

The Hongkong and Shanghai Banking Corporation Limited

**Banking Disclosure Statement at 31 December 2023
(Unaudited)**

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Prefixes contained in the table names, where applicable, represent the reference codes of the standard disclosure templates and tables for the Revised Pillar 3 Framework issued by the Hong Kong Monetary Authority ('HKMA').

Introduction

Purpose

The information contained in this document is for The Hongkong and Shanghai Banking Corporation Limited ('the Bank') and its subsidiaries (together 'the group'). It should be read in conjunction with the group's *Annual Report and Accounts 2023*. The group's *Annual Report and Accounts 2023*, the Banking Disclosure Statement and the Main Features of Regulatory Capital Instruments and Non-capital LAC Debt Instruments document, taken together, comply with both the Banking (Disclosure) Rules ('BDR') made under section 60A of the Banking Ordinance and the Financial Institutions (Resolution) (Loss-absorbing Capacity Requirements – Banking Sector) Rules ('LAC Rules') made under section 19(1) of the Financial Institutions (Resolution) Ordinance ('FIRO').

References to 'HSBC', 'the Group' or 'the HSBC Group' within this document mean HSBC Holdings plc together with its subsidiaries. Within this document the Hong Kong Special Administrative Region of the People's Republic of China is referred to as 'Hong Kong'. The abbreviations 'HK\$m' and 'HK\$bn' represent millions and billions (thousands of millions) of Hong Kong dollars respectively.

These banking disclosures are governed by the group's disclosure policy, which has been approved by the Board of Directors. The disclosure policy sets out the governance, control and assurance requirements for publication of the document. While the disclosure statement is not required to be externally audited, the document has been subject to independent review by the HSBC Global Internal Audit team and has been approved by the Audit Committee as delegated by the Board.

Basis of preparation

Except where indicated otherwise, the financial information contained in this Banking Disclosure Statement has been prepared on a regulatory consolidation basis. The basis of consolidation for regulatory purposes is different from that for accounting purposes. Information regarding subsidiaries that are not included in the consolidation for regulatory purposes is set out in the 'Basis of consolidation' section in this document.

The information in this document is not audited and does not constitute statutory accounts.

Certain financial information in this document is extracted from the statutory accounts for the year ended 31 December 2023 which has been delivered to the Registrar of Companies and the HKMA. The auditor expressed an unqualified opinion on those statutory accounts in their report dated 21 February 2024. The Auditor's Report did not include a reference to any matters to which the auditor drew any attention by way of emphasis without qualifying their report; and did not contain a statement under sections 406(2), 407(2) or (3) of the Hong Kong Companies Ordinance (Cap.622). The group's *Annual Report and Accounts 2023*, which include the statutory accounts, can be obtained on request from Communications (Asia), The Hongkong and Shanghai Banking Corporation Limited, 1 Queen's Road Central, Hong Kong, and can be viewed on our website: www.hsbc.com.hk.

Regulatory reporting processes and controls

The quality of regulatory reporting remains a key priority for management and regulators. We are progressing with a multi-year comprehensive programme to strengthen our processes, improve consistency, and enhance controls across regulatory reports, focusing on our prudential regulatory reporting and other priority regulatory reports.

The Banking Disclosure Statement

The group's Banking Disclosure Statement at 31 December 2023 comprises Pillar 3 information required under the framework of the Basel Committee on Banking Supervision ('BCBS'). The disclosures are made in accordance with the latest BDR and the LAC Rules issued by the HKMA. According to the BDR and the LAC Rules, disclosure of comparative information is not required unless otherwise specified in the standard disclosure templates. Prior period disclosures can be found in the Regulatory Disclosure section of our website, www.hsbc.com.hk.

The Banking Disclosure Statement includes the majority of the information required under the BDR and the LAC Rules. The Main Features of Regulatory Capital Instruments and Non-capital LAC Debt Instruments are published as a standalone document. The remainder of the disclosure requirements are covered in the group's *Annual Report and Accounts 2023*. All the group's banking disclosures can be found in the Regulatory Disclosure section of our website, www.hsbc.com.hk.

Disclosure requirements covered in the group's Annual Report and Accounts 2023:	References:
– BDR Section 16FJ – LIQA: Liquidity risk management	Pages 62-63
– BDR Section 16J – The group's definition of impaired and forborne and the methods adopted for determining impairments	Note 1.2(i)
– BDR Section 29(5) – Net structural foreign currency exposures	Page 62
– BDR Section 44 – Assets used as security	Note 12
– BDR Section 46 – The general disclosure of the major business activities and product lines	Pages 19 & 20, Note 2 & Note 31
– BDR Section 52 – Corporate governance	Page 3-9

Loss-absorbing Capacity Disclosures

HSBC Asia Holdings Limited ('HAHO'), a wholly-owned subsidiary of HSBC Holdings plc and the intermediate holding company of the group, is designated as the resolution entity for the group, where adequate loss-absorbing capacity ('LAC') has to be available in a form that will be bailed-in at the point of resolution. The group's LAC disclosures are included as part of this Banking Disclosure Statement while the LAC disclosures of HAHO will be included as part of the HSBC Group's disclosures which can be found in the Investors section of the Group's website, www.hsbc.com. The location of HAHO's LAC disclosures can be found in the following table:

Location of HAHO's LAC disclosures in 4Q23:
KM2 – Key metrics of the Asian resolution group
– Table 21.ii of the Group's Pillar 3 Disclosures
TLAC1 – TLAC composition
– Table 22 of the Group's Pillar 3 Disclosures
TLAC3 – HSBC Asia Holdings Limited Creditor Ranking
– Table 26 of the Group's Pillar 3 Disclosures
CCA(A) – Main Features of Regulatory Capital Instruments and Non-Capital LAC Debt Instruments
– A standalone document which can be found in: www.hsbc.com/investors/fixed-income-investors/regulatory-capital-securities

Key Metrics

Table 1: KM1 – Key prudential ratios

	a	b	c	d	e
			At		
	31 Dec 2023	30 Sep 2023	30 Jun 2023	31 Mar 2023	31 Dec 2022
Regulatory capital (HK\$m)¹					
1 Common Equity Tier 1 ('CET1')	508,604	491,960	499,296	510,956	491,562
2 Tier 1	562,454	545,780	553,095	564,908	545,572
3 Total capital	631,701	610,604	619,107	629,800	607,312
Risk-weighted assets ('RWAs') (HK\$m)¹					
4 Total RWAs	3,212,387	3,165,255	3,166,612	3,173,613	3,222,168
Risk-based regulatory capital ratios (as a percentage of RWA)¹					
5 CET1 ratio (%)	15.8	15.5	15.8	16.1	15.3
6 Tier 1 ratio (%)	17.5	17.2	17.5	17.8	16.9
7 Total capital ratio (%)	19.7	19.3	19.6	19.8	18.8
Additional CET1 buffer requirements (as a percentage of RWA)¹					
8 Capital conservation buffer requirement (%)	2.50	2.50	2.50	2.50	2.50
9 Countercyclical capital buffer ('CCyB') requirement (%) ²	0.56	0.57	0.57	0.56	0.56
10 Higher loss absorbency requirements (%) (applicable only to Global systemically important authorised institution ('G-SIBs') or Domestic systemically important authorised institution ('D-SIBs'))	2.50	2.50	2.50	2.50	2.50
11 Total authorised institution ('AI')-specific CET1 buffer requirements (%)	5.56	5.57	5.57	5.56	5.56
12 CET1 available after meeting the AI's minimum capital requirements (%)	11.3	11.0	11.3	11.6	10.8
Basel III leverage ratio³					
13 Total leverage ratio ('LR') exposure measure (HK\$m)	9,672,960	9,582,574	9,499,334	9,475,334	9,301,363
14 LR (%)	5.8	5.7	5.8	6.0	5.9
Liquidity Coverage Ratio ('LCR')⁴					
15 Total high quality liquid assets ('HQLA') (HK\$m)	1,938,900	1,968,975	1,951,506	1,896,005	1,886,003
16 Total net cash outflows (HK\$m)	1,149,294	1,217,708	1,236,386	1,215,253	1,196,437
17 LCR (%)	168.9	161.7	158.0	156.5	157.8
Net Stable Funding Ratio ('NSFR')⁵					
18 Total available stable funding (HK\$m)	5,747,599	5,533,607	5,579,672	5,646,959	5,542,592
19 Total required stable funding (HK\$m)	3,685,357	3,609,806	3,708,853	3,703,516	3,639,518
20 NSFR (%)	156.0	153.3	150.4	152.5	152.3

1 The regulatory capital, RWAs, risk-based regulatory capital ratios and additional CET1 buffer requirements above are based on or derived from the information as contained in the 'Capital Adequacy Ratio' return submitted to the HKMA on a consolidated basis under the requirements of section 3C(1) of the Banking (Capital) Rules ('BCR').

2 The jurisdictional CCyB of Hong Kong used in the calculation of the CCyB buffer requirement has been 1.0% since 31 March 2020. The jurisdictional CCyB of other countries used in the calculation of the CCyB requirement ranged from 0% to 2.5% at 31 December 2023.

3 The Basel III leverage ratios are disclosed in accordance with the information contained in the 'Leverage Ratio' return submitted to the HKMA under the requirements specified in Part 1C of the BCR.

4 The LCRs shown are the simple average values of all working days in the reporting periods and are made in accordance with the requirements specified in the 'Liquidity Position' return submitted to the HKMA under rule 11(1) of the Banking (Liquidity) Rules ('BLR').

5 The NSFR disclosures are made in accordance with the information contained in the 'Stable Funding Position' return submitted to the HKMA under the requirements specified in rule 11(1) of the BLR.

Risk management

Our risk management framework

We use a comprehensive risk management approach across our organisation and across all risk types, underpinned by our culture and values. This is outlined in our risk management framework, including the key principles and practices that we employ in managing material risks, both financial and non-financial.

The framework fosters continuous monitoring of the risk environment, and promotes risk awareness and sound operational and strategic decision making and escalation process. It also ensures we have a consistent approach to monitoring, managing and mitigating the risks we accept and incur in our activities, with clear accountabilities. We continue to actively review and develop our risk management framework and enhance our approach to managing risk, through our activities with regard to people and capabilities; governance; reporting and management information; credit risk management models; and data.

Further information on our risk management framework is set out on page 25 of the group's Annual Report and Accounts 2023. The management and mitigation of principal risks facing the group is described in our top and emerging risks on page 28 of the group's Annual Report and Accounts 2023.

Commentary on hedging strategies and associated processes can be found in the Market risk section on pages 43 to 47 of this document.

Culture

HSBC understands the importance of a strong culture. Our culture refers to our shared attitudes, values and standards that shape behaviours related to risk awareness, risk taking and risk management. It is instrumental in aligning the behaviours of individuals with our attitude to assuming and managing risk, which helps to ensure that our risk profile remains in line with our risk appetite. The fostering of a strong culture is a key responsibility of our senior executives.

Our culture is also reinforced by our approach to remuneration. Individual awards, including those for senior executives, are based on compliance with our values and the achievement of financial and non-financial objectives, which are aligned to our risk appetite and strategy.

Risk governance

The Board has ultimate responsibility for the effective management of risk and approves our risk appetite. It is advised on risk-related matters by the group's Risk Committee.

The activities of the Risk Committee are set out on pages 7 of the Annual Report and Accounts 2023.

Executive accountability for the ongoing monitoring, assessment and management of the risk environment, and the effectiveness of the risk management framework, resides with the group's Chief Risk Officer ('CRO'), supported by the group's Risk Management Meeting ('RMM').

Day-to-day responsibility for risk management is delegated to senior managers with individual accountability for decision making. All employees have a role to play in risk management. These roles are defined using the three lines of defence model, which takes into account our business and functional structures.

We use a defined executive risk governance structure to ensure appropriate oversight and accountability for risk, which facilitates the reporting and escalation to the RMM.

Further information about the group's three lines of defence model and executive risk governance structures is available on pages 26 and 27 of the group's Annual Report and Accounts 2023.

Risk appetite

Risk appetite is a key component of our management of risk. It defines our desired forward-looking risk profile, and informs the strategic and financial planning process. At HSBC, risk appetite is managed through a global risk appetite framework and articulated in a risk appetite statement ('RAS'), which is reviewed and approved by the Board, on the advice of the group's Risk Committee, twice a year to make sure it remains fit for purpose.

Our risk appetite provides an objective baseline to guide strategic decision making, helping to ensure that planned business activities provide an appropriate balance of return for the risk assumed, while remaining within acceptable risk levels. It is also integrated within other risk management tools, such as stress testing, to ensure consistency in risk management.

Information about our risk management tools and risk appetite is set out on page 25 and 26 of the group's Annual Report and Accounts 2023.

Global Risk and Compliance function and the group's Risk function

We have a dedicated Global Risk and Compliance function, headed by the Group Chief Risk and Compliance Officer, which is responsible for the Group's risk management framework. This includes establishing global policy, monitoring risk profiles, and forward-looking risk identification and management capabilities. Global Risk and Compliance is composed of sub-functions covering both financial and non-financial risks. It is independent from the global businesses in order to provide challenge, appropriate oversight and balance in risk versus return decisions. The Global Risk and Compliance function operates in line with the three lines of defence model and plays an important role in reinforcing our culture and values. It focuses on creating an environment that encourages our people to speak up and do the right thing. Similarly, the group's Risk function, headed by the group's CRO, is independent from the global businesses and responsible for the group's risk management framework.

For further information, see page 27 of the group's Annual Report and Accounts 2023.

Stress testing

HSBC operates a wide-ranging stress testing programme that supports our risk management and capital planning. It includes execution of stress tests mandated by our regulators and those to meet our own internal requirements. Our stress testing is supported by dedicated teams and infrastructure.

Our stress testing programme assesses the resilience of our balance sheet and our capital adequacy through a rigorous examination of our resilience to external shocks. Both the internal and regulatory driven stress tests help us to understand and mitigate risks, and informs our decisions about capital and liquidity levels.

The group's stress testing programme is overseen by the group's Risk Committee, and results are reported, where appropriate, to the RMM and Risk Committee.

Further information about stress testing are set out on page 27 of the group's Annual Report and Accounts 2023.

Risk management and internal control systems

The Directors are responsible for maintaining and reviewing the effectiveness of risk management and internal control systems, and for determining the aggregate level and risk types they are willing to accept in achieving the group's business objectives.

On behalf of the Board, the group's Risk Committee has responsibility for oversight of risk management and internal controls other than for financial reporting, and the group's Audit Committee has responsibility for oversight of risk management and internal controls over financial reporting.

The Directors, through the group's Risk Committee and Audit Committee, receive regular updates and confirmation that management has taken, or is taking, the necessary actions to remediate any failings or weaknesses identified through the operation of our framework of controls.

Risk measurement and reporting systems

Our risk measurement and reporting systems are designed to help ensure that risks are comprehensively captured with all the attributes necessary to support well-founded decisions, that those attributes are accurately assessed, and that information is delivered in a timely manner for those risks to be successfully managed and mitigated.

Risk measurement and reporting systems are also subject to a governance framework designed to ensure that their build and implementation are fit for purpose and functioning appropriately. Risk information systems development is a key responsibility of the Global Risk and Compliance function, while the development and operation of risk rating and management systems and processes are ultimately subject to the oversight of the Board.

The ongoing programme to strengthen our regulatory reporting also considers the efficacy of our systems. Potential enhancements identified through this programme will be assessed and, where appropriate, implemented under the governance framework.

We remain committed to investing in the reliability and resilience of our IT systems and critical services, including those provided by third parties, that support all parts of our business. We do so to help protect our customers, affiliates and counterparties, and to help ensure that we minimise any disruption to services that could result in reputational and regulatory consequences. In our approach to defend against these threats, we invest in business and technical controls to help us detect, manage and recover from issues, including data loss, in a timely manner.

Risk measurement and reporting structures deployed at Group level are applied throughout global businesses and major operating subsidiaries through a common operating model for integrated risk management and control. This model sets out the respective responsibilities of Group, global business, region and market level Risk and Compliance functions in respect of risk governance and oversight, approval authorities and lending guidelines, global and local scorecards, management information and reporting, and relations with third parties such as regulators, rating agencies and auditors.

Risk analytics and model governance

Global Risk and Compliance function and the group's Risk function manage a number of analytics disciplines supporting the development and management of models, including those for risk rating, behavioural scoring, economic capital and stress testing, covering different risk types and business segments.

The analytics functions formulate technical responses to industry developments and regulatory policy in the field of risk analytics, develop HSBC's global risk models, and oversee local model development and use around the Group as we work towards our implementation targets for internal ratings-based ('IRB') approaches.

The Global Model Risk Committee ('GMRC') along with the group's Model Risk Committee ('MRC'), are the primary committees responsible for the oversight of Model Risk within HSBC and the group respectively. They serve an important role in providing strategic direction on the management of models and their associated risks to HSBC's and the group's businesses and are an essential element of the governance structure for model risk management. The MRC is supported by Model Oversight Forums ('MOFs') operating within the group which are responsible for model risk management within their functional areas, including Wholesale credit risk, Traded risk, Retail risk, and Compliance. Similarly, the GMRC is supported by the Global MOF at the global level which is responsible for model risk management within the functional areas.

The MRC meets regularly and reports to RMM. It is chaired by the group CRO and membership includes the group Heads of the Global Businesses, and senior executives from Risk, Finance and Compliance. Through its oversight of the MOFs, it identifies emerging risks for all aspects of the risk rating system, ensuring that model risk is managed within our RAS, and formally advises RMM on any material model-related issues.

Models are also subject to an independent validation process and governance oversight by the Model Risk Management team within Global Risk and Compliance function and the group's Risk function. The team provides robust challenge to the modelling approaches used across the group. It also ensures that the performance of those models is transparent and that any limitations are visible to key stakeholders.

The development and use of data and models to meet local requirements are the responsibility of global businesses or functions, as well as local entities under the governance of their own management, subject to overall Group policy and oversight.

Regulatory and other expectations continue to evolve with regards to our capability and practice of model risk management. We continue to enhance model risk management practices and invest in developing and embedding these capabilities.

Further information is available on pages 71 and 72 of the group's Annual Report and Accounts 2023.

Linkage to the Annual Report and Accounts 2023

Basis of consolidation

The basis of consolidation for financial accounting purposes is in accordance with Hong Kong Financial Reporting Standards ('HKFRS'), as described in Note 1 on the financial statements in the group's *Annual Report and Accounts 2023*.

The basis of consolidation for regulatory purposes is different from that for accounting purposes. Subsidiaries included in the consolidation for regulatory purposes are specified in a notice from the HKMA in accordance with section 3C(1) of the BCR. Subsidiaries not included in consolidation for regulatory purposes are primarily securities and insurance companies.

Securities and insurance companies are authorised and supervised by regulators, and are subject to supervisory arrangements regarding the maintenance of adequate capital to support business activities comparable to those prescribed for AIs under the BCR and the Banking Ordinance. The capital invested by the group in these subsidiaries is deducted from the capital base, subject to threshold, as determined in accordance with Part 3 of the BCR.

There are no subsidiaries that are included within the regulatory scope of consolidation but not included within the accounting scope of consolidation at 31 December 2023.

For all subsidiaries included in both the accounting and regulatory scope of consolidation, the same consolidation methodology is applied at 31 December 2023.

The group operates subsidiaries in a number of countries and territories where capital is governed by local rules, and there may be restrictions on the transfer of regulatory capital and funds between members of the banking group.

The Bank and its banking subsidiaries maintain regulatory reserves to satisfy the provisions of the Banking Ordinance and local regulatory requirements for prudential supervision purposes. At 31 December 2023, the effect of this regulatory reserve requirement is to reduce the amount of reserves which can be distributed to shareholders by HK\$19,045m.

Table 2: List of subsidiaries outside the regulatory scope of consolidation

		At 31 Dec 2023	
		Total assets	Total equity
	Principal activities	HK\$m	HK\$m
HSBC Broking Futures (Hong Kong) Ltd	Futures broking	288	99
HSBC Broking Services (Asia) Ltd and its subsidiaries	Broking services	7,583	3,271
HSBC Corporate Advisory (Malaysia) Sdn Bhd	Financial services	4	4
HSBC Corporate Finance (Hong Kong) Ltd	Financial services	14	12
HSBC Global Asset Management Holdings (Bahamas) Ltd	Asset management	137	137
HSBC Global Asset Management (Hong Kong) Ltd	Asset management	1,106	538
HSBC Asset Management (Japan) Ltd	Asset management	213	109
HSBC Global Asset Management (Singapore) Ltd	Asset management	361	220
HSBC Insurance (Asia-Pacific) Holdings Ltd and its subsidiaries	Insurance	655,190	36,656
HSBC InvestDirect (India) Private Ltd and its subsidiaries	Financial services	1,921	927
HSBC Investment Funds (Hong Kong) Ltd	Asset management	494	260
HSBC Qianhai Securities Ltd	Securities services	2,136	1,238
HSBC Securities (Japan) Ltd ¹	Broking services	0	0
HSBC Securities (Japan) Co. Ltd	Broking services	313,519	1,089
HSBC Securities (Singapore) Pte Ltd	Broking services	317	89
HSBC Securities Brokers (Asia) Ltd	Broking services	524	508
Hang Seng Insurance Co. Ltd and its subsidiaries	Insurance	185,337	10,892
Hang Seng Investment Management Ltd	Asset management	268	231
Hang Seng Investment Services Ltd	Investment services	9	9
Hang Seng Qianhai Fund Management Co. Ltd	Asset management	201	176
Hang Seng Securities Ltd	Broking services	1,866	796
HSBC Investment and Insurance Brokerage, Philippines Inc	Broking services	68	53
HSBC Life (Bermuda) Ltd	Reinsurance	762	51
HSBC Philanthropy Foundation Beijing	Charitable foundation	48	48
The Hongkong Bank Foundation	Charitable foundation	477	255

¹ In member's voluntary liquidation.

The approaches used in calculating the group's regulatory capital and RWAs are in accordance with the BCR. The group uses the advanced IRB approach to calculate its credit risk for the majority of its non-securitisation exposures. For collective investment scheme ('CIS') exposures, the group uses the look-through approach and mandate-based approach to calculate the RWA. For securitisation exposures, the group uses the securitisation internal ratings-based approach ('SEC-IRBA'), securitisation external ratings-based approach ('SEC-ERBA') or securitisation standardised approach ('SEC-SA') to determine credit risk for its banking book securitisation exposures. For counterparty credit risk ('CCR'), the group uses both the standardised (counterparty credit risk) approach ('SA-CCR') and the internal models (counterparty credit risk) ('IMM(CCR)') approach to

calculate its default risk exposures for derivatives, and the comprehensive approach for securities financing transactions ('SFTs').

For market risk, the group uses an Internal Models Method ('IMM') approach to calculate its general market risk for the risk categories of interest rate and foreign exchange ('FX') (including gold) exposures, and equity exposures. The group also uses an IMM approach to calculate its market risk in respect of specific risk for interest rate exposures and equity exposures. The group uses the standardised (market risk) ('STM') approach for calculating other market risk positions, as well as trading book securitisation exposures, and the standardised (operational risk) ('STO') approach to calculate its operational risk.

Balance sheet reconciliation

The following table expands the balance sheet under the regulatory scope of consolidation to show separately the capital components that are reported in the 'Composition of regulatory capital disclosures' template in Table 6. The capital components in this table contain a reference that shows how these amounts are included in Table 6.

Table 3: CC2 – Reconciliation of regulatory capital to balance sheet

	a	b	c
	At 31 Dec 2023		
	Balance sheet as in published financial statements HK\$m	Under regulatory scope of consolidation HK\$m	Cross- referenced to definition of Capital Components
Assets			
Cash and balances at central banks	232,987	232,582	
Items in the course of collection from other banks	22,049	22,049	
Hong Kong Government certificates of indebtedness	328,304	328,304	
Trading assets	941,250	939,969	
– of which significant LAC investments eligible as Tier 2 capital issued by financial sector entities	—	43	1
Derivatives	409,253	409,534	
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	707,573	7,464	
Reverse repurchase agreements – non-trading	831,186	551,842	
Loans and advances to banks	563,801	555,785	
Loans and advances to customers	3,557,076	3,553,305	
– of which: impairment allowances eligible for inclusion in Tier 2 capital	—	(5,656)	2
Financial investments	2,029,212	1,982,128	
Amounts due from Group companies	158,592	447,688	
– of which: significant LAC investments eligible as Tier 2 capital issued by financial sector entities	—	3,101	3
Investments in subsidiaries	—	25,992	
Interests in associates and joint ventures	170,206	166,424	
– of which: goodwill	—	3,626	4
– of which: significant LAC investments in financial sector entities exceeding 10% threshold	—	127,173	5
Goodwill and intangible assets	38,923	35,293	
– of which: goodwill	—	4,599	6
– of which: intangible assets	—	30,694	7
Property, plant and equipment	129,675	122,182	
Deferred tax assets	9,315	3,676	
– of which: deferred tax assets net of related tax liabilities	—	3,754	8
– of which: deferred tax liabilities related to goodwill	—	(72)	9
– of which: deferred tax liabilities related to intangible assets	—	(6)	10
Prepayments, accrued income and other assets	370,991	249,020	
– of which: defined benefit pension fund net assets	—	51	11
Total assets	10,500,393	9,633,237	

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Table 3: CC2 – Reconciliation of regulatory capital to balance sheet (continued)

	a	b	c
	At 31 Dec 2023		
	Balance sheet in published financial statements HK\$m	Under regulatory scope of consolidation HK\$m	Cross- referenced to definition of Capital Components
Liabilities			
Hong Kong currency notes in circulation	328,304	328,304	
Items in the course of transmission to other banks	27,536	27,536	
Repurchase agreements – non-trading	521,984	507,848	
Deposits by banks	182,146	182,013	
Customer accounts	6,261,051	6,260,942	
Trading liabilities	103,050	103,050	
Derivatives	450,216	450,493	
– of which: gains and losses due to changes in own credit risk on fair valued liabilities	—	(145)	12
Financial liabilities designated at fair value	170,728	140,844	
– of which: gains and losses due to changes in own credit risk on fair valued liabilities	—	(26)	13
Debt securities in issue	87,745	86,891	
Retirement benefit liabilities	1,362	1,362	
Amounts due to Group companies	465,476	479,098	
– of which: qualifying Tier 2 capital instruments	—	26,060	14
– of which: gains and losses due to changes in own credit risk on fair valued liabilities	—	2,435	15
Accruals and deferred income, other liabilities and provisions	258,113	182,662	
Insurance contract liabilities	730,829	—	
Current tax liabilities	15,344	13,348	
Deferred tax liabilities	23,923	23,564	
– of which: deferred tax liabilities related to goodwill	—	4	16
– of which: deferred tax liabilities related to intangible assets	—	4,888	17
– of which: deferred tax liabilities related to defined