could be mitigated through appropriate management actions to ensure that the Group remains within the approved Risk Appetite and regulatory limits.

Daily liquidity stress scenarios are also run to ensure that the Group holds sufficient high-quality liquid assets to withstand extreme liquidity events.

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.

Roles and responsibilities

The Operational and Technology Risk Type Framework (O&T RTF) sets the roles and responsibilities in respect of Operational Risk for the Group, and is owned by the Global Head of Risk, Functions and Operational Risk (GHRFOR). This framework collectively defines the Group's Operational Risk sub-types which have not been classified as PRTs 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 O&T RTF. These risk sub-types relate to 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 O&T RTF reinforces clear accountability for managing risk throughout the Group and delegates second line of defence responsibilities to identified subject matter experts. For each risk sub-type, the 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 O&T RTF sets out the Group's overall approach to the management of Operational Risk in line with the Group's Operational and Technology Risk Appetite. This is supported by 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 integrated risks).

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 breakdowns to these processes and the related risks of such breakdowns
- an assessment of the impact of the identified risks based on a consistent scale
- design and monitoring of controls to mitigate prioritised risks
- assessments of residual risk and timely actions for elevated risks.

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

Governance committee oversight

At Board level, the Board Risk Committee oversees the effective management of Operational Risk. At the executive level, the Group Risk Committee is responsible for the governance and oversight of Operational Risk for the Group, monitors the Group's Operational and Technology Risk Appetite and relies on other key Group committees for the management of Operational Risk, in particular the Group Non-Financial Risk Committee (GNFRC).

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

Decision-making authorities and delegation

The O&T RTF is the formal mechanism through which the delegation of Operational Risk authorities is made. The GHRFOR places reliance on the respective Senior Managers who are outside the Risk function for second-line oversight of the risk sub-types through this framework. The Senior Managers may further delegate their second-line responsibilities to designated individuals at a global business, product and function level, as well as regional or country level.

Monitoring

To deliver services to clients and to participate in the financial services sector, the Group runs processes which are exposed to operational 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 residual risk the Group is exposed to.

The residual risk assessments and reporting of events form the Group's Operational Risk profile. The completeness of the Operational Risk profile ensures appropriate prioritisation and timeliness of risk decisions, including risk acceptances with treatment plans for risks that exceed acceptable thresholds.

The Board is informed on adherence to Operational and Technology Risk Appetite 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 Risk Appetite 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.

Stress testing

Stress testing and scenario analysis are used to assess capital requirements for operational risks. This approach considers the impact of extreme but plausible scenarios on the Group's Operational Risk profile. A number of scenarios have been identified to test the robustness of the Group's processes and assess the potential impact on the Group. These scenarios include anti-money laundering and sanctions, as well as information and cyber security.

Information and Cyber Security (ICS) Risk

The Group defines Information and Cyber Security 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 has zero appetite for very high ICS residual risks and low appetite for High ICS residual risks which result in loss of services, data or funds. The Group will implement an effective ICS control environment and proactively identify and respond to emerging ICS threats in order to limit ICS incidents impacting the Group's franchise.

Roles and responsibilities

The Group's Information and Cyber Security Risk Type Framework (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 overall 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 also manages all key ICS Risks, breaches and risk treatment plans with oversight from Group Chief Information Security Risk Officer (CISRO). ICS Risk profile, Risk Appetite breaches and remediation status are reported at Board and Executive committees, alongside Business, Function and Country governance committees.

The Group CISRO function within Group Risk, led by the Group CISRO, is the second line of defence and sets the framework, policy, standards and methodology for assessing, scoring and prioritising ICS Risks across the Group. This function has overall responsibility for governance, oversight and independent challenge of first line's pursuit of the ICS strategy. Group ICS Risk Framework Strategy remains the responsibility of the ICS Risk Framework Owner (RFO), delegated from the Group CRO to the Group CISRO.

Mitigation

ICS Risk is managed through the structured ICS Risk Type Framework, 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 Enterprise Risk Management Framework.

In 2022, we uplifted the ICS RTF to include an updated ICS end-to-end Risk Management and Governance approach and continued the roll out of the threat-led scenario risk assessment across the Group. The Group CISRO function monitors compliance to the ICS RTF by reviewing Group CISO's risk assessments and conducting independent assurance reviews.

Governance committee oversight

The Board Risk Committee oversees the effective management of ICS Risk. The Group Risk Committee (GRC) has delegated authority to the Group Non-Financial Risk Committee (GNFRC) to ensure effective implementation of the ICS RTF. The GRC and GNFRC are responsible for oversight of ICS Risk posture and Risk Appetite breaches rated very high and high. Sub-committees of the GNFRC have oversight of ICS Risk management arising from the Businesses, Countries and Functions.

Meanwhile the Cyber Security Advisory Forum (CSAF), chaired by the Group Chief Executive Officer, enables the Management Team, Group Chairman and non-executive directors to engage further on ICS, asking any questions freely at this non-governance forum.

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 second-line ownership at a Business, Function, Region and Country level.

The Group CISO is responsible for implementing ICS Risk Management within the Group, leveraging Group Process Owners and Business CISOs. These stakeholders cascade ICS risk management into the Businesses, Functions and Countries to comply with the ICS RTF, policy and standards.

Monitoring

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

The ICS Risk postures of all businesses, functions and countries are consolidated to present a holistic Group-level ICS Risk posture for ongoing monitoring.

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 Risk Appetite are escalated to the appropriate governance committee or authority levels for adequate remediation and tracking. A dedicated Group CISRO team is supporting this work by executing offensive security testing exercises, which shows wider picture of risk security posture what leads to better visibility on potential risks "in flight".

Stress testing

Stress testing and scenario analysis are used to assess capital requirements for ICS Risk. Specific scenarios are developed annually in collaboration between first- and second-line ICS teams, incorporating extreme but plausible ICS Risk events.

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, Conduct, Financial Crime and Compliance (Group Head, CFCC) as Risk Framework Owner 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
- setting enterprise-wide standards for management of compliance risks through the establishment and maintenance of the Compliance Risk Type Framework (Compliance RTF)
- setting a programme for monitoring Compliance Risk.

Group Head, CFCC also performs the Financial Conduct Authority (FCA) controlled function and senior management function of Compliance Risk Oversight in accordance with the requirements set out by the FCA. The Compliance RTF sets out the Group's overall approach to the management of Compliance Risk and the associated roles and responsibilities. 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 oversight and challenge of the first-line risk management activities that relate to Compliance Risk.

Where Compliance Risk arises, or could arise, from failure to manage another Principal Risk Type or sub-type, the Compliance RTF outlines that the responsibility rests with the respective Risk Framework Owner or control function to ensure that effective oversight and challenge of the first line can be provided by the appropriate second-line function.

Each of the assigned second-line functions has 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 processes and controls. In addition, the role of CFCC has been further clarified in 2022 in relation to Compliance risk and the boundary of responsibilities with other Principal Risk Types.

Mitigation

The CFCC function develops and deploys relevant policies and standards setting out requirements and controls for adherence by the Group to ensure continued compliance with applicable laws and regulations. Through a combination of standard setting, risk assessment, control monitoring and assurance activities, the Compliance Risk Framework Owner seeks to ensure that all policies are operating as expected to mitigate the risk that they cover. The installation of appropriate processes and controls is the primary tool for the mitigation of Compliance Risk. In this, the requirements of the Operational and Technology Risk Type Framework are followed to ensure a consistent approach to the management of processes and controls. Deployment of technological solutions to improve efficiencies and simplify processes has continued in 2022. These include launch of a new platform to manage conflict review for Outside Business Activity, Personal Account Dealing, Close Financial Relationship and Deals / Reportable Events, and alongside digital chatbots, Advisor Connect to connect with an Advisor for complex queries.

Governance committee oversight

At a management level, Compliance Risk and the risk of non-compliance with laws and regulations resulting from failed processes and controls are overseen by the respective Country, Business, Product and Function Non-Financial Risk Committees including the Risk and CFCC Non-Financial Risk Committee for CFCC owned processes. Relevant matters, as required, are further escalated to the Group Non-Financial Risk Committee and Group Risk Committee. At Board level, oversight of Compliance Risk is primarily provided by the Audit Committee, and also by the Board Risk Committee for relevant issues.

While not a formal committee, the CFCC Oversight Group provides oversight of CFCC risks including the effective implementation of the Compliance RTF. The Compliance Risk Framework Owner established a Regulatory Change Oversight Forum to have visibility and oversight of material and/or complex large-scale regulatory change emanating from Financial services regulators impacting Non-Financial Risks. A CFCC Policy Council has also been established to provide 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 risk appetite.

Decision-making authorities and delegation

The Compliance Risk Type Framework 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 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 Risk Type Framework. 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, Group Non-Financial Risk Committee, Group Risk Committee, Board Risk Committee and Audit Committee, as appropriate.

Stress testing

Stress testing and scenario analysis are used to assess capital requirements for Compliance Risk and form part of the overall scenario analysis portfolio managed under the Operational and Technology Risk Type Framework. Specific scenarios are developed annually with collaboration between the business, which owns and manages the risk, and the CFCC function, which is second line to incorporate significant Compliance Risk tail events. This approach considers the impact of extreme but plausible scenarios on the Group's Compliance Risk profile.

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, 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 while 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 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, the business unit process owners have responsibility for the application of policy controls and the identification and measurement of risks relating to financial crime. Business units must communicate risks and any policy non-compliance to the second line for review and approval following the model for delegation of authority.

Mitigation

There are four Group policies in support of the Financial Crime Risk Type Framework:

- 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 Risk Type Framework, in addition to oversight by CFCC Assurance.

Governance committee oversight

Financial Crime Risk within the Group is governed by the Group Financial Crime Risk Committee (GFCRC) and the Group Non-Financial Risk Committee (GNFRC) for Fraud Risk which is appointed by and reports into the Group Risk Committee.

Throughout the Group, the GFCRC is responsible for ensuring effective oversight for Operational Risk relating to Financial Crime Risk, while the GNFRC is responsible for ensuring effective oversight of Operational Risk relating to Non-Financial Risks including Fraud Risk. Given the progress made on the Board Financial Crime Risk Committee's (BFCRC) purpose with respect to financial crime risk management,
the Board reallocated the work of the BFCRC to the Audit Committee, Board Risk Committee and Board with effect from 1 April 2022. The reallocation of BFCRC oversight enables a more holistic and efficient examination and discussion of risks that are closely linked.

Decision-making authorities and delegation

The Financial Crime Risk Type Framework is the formal mechanism through which the delegation of Financial Crime Risk authorities is made. The Group Head, CFCC is the Risk Framework Owner for Financial Crime Risk under the Group's Enterprise Risk Management Framework. Certain aspects of Financial Crime Compliance, second-line 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 Risk Appetite metrics that are approved by the Board. These metrics are reviewed periodically and reported regularly to the Group Financial Crime Risk Committee, Group Non-Financial Risk Committee, Board and Group Risk Committees, and Board Audit Committee.

Stress testing

The assessment of Financial Crime vulnerabilities under stressed conditions or extreme events with a low likelihood of occurring is carried out through enterprise stress testing where scenario analysis is used to assess capital requirements for Financial Crime Risk as part of the overall scenario analysis portfolio managed under the Operational and Technology Risk Type Framework. Specific scenarios are developed annually with collaboration between the business, which owns and manages the risk, and the CFCC function, which is second line to incorporate significant Financial Crime Risk events. This approach considers the impact of extreme but plausible scenarios on the Group's Financial Crime Risk profile.

Model Risk

The Group defines Model Risk as potential loss that may occur as a consequence 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 model uncertainty.

Roles and responsibilities

The Global Head, Enterprise Risk Management is the Risk Framework Owner for Model Risk under the Group's Enterprise Risk Management Framework. Responsibility for the oversight and implementation of the Model Risk Type Framework is delegated to the Global Head, Model Risk Management.

The Model Risk Type Framework sets out clear accountability and roles for Model Risk management through a Three Lines of Defence model. First-line ownership of Model Risk resides with Model Sponsors, who are business or function heads and assign a Model Owner for each model and provide oversight of Model Owner activities. Model Owners are the accountable executive for the model development process, represent model users, and are responsible for the overall model design process including engagement with Model Users to solicit feedback on the proposed model solution. Model Owners also coordinate the submission of models for validation and approval and ensure appropriate model implementation and use. Model Developers are responsible for the development of models, acting as a delegate of the Model Owner, and are responsible for documenting and testing the model in accordance with Policy requirements, and for engaging with Model Users as part of the development process. Second-line oversight is provided by Model Risk Management, which comprises Group Model Validation (GMV) and Model Risk Policy and Governance.

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 Type Framework. Model Owners are accountable for ensuring that all models under their purview have been independently validated by GMV. Models must be 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.

GMV independently reviews and grades models, in line with design objectives, business uses and compliance requirements, and highlights identified model risks by raising model related issues. The Model Risk Policy and Governance team provides oversight of Model Risk activities, performing regular Model Risk Assessment and risk profile reporting to senior management.

For countries or legal entities that are in scope of the Model Risk Type Framework, the Group Model Risk Policy specifies the Country Model Risk Framework Owner, delegated to the Country Chief Risk Officer, as accountable for ensuring model usage is correctly identified within the country or legal entity and a suitable local governance process is established to accommodate models requiring local regulatory approval and for any other specific local regulatory requirements at the country or legal entity level. GMV will take into consideration any country or legal entity specific considerations when validating a model, the model would be endorsed at Group level and then approved for use in the country or legal entity via the local governance process.

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 the application of model monitoring, model overlays and/or a model redevelopment plan, which undergo 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 Risk Type Framework, with remediation plans implemented where necessary.

Governance committee oversight

At Board level, the Board Risk Committee exercises oversight of Model Risk within the Group. At the executive level, the Group Risk Committee 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 Risk Type Framework is the formal mechanism through which the delegation of Model Risk authorities is made.

The Global Head, Enterprise Risk Management delegates authorities to designated individuals or Policy Owners through the RTF. The second-line ownership for Model Risk at country level is delegated to Country Chief Risk Officers 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 Risk Appetite metrics that are approved by the Board. Adherence to Model Risk Appetite and any threshold breaches are reported regularly to the Board Risk Committee, Group Risk Committee and Model Risk Committee. These metrics and thresholds are reviewed on an annual basis 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.

Stress testing

Models play an integral role in the Group's stress testing and are rigorously user-tested to ensure that they are fit-for-use under stressed market conditions. Compliance with Model Risk management requirements and regulatory guidelines are also assessed as part of each stress test, with any identified gaps mitigated through model overlays and defined remediation plans.

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 or lapses in our commitment 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 by the appropriate level of management and governance oversight. This includes a potential failure to uphold responsible business conduct or lapses in our commitment to do no significant environmental and social harm.

Reputational and Sustainability Risk continues to be an area of growing importance, driving a need for strategic transformation across business activities and risk management to ensure that we uphold the principles of Responsible Business Conduct and continue to do the right thing for our stakeholders, the environment and affected communities. Our policy frameworks and Position Statements integrate our values into our core working practices by articulating our approach to clients in sensitive sectors and our commitments to climate change and human rights. We continue to progress on our transformation agenda, driving the Bank's Net Zero commitments and building a leading sustainable franchise. Our progress to date includes the setting of public Net Zero targets, leadership in voluntary carbon markets, and ongoing support of innovation in green, transition, and social finance.

The growth of Sustainable Finance products offering across the banking industry has prompted stronger and more robust regulations to prevent greenwashing. We are moving quickly to integrate anti-greenwashing policies, standards and controls into our risk management activities. As we prepare for the varying regulatory developments across our footprint, we continue to invest in data and infrastructure to reinforce our compliance efforts and are actively engaging with several of our regulatory supervisors. In 2022, we have increased our capabilities in horizon scanning and focused on developing an effective operating model to manage regulatory change to bolster our efforts to systematically track emerging risks across our business operations and supply chains.

Roles and responsibilities

The Global Head, Enterprise Risk Management is the Risk Framework Owner for Reputational and Sustainability Risk under the Group's Enterprise Risk Management Framework.

The responsibility for Reputational and Sustainability Risk management is delegated to Reputational and Sustainability Risk Leads in ERM as well as Chief Risk Officers at region, country and client-business levels. They constitute the second line of defence, overseeing and challenging the first line of defence, which resides with the Chief Executive Officers, Business Heads, Product Heads and Function Heads in respect of risk management activities of reputational and sustainability-related risks respectively.

In the first line of defence, we have in 2022 appointed a Chief Sustainability Officer ("CSO") whose remit spans across both Sustainability strategy and client solutions. Reporting to the CSO is our Sustainability Strategy team, who manages the overall Group Sustainability strategy and engagement. On client solutions, the Sustainable Finance team is responsible for pan-bank sustainable finance products and frameworks to help identify green and sustainable finance and transition finance opportunities to aid our clients on their sustainability journey. Furthermore, the Environmental and Social Risk Management team (ESRM) 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.

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
- 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 Group takes a structured approach to the assessment of risks associated with how individual client, transaction, product and strategic coverage decisions may affect perceptions of the organisation and its activities, based on explicit principles including, but not limited to human rights, gambling, defence and dual use goods. Whenever potential for stakeholder concerns is identified, issues are subject to prior approval by a management authority commensurate with the materiality of matters being considered. Such authorities may accept or decline the risk or impose conditions upon proposals, to protect the Group's reputation. In 2022, the Reputational Risk Policy was enhanced to include more rigorous assessment of clients operating in sectors which have heightened climate risk.

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, as guided by various industry standards such as the OECD's Due Diligence Guidance for Responsible Business Conduct, Equator Principles, UN Sustainable Development Goals and the Paris Agreement.

- Clients are expected to adhere to minimum regulatory and compliance requirements, including criteria from the Group's Position Statements. In 2022, the Sustainability Risk Policy was enhanced to include the monitoring of inherent risks related to Sustainable Finance products and transactions and clients throughout their lifecycle - from labelling to disclosures.
- 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.
- Within our operations, the Group seeks to minimise its impact on the environment and have targets to reduce energy, water and waste.

Reputational and Sustainability Risk policies and standards are applicable to all Group entities. However, local regulators in some markets may impose additional requirements on how banks manage and track Reputational and Sustainability Risk. In such cases, these are complied with in addition to Group policies and standards.

Governance committee oversight

At Board level, the Culture and Sustainability Committee provides oversight for our Sustainability strategy while the Board Risk Committee oversees Reputational and Sustainability Risk as part of the ERMF. The Group Risk Committee (GRC) provides executive-level committee oversight and delegates the authority to ensure effective management of Reputational and Sustainability Risk to the Group Responsibility and Reputational Risk Committee (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 Risk Appetite.
- 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 topical and emerging risks, 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 risk-weighted assets (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 Group Non-Financial Risk Committee 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 Country Non-Financial Risk Committee (CNFRC) provides oversight of the Reputational and Sustainability Risk profile at a country level.

Decision-making authorities and delegation

The Reputational and Sustainability RTF is the formal mechanism through which the delegation of Reputational and Sustainability Risk authorities is made. The Global Head, Enterprise Risk Management 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 must review and support the risk assessments for clients and transactions and escalate to the Reputational and Sustainability Risk leads as required.

Monitoring

Exposure to stakeholder perception risks arising from transactions, clients, products and strategic coverage are monitored through established triggers outlined in risk materiality matrices to prompt the right levels of risk-based consideration by the first line and escalations to the second line where necessary. Risk acceptance decisions and thematic trends are also being reviewed on a periodic basis.

Exposure to Sustainability Risk is monitored through triggers embedded within the first-line processes where environmental and social risks are considered for clients and transactions via the Environmental and Social Risk Assessments and considered for vendors in our supply chain through the Modern Slavery questionnaires.

Furthermore, monitoring and reporting on the risk appetite metrics ensures that there is appropriate oversight by Management Team and Board over performance and breaches of thresholds across key metrices namely in concentration of material reputational risk, level of alignment with Group's Net Zero aspirations and Position Statements, and modern slavery risks in our suppliers.

Stress testing

Reputational Risk outcomes are taken into account in enterprise stress tests and incorporated into the Group's stress testing scenarios. For example, the Group might consider what impact a hypothetical event leading to loss of confidence among liquidity providers in a particular market might have, or what the implications might be for supporting part of the organization in order to protect the brand. As Sustainability Risk continues to evolve as an area of emerging regulatory focus with various markets developing ESG regulatory guidance, we are keeping pace with external developments to enable us to explore meaningful scenario analysis in the future with the aim of advancing Reputational and Sustainability Risk management.

Climate Risk

The Group recognises Climate Risk as an Integrated Risk Type. Climate Risk is defined as the potential for financial loss and non-financial detriments arising from climate change and society's response to it.

Risk Appetite Statement

The Group aims to measure and manage financial and non-financial risks 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.

Climate Risk has been recognised as an emerging risk since 2017 and was elevated to an Integrated Risk Type (previously known as material cross-cutting risk) within the ERMF, our central risk framework in 2019. We have made further progress this year in embedding Climate risk considerations across the impacted PRTs and by using the results from our management scenario analysis, we are building a good understanding of the markets and industries where the effects of climate change will have the greatest impact. However, it is still a relatively nascent risk area which will mature and develop over time, particularly as data availability improves.

Roles and responsibilities

The three lines of defence model as per the Enterprise Risk Management Framework applies to Climate Risk. The GCRO has the ultimate second-line and senior management responsibility for Climate Risk. The GCRO is supported by the Global Head, Enterprise Risk Management who has day-to-day oversight and central responsibility for second-line Climate Risk activities. As Climate Risk is integrated into the relevant PRTs, second-line responsibilities lie with the Risk Framework Owner (at Group, regional and country level), with subject matter expertise support from the central Climate Risk team.

Mitigation

As an Integrated Risk Type manifests through other PRTs, risk mitigation activities are specific to individual PRTs. The Group has made progress to integrate Climate Risk into PRT processes. Climate Risk assessments are considered as part of Reputational and Sustainability transaction reviews for clients and transactions in high carbon sectors. We have directly engaged with clients on their adaptation and mitigation plans using client level Climate Risk questionnaires and integrated climate risk into the credit process for ~70% of our corporate client exposure in CCIB. As part of quarterly credit portfolio reviews in CPBB, physical risk assessments for the residential mortgage portfolios are also being monitored for concentration levels.

The Traded Risk stress testing framework covers market impacts from Climate Risk – this includes a transition risk and two physical risk scenarios. Physical and transition risk ratings for sovereigns are widely used across the Group for risk management and reporting purposes.

The focus for Operational and Technology Risk was originally on Property, Resilience and Third-Party Risk management, and is now being expanded to material technology arrangements. We have also completed liquidity risk assessments for our top liquidity providers. Relevant policies and standards across PRTs have been updated to factor in Climate Risk considerations and a focus area for 2022 was to build out our risk management, data and modelling capabilities.

Governance committee oversight

Board-level oversight is exercised through the Board Risk Committee (BRC), and regular Climate Risk updates are provided to the Board and BRC. At an executive level, the Group Risk Committee (GRC) oversees implementation of the Climate Risk workplan. The GRC has also appointed a Climate Risk Management Committee consisting of senior representatives from the Business, Risk, Strategy and other functions such as Compliance, Audit and Finance. The Climate Risk Management Committee meets at least six times a year to oversee the implementation of Climate Risk workplan and progress in meeting regulatory requirements, monitor the Climate Risk profile of the Group and review Climate Risk-related disclosures and stress tests. We have also strengthened country and regional governance oversight for the Climate Risk profile across our key markets in 2022.

Tools and methodologies

Applying existing risk management tools to quantify Climate Risk is challenging given inherent data and methodology challenges, including the need to be forward-looking over long time horizons. To quantify climate physical and transition risk we leverage and have invested in a number of areas, including tools and partnerships:

- Munich Re – we are using Munich Re's physical risk assessment tool, which is built on extensive re-insurance experience.
- Baringa Partners – we are using Baringa's flagship climate models to understand climate scenarios, and compute transition risk and temperature alignment.
- Standard & Poor – we are leveraging S&P and Trucost's wealth of climate data covering asset locations, energy mixes and emissions.
- Imperial College – we are leveraging Imperial's academic expertise to advance our understanding of climate science, upskill our staff and senior management, and
- progress the state of independent research on climate risks with an acute focus on emerging markets.
- Deloitte – we are working with Deloitte to build internal IFRS9 and stress testing models.

Decision-making authorities and delegation

The Global Head, Enterprise Risk Management is supported by a centralised Climate Risk team within the ERM function. The Global Head, Climate Risk and Net Zero Oversight is responsible for ensuring and executing the delivery of the Climate Risk workplan which will define decision-making authorities and delegations across the Group.

Monitoring

The Climate Risk Appetite Statement is approved and reviewed annually by the Board, following the recommendation of the Board Risk Committee.

The PLC Group has developed its first-generation Climate Risk reporting and Board/Management Team Level Risk Appetite metrics and this will continue to be enhanced in 2023. Management information and Risk Appetite metrics are also being progressively rolled out at the regional and country level.

Stress testing

As Climate Risk intensifies over time, the future global temperature rise will depend on today's transition pathway. Considering different transition scenarios is crucial to assessing Climate Risk over the next 10, 20 and 50 years. Stress testing and scenario analysis are used to assess capital requirements for Climate Risk and since 2020 physical and transition risks have been included in the PLC Group Internal Capital Adequacy Assessment Process (ICAAP). In 2022, the PLC Group undertook a number of Climate Risk stress tests, including by the Monetary Authority of Singapore and internal management scenario analysis. We will rely on these stress tests to understand the Group level vulnerabilities given the significant overlap between SC Bank and PLC Group's activities.

In 2023, the PLC Group intends to extend its management scenario capabilities, which will strengthen business strategy and financial planning and support the PLC Group's net zero journey.

Digital Assets Risk

The Group recognises Digital Assets Risk as an Integrated Risk Type. Digital Assets Risk is defined as the potential for regulatory penalties, financial loss and/or reputational damage to the Group resulting from digital assets exposure or digital assets related activities arising from the Group's Clients, Products and Projects.

Risk Appetite Statement

As Digital Assets Risk manifests through the various PRTs, the specific Risk Appetite statements for the PRTs apply.

Digital Assets (DA) Risk has been managed under the Digital Assets Risk Management Approach since 2020 and was formalised as an Integrated Risk Type (previously known as material cross cutting risk) within the Enterprise Risk Management Framework (ERMF). Digital Assets Risk follows the prescribed robust risk management practices across the PRTs, with specific expertise applied from Digital Assets experts. Risk management practices take guidance from the "Dear CEO" letters published by the Prudential Regulatory Authority and the Financial Conduct Authority in June 2018, with updated notices in June 2022. This is a developing risk area which will mature and stabilise over time as the technology and associated research becomes more established.

Roles and responsibilities

The three lines of defence model defined in the ERMF applies to Digital Assets Risk. The GCRO has the second-line and senior management responsibility for Digital Assets Risk with respect to the framework. The respective Business Segments Senior Managers are responsible for the overall management of Digital Assets initiatives within their segments.

The GCRO is supported by the Global Head, Enterprise Risk Management and the Global Head, Digital Assets Risk Management who have day-to-day oversight and central responsibility for second line Digital Assets Risk activities. As Digital Assets Risk is integrated into the relevant PRTs, Risk Framework Owners (RFOs) and dedicated Subject Matter Experts (SMEs) across the PRTs also have second line responsibilities for Digital Assets Risk.

Mitigation

The Group deploys a DA specific policy to outline incremental risk management requirements for DA related activities. The Group's policies for other PRTs also include DA requirements where relevant Risk mitigation activities are also specific to individual PRTs and the Group has undertaken development and integration of Digital Assets Risk into the PRT processes. Digital Assets Risk Assessments are conducted on certain higher-risk DA related Projects and Products. These specific risk assessments detail the specific inherent risks, residual risks, controls and mitigants across the PRTs and are reviewed and supported by the respective RFOs and DA SMEs.

Governance committee oversight

Board-level oversight is exercised through the Board Risk Committee (BRC), and DA Risk updates are provided to the Board and BRC, as requested. At the executive level, the Group Risk Committee (GRC) oversees the risk management of DA. The GCRO has also appointed a dedicated Digital Assets Risk Committee (DRC) consisting of senior representatives, RFOs and SMEs across the Group including the business, risk, and other functions such as legal. The DRC meets at the pre-defined frequency, a minimum of four times per year, to review and assess the detailed risk assessments related to DA Projects and Products, discuss development and implementation of the DA risk management, and to provide structured governance around DA.

Decision-making authorities and delegation

The Global Head, Enterprise Risk Management is supported by a centralised DA team within the ERM function and is responsible for the DA framework. The respective PRT RFOs and SMEs utilise decision making authorities granted to them within their respective PRTs or in individual capacities.

Monitoring

Digital Assets are monitored through the existing Group Risk Appetite metrics across the PRTs. In addition, specific Digital Assets Risk Appetite metrics are approved and reviewed annually by GRC. DA decisions relating to other PRTs are taken within the authorities for the respective PRT.

Stress testing

Stress testing and scenario analysis are used to help assess capital requirements for Digital Assets Risk and form part of the overall scenario analysis portfolio managed under the Operational and Technology Risk Type Framework. Specific scenarios are developed annually with collaboration between the business, which owns and manages the risk, and the DA Risk function, to consider relevant DA scenarios. This approach considers the impact of extreme but plausible scenarios on the PLC Group's capital profile with respect to DA.

Third Party Risk

The Group recognises Third Party Risk as an Integrated Risk Type. Third Party Risk is defined as the potential for loss or adverse impact from failure to manage multiple risks arising from the use of Third Parties, and is the aggregate of these risks.

Risk Appetite Statement

This IRT is supported by Risk Appetite metrics embedded within relevant PRTs. The engagement of Third Parties is essential for the Group to operate efficiently and effectively. This may introduce incremental risks which, if not managed correctly, could result in regulatory non-compliance, financial loss and/or adverse impact to clients. We continue to enhance our policies, standards, processes and controls to ensure we safely manage any incremental risks introduced by the use of Third Parties.

Roles and Responsibilities

The Global Head of Risk, Functions and Operational Risk has second line oversight responsibility for Third Party Risk as defined in the Enterprise Risk Management Framework. The three lines of defence model applies to Third Party Risk, and roles and responsibilities are further defined in the Third Party Risk Management Policy and Standard. It is important to note that as an Integrated Risk Type, the risks associated with the management of Third Parties materialise across multiple PRTs. The Risk Framework Owners for the PRTs are therefore responsible for embedding requirements to manage Third Party Risk within their Risk Type Frameworks, Policies and Standards as appropriate, and ensuring compliance to the minimum requirements defined by the Global Head of Risk, Functions and Operational Risk.

Mitigation

To ensure we continue to prioritise the engagement of Third Parties, while safely managing any risks, the Third Party Risk Management Policy and Standard, in conjunction with the 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. These minimum control requirements have been enhanced in 2022 to ensure compliance with new requirements issued by our regulators.

The Group aims to manage its risk profile within Risk Appetite, and in order to do so, Risk Appetite metrics for Third Party Risk are embedded within the respective PRTs including ICS, Compliance, Financial Crime and Operational and Technology Risk. To further supplement this, additional work is underway to enhance the Group's approach to concentration risk. Where appropriate, Risk Appetite metrics are cascaded to countries.

Governance Committee Oversight

At the Board level, the Board Risk Committee oversees the effective management of Third Party Risk. At the executive level, the Group Risk Committee is responsible for the governance and oversight of Third Party Risk for the Group. The Group Third Party Risk Management Committee (GTPRMC), established under the Group Non-Financial Risk Committee, is responsible for overseeing all Third Party Risk types and associated risks across the Group, as well as the effective embedding of Third Party Risk across the respective PRTs.

The management of Third Party Risk is overseen at a Country or entity level by the Country Third Party Risk Management Committee (CTPRMC). In smaller markets the responsibilities are exercised directly by the Executive Risk Committee (for subsidiaries) or Country Risk Committee (for branches).

Decision Making Authorities and Delegation

The Group Chief Risk Officer has second line responsibility for Third Party Risk under the Senior Managers Regime. The Group Chief Risk Officer has delegated the Integrated Risk Framework Owner responsibilities associated with Third Party Risk to the Global Head of Risk, Functions and Operational Risk, through the Enterprise Risk Management Framework. Second line oversight and challenge responsibilities for Third Party Risk at a Country or entity level are delegated to the Country Chief Risk Officers.

Monitoring

The monitoring of Third Party Risk within the Group's Process Universe is managed in accordance with the Operational and Technology Risk Type Framework.

The Third Party Risk management profile is reported to the GTPRMC, and includes the monitoring and oversight on Risk Appetite, assessment of new Third Party arrangements, on-going performance monitoring of Third Party arrangements, internal and external events and elevated risks with appropriate treatment plans.

Stress Testing

Stress testing and scenario analysis are used to assess capital requirements, and for Third Party Risk, form part of the overall scenario analysis portfolio managed under the Operational and Technology Risk Type Framework. Specific scenarios are developed annually with collaboration between the business, which owns and manages the risk, and the second line of defence. This approach considers the impact of extreme but plausible scenarios on the Group's Risk profile.

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.

	2022	2021
CET1 capital	14.0%	14.1%
Tier 1 capital	16.6%	16.6%
Total capital	21.7%	21.3%
Leverage ratio	4.8%	4.9%
MREL ratio	32.1%	31.7%
Risk-weighted assets (RWA) $million	244,711	271,233

The Group's capital, leverage and MREL positions were all above current requirements and Board-approved Risk Appetite.

The Group's CET1 capital decreased 19 basis points to 14.0 per cent of RWA since FY2021. Profits and RWA optimisations were more than offset by distributions (including ordinary share buybacks of $1.3 billion during the year), regulatory headwinds, movements in FVOCI and FX translation reserves and an increase in regulatory deductions.

The PRA updated the Group's Pillar 2A requirement during Q4 2022. As at 31 December 2022 the Group's Pillar 2A was 3.7 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 10.4 per cent at 31 December 2022. The UK countercyclical buffer increased to 1.0 per cent which impacts Group CET1 minimum requirement by approximately 8 basis points from December 2022.

From 1 January 2022 RWA increased due to (a) post model adjustments following new PRA rules on IRB models resulted in approximately $5.7 billion of additional RWA and (b) the introduction of standardised rules for Counterparty Credit Risk on derivatives and other instruments resulted in approximately $1.9 billion of additional RWA. These regulatory changes including removal of software benefit and others reduced the CET1 ratio by approximately 80 basis points.

The Group CET1 capital ratio at 31 December 2022 reflects the share buybacks of $754 million completed in the first half of 2022 and $504 million completed in the third and fourth quarter of 2022. The CET1 capital ratio also includes an accrual for the FY 2022 dividend. The Board has recommended a final dividend for FY 2022 of 14 cents per share resulting in a full year 2022 dividend of 18 cents per share, a 50 per cent increase on the 2021 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 2023.

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 leverage requirement as at 31 December 2022 was 27.3 per cent of RWA. This is composed of a minimum requirement of 23.6 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 32.1 per cent of RWA and 9.2 per cent of leverage exposure at 31 December 2022.

During 2022, the Group successfully raised $7.2 billion of MREL eligible securities from its holding company, Standard Chartered PLC. Issuance was across the capital structure including $1.3 billion of Additional Tier 1, $0.8 billion of Tier 2 and $5.2 billion of 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 base[1] (audited)

	2022 $million	2021 $million
CET1 capital instruments and reserves		
Capital instruments and the related share premium accounts	5,436	5,528
Of which: share premium accounts	3,989	3,989
Retained earnings[2]	25,154	24,968
Accumulated other comprehensive income (and other reserves)	8,165	11,805
Non-controlling interests (amount allowed in consolidated CET1)	189	201
Independently audited year-end profits	2,988	2,346
Foreseeable dividends	(648)	(493)
CET1 capital before regulatory adjustments	41,284	44,355
CET1 regulatory adjustments		
Additional value adjustments (prudential valuation adjustments)	(854)	(665)
Intangible assets (net of related tax liability)	(5,802)	(4,392)
Deferred tax assets that rely on future profitability (excludes those arising from temporary differences)	(76)	(150)
Fair value reserves related to net losses on cash flow hedges	564	34
Deduction of amounts resulting from the calculation of excess expected loss	(684)	(580)
Net gains on liabilities at fair value resulting from changes in own credit risk	63	15
Defined-benefit pension fund assets	(116)	(159)
Fair value gains arising from the institution's own credit risk related to derivative liabilities	(90)	(60)
Exposure amounts which could qualify for risk weighting of 1,250%	(103)	(36)
Other regulatory adjustments to CET1 capital[3]	(29)	–
Total regulatory adjustments to CET1	(7,127)	(5,993)
CET1 capital	34,157	38,362
Additional Tier 1 capital (AT1) instruments	6,504	6,811
AT1 regulatory adjustments	(20)	(20)
Tier 1 capital	40,641	45,153
Tier 2 capital instruments	12,540	12,521
Tier 2 regulatory adjustments	(30)	(30)
Tier 2 capital	12,510	12,491
Total capital	53,151	57,644
Total risk-weighted assets (unaudited)	244,711	271,233

1 Capital base is prepared on the regulatory scope of consolidation
2 Retained earnings includes IFRS 9 capital relief (transitional) of $106 million
3 Other regulatory adjustments to CET1 capital includes Insufficient coverage for non-performing exposures of $(29) million

Movement in total capital (audited)

	2022 $million	2021 $million
CET1 at 1 January	38,362	38,779
Ordinary shares issued in the period and share premium	–	–
Share buyback	(1,258)	(506)
Profit for the period	2,988	2,346
Foreseeable dividends deducted from CET1	(648)	(493)
Difference between dividends paid and foreseeable dividends	(301)	(303)
Movement in goodwill and other intangible assets	(1,410)	(118)
Foreign currency translation differences	(1,892)	(652)
Non-controlling interests	(12)	21
Movement in eligible other comprehensive income	(1,224)	(306)
Deferred tax assets that rely on future profitability	74	(12)
(Increase)/decrease in excess expected loss	(104)	121
Additional value adjustments (prudential valuation adjustment)	(189)	(175)
IFRS 9 transitional impact on regulatory reserves including day one	(146)	(142)
Exposure amounts which could qualify for risk weighting	(67)	(10)
Fair value gains arising from the institution's own credit risk related to derivative liabilities	(30)	(12)
Others	14	(176)
CET1 at 31 December	34,157	38,362
AT1 at 1 January	6,791	5,612
Net issuances (redemptions)	241	1,736
Foreign currency translation difference	9	(2)
Excess on AT1 grandfathered limit (ineligible)	(557)	(555)
AT1 at 31 December	6,484	6,791
Tier 2 capital at 1 January	12,491	12,657
Regulatory amortisation	778	(1,035)
Net issuances (redemptions)	(1,098)	573
Foreign currency translation difference	(337)	(181)
Tier 2 ineligible minority interest	102	(81)
Recognition of ineligible AT1	557	555
Others	17	3
Tier 2 capital at 31 December	12,510	12,491
Total capital at 31 December	53,151	57,644

The main movements in capital in the period were:

- CET1 capital decreased by $4.2 billion as retained profits of $3.0 billion were more than offset by share buybacks of $1.3 billion, distributions paid and foreseeable of $0.9 billion, foreign currency translation impact of $1.9 billion, movement in FVOCI of $1.3 billion, regulatory changes including removal of software benefits of $1.2 billion and an increase in regulatory deductions and other movements of $0.7 billion
- AT1 capital decreased by $0.3 billion following the redemption of $1.0 billion of 7.5 per cent securities and the final $0.6 billion derecognition of legacy Tier 1 securities, partly offset by the issuance of $1.3 billion of 7.75 per cent securities
- Tier 2 capital remains largely unchanged as issuance of $0.8 billion of new Tier 2 instruments and recognition of ineligible AT1 were offset by regulatory amortisation and the redemption of $1.8 billion of Tier 2 during the year

Risk-weighted assets by business

	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	42,092	8,639	–	50,731
Ventures	1,350	6	2	1,358
Central & Other items	43,310	1,493	4,237	49,040
Total risk-weighted assets	196,855	27,177	20,679	244,711

	2021			
	Credit risk $million	Operational risk $million	Market risk $million	Total risk $million
Corporate, Commercial & Institutional Banking	125,813	16,595	20,789	163,197
Consumer, Private & Business Banking	42,731	8,501	–	51,232
Ventures[1]	756	5	–	761
Central & Other items	50,288	2,015	3,740	56,043
Total risk-weighted assets	219,588	27,116	24,529	271,233

1 Following the increased strategic importance and reporting of Ventures to management, this has been established as a separate operating segment from 1 January 2022. Prior period has been restated

Risk-weighted assets by geographic region

	2022 $million	2021 $million
Asia	150,816	170,381
Africa & Middle East	40,716	48,852
Europe & Americas	50,174	50,283
Central & Other items	3,005	1,717
Total risk-weighted assets	244,711	271,233

Movement in risk-weighted assets

	Credit risk							
	Corporate, Commercial & Institutional Banking $million	Consumer, Private & Business Banking $million	Ventures[1] $million	Central & Other items $million	Total $million	Operational risk $million	Market risk $million	Total risk $million
At 31 December 2020	127,581	44,755	289	47,816	220,441	26,800	21,593	268,834
At 1 January 2021	127,581	44,755	289	47,816	220,441	26,800	21,593	268,834
Asset growth & mix	2,269	3,612	467	3,894	10,242	–	–	10,242
Asset quality	(1,537)	(662)	–	13	(2,186)	–	–	(2,186)
Risk-weighted assets efficiencies	(415)	(30)	–	(657)	(1,102)	–	–	(1,102)
Model Updates	–	(3,701)	–	–	(3,701)	–	–	(3,701)
Methodology and policy changes	–	–	–	–	–	–	2,065	2,065
Acquisitions and disposals	–	–	–	–	–	–	–	–
Foreign currency translation	(2,085)	(1,243)	–	(1,106)	(4,434)	–	–	(4,434)
Other, Including non-credit risk movements	–	–	–	328	328	316	871	1,515
At 31 December 2021	125,813	42,731	756	50,288	219,588	27,116	24,529	271,233
Asset growth & mix[2]	(13,213)	(984)	594	(10,034)	(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	42,092	1,350	43,310	196,855	27,177	20,679	244,711

1 Following the increased strategic importance and reporting of Ventures to management, this has been established as a separate operating segment from 1 January 2022. Prior period has been restated

2 Corporate, Commercial & Institutional Banking asset growth & mix includes optimisation initiatives of $(13.9) billion and other efficiency actions of $(7.2) billion. Central & Other items asset growth & mix includes other efficiency actions, mainly relating to credit insurance of $(3.9) billion

Movements in risk-weighted assets

RWA decreased by $26.5 billion, or 9.8 per cent from 31 December 2021 to $244.7 billion. This was mainly due to decrease in Credit Risk RWA of $22.7 billion and Market Risk RWA of $3.9 billion, partially offset by marginal increase in Operational Risk RWA of $0.1 billion.

Corporate, Commercial & Institutional Banking

Credit Risk RWA decreased by $15.7 billion, or 12.5 per cent from 31 December 2021 to $110.1 billion mainly due to:

- $13.2 billion decrease from changes in asset growth & mix of which:
  - $13.9 billion decrease from optimisation actions including reduction in lower returning portfolios
  - $7.2 billion decrease from other business efficiency actions
  - $7.9 billion increase from asset balance growth
- $4.9 billion decrease from foreign currency translation
- $4.3 billion decrease mainly due to improvement in asset quality reflecting client upgrades partially offset by sovereign downgrades in Africa & Middle East
- $4.3 billion increase from revised rules on capital requirements
- $2.1 billion increase from revised rules on capital requirements
- $0.3 billion increase from a process enhancement relating to certain Transaction Banking facilities

Consumer, Private & Business Banking

Credit Risk RWA decreased by $0.6 billion, or 1.5 per cent from 31 December 2021 to $42.1 billion mainly due to:

- $1.6 billion decrease from foreign currency translation
- $0.9 billion decrease from changes in asset growth & mix mainly from Asia
- $1.4 billion increase from industry-wide regulatory changes to align IRB model performance
- $0.4 billion increase mainly due to deterioration in asset quality mainly in Asia
- $0.1 billion increase from revised rules on capital requirements

Ventures

Ventures is comprised of Mox Bank Limited, Trust Bank and SC Ventures. Credit Risk RWA increased by $0.6 billion, or 78.6 per cent from 31 December 2021 to $1.4 billion from asset balance growth, mainly from Mox

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 decreased by $7.0 billion, or 13.9 per cent from 31 December 2021 to $43.3 billion mainly due to:

- $10.0 billion decrease from changes in asset growth & mix of which:
  - $6.1 billion decrease from reduction in asset balances mainly from Asia
  - $3.9 billion decrease from credit protection on certain products
- $3.4 billion decrease from foreign currency translation
- $1.0 billion decrease due to cessation of software relief
- $7.3 billion increase due to deterioration in asset quality mainly from sovereign downgrades in Africa & Middle East

Market Risk

Total Market Risk RWA decreased by $3.9 billion, or 15.7 per cent from 31 December 2021 to $20.7 billion due to:

- $3.8 billion decrease in Standardised Approach (SA) Specific Interest Rate Risk RWA due to reductions in the traded credit portfolio
- $1.2 billion decrease in Internal Models Approach (IMA) stressed VaR RWA due to reduced IMA positions
- $1.0 billion decrease with enhanced methodology for IMA VaR and stressed VaR
- $1.5 billion increase due to higher IMA (IMA) RWA multiplier from elevated back-testing exceptions
- $0.5 billion increase in SA Structural FX risk with increased net SFX positions after hedging
- $0.1 billion net increase due to other individually smaller movements

Operational Risk

Operational Risk RWA increased by $0.1 billion, or 0.2 per cent from 31 December 2021 to $27.2 billion mainly due to marginal increase in average income as measured over a rolling three-year time horizon for certain products.

Leverage ratio

The Group's leverage ratio, which excludes qualifying claims on central banks, was 4.8 per cent at FY2022, which was above the current minimum requirement of 3.7 per cent. The leverage ratio was 14 basis points lower than FY21. Leverage exposure decreased by $56.8 billion from a decrease in on-balance sheet items of $7.9 billion, decrease in off-balance sheet items and others of $50.8 billion and a securities financing transactions add-on increase of $1.8 billion. The decrease in exposures was largely driven by optimisation initiatives. End point Tier 1 decreased by $4.1 billion as CET1 capital reduced by $4.0 billion and the issuance of $1.25 billion 7.75 per cent AT1 securities was partly offset by the redemption of $1 billion 7.5 per cent AT1 securities.

Leverage ratio

	2022 $million	2021 $million
Tier 1 capital (transitional)	40,641	45,153
Additional Tier 1 capital subject to phase out	–	(557)
Tier 1 capital (end point)	40,641	44,596
Derivative financial instruments	63,717	52,445
Derivative cash collateral	12,515	9,217
Securities financing transactions (SFTs)	89,967	88,418
Loans and advances and other assets	653,723	677,738
Total on-balance sheet assets	819,922	827,818
Regulatory consolidation adjustments[1]	(71,728)	(63,704)
Derivatives adjustments		
Derivatives netting	(47,118)	(34,819)
Adjustments to cash collateral	(10,640)	(17,867)
Net written credit protection	548	1,534
Potential future exposure on derivatives	35,824	50,857
Total derivatives adjustments	(21,386)	(295)
Counterparty Risk leverage exposure measure for SFTs	15,553	13,724
Off-balance sheet items	119,049	139,505
Regulatory deductions from Tier 1 capital	(7,099)	(5,908)
Total exposure measure excluding claims on central banks	854,311	911,140
Leverage ratio excluding claims on central banks (%)	4.8%	4.9%
Average leverage exposure measure excluding claims on central banks	864,605	897,992
Average leverage ratio excluding claims on central banks (%)	4.7%	5.0%
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

Statement of directors' responsibilities

The directors are responsible for preparing the Annual Report and the Group and Company financial statements in accordance with applicable law and regulations.

Company law requires the directors to prepare Group and Company financial statements for each financial year. Under that:

- The Group financial statements have been prepared in accordance with UK-adopted International Accounting Standards and International Financial Reporting Standards as adopted by the European Union;
- The Company financial statements have been properly prepared in accordance with UK-adopted International Accounting Standards as applied in accordance with section 408 of the Companies Act 2006; and
- The financial statements have been prepared in accordance with the requirements of the Companies Act 2006.

Under company law the directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the Group and Company and of their profit or loss for that period. In preparing each of the Group and Company financial statements, the directors are required to:

- Select suitable accounting policies and then apply them consistently;
- Make judgements and estimates that are reasonable, relevant and reliable;
- State whether they have been prepared in accordance with UK-adopted International Accounting Standards and International Financial Reporting Standards as adopted by the European Union;
- Assess the Group and the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern; and
- Use the going concern basis of accounting unless they either intend to liquidate the Group or the Company or to cease operations, or have no realistic alternative but to do so

The directors are responsible for keeping adequate accounting records that are sufficient to show and explain the Company's transactions and disclose with reasonable accuracy at any time the financial position of the Company and enable them to ensure that its financial statements comply with the Companies Act 2006. They are responsible for such internal control[1] as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error, and have general responsibility for taking such steps as are reasonably open to them to safeguard the assets of the Group and to prevent and detect fraud and other irregularities.

Under applicable law and regulations, the directors are also responsible for preparing a Strategic Report, Directors' Report, Directors' Remuneration Report and Corporate Governance Statement that complies with that law and those regulations.

The directors are responsible for the maintenance and integrity of the corporate and financial information included on the Company's website. Legislation in the UK governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

1 The Group's Risk Management Framework 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.

Shareholder information

Important notices

Forward-looking statements

The information included in this document may contain 'forward-looking statements' based upon current expectations or beliefs as well as statements formulated with assumptions about future events. Forward-looking statements include, without limitation, projections, estimates, commitments, plans, approaches, ambitions and targets (including, without limitation, ESG commitments, ambitions and targets). Forward-looking statements often use words such as 'may', 'could', 'will', 'expect', 'intend', 'estimate', 'anticipate', 'believe', 'plan', 'seek', 'aim', 'continue' or other words of similar meaning. Forward-looking statements may also (or additionally) be identified by the fact that they do not relate only to historical or current facts.

By their very nature, forward-looking statements are subject to known and unknown risks and uncertainties and can be affected by other factors that could cause actual results, and the Group's plans and objectives, to differ materially from those expressed or implied in the forward-looking statements. Readers should not place reliance on, and are cautioned about relying on, any forward-looking statements.

There are several factors which could cause actual results to differ materially from those expressed or implied in forward-looking statements. The factors that could cause actual results to differ materially from those described in the forward-looking statements include (but are not limited to): changes in global, political, economic, business, competitive and market forces or conditions, or in future exchange and interest rates; changes in environmental, geopolitical, social or physical risks; legal, regulatory and policy developments, including regulatory measures addressing climate change and broader sustainability-related issues; the development of standards and interpretations, including evolving requirements and practices in Environmental, Social and Governance reporting; the ability of the Group, together with governments and other stakeholders to measure, manage, and mitigate the impacts of climate change and broader sustainability-related issues effectively; risks arising out of health crises and pandemics; risks of cyber-attacks, data, information or security breaches or technology failures involving the Group; changes in tax rates, future business combinations or dispositions; and other factors specific to the Group, including those identified in this Annual Report and financial statements of the Group. Any forward-looking statements contained in this document are based on past or current trends and/or activities of the Group and should not be taken as a representation that such trends or activities will continue in the future.

No statement in this document is intended to be, nor should be interpreted as, a profit forecast or to imply that the earnings of the Group for the current year or future years will necessarily match or exceed the historical or published earnings of the Group. Except as required by any applicable laws or regulations, the Group expressly disclaims any obligation to revise or update any forward-looking statement contained within this document, regardless of whether those statements are affected as a result of new information, future events or otherwise.

Please refer to this document for a discussion of certain of the risks and factors that could adversely impact the Group's actual results, and its plans and objectives, to differ materially from those expressed or implied in any forward-looking statements.

Financial instruments

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By Order of the Board
Adrian de Souza
Group Company Secretary

Hong Kong, 16 February 2023

As at the date of this announcement, the Board of Directors of Standard Chartered PLC comprises:

Chairman:
José María Viñals Iñiguez

Executive Directors:
William Thomas Winters, CBE and Andrew Nigel Halford

Independent Non-Executive Directors:
Shirish Moreshwar Apte; David Philbrick Conner; Gay Huey Evans, CBE; Jacqueline Hunt; Robin Ann Lawther, CBE; Maria da Conceicao das Neves Calha Ramos (Senior Independent Director); Philip George Rivett; David Tang; Carlson Tong; Jasmine Mary Whitbread and Linda Yi-chuang Yueh, CBE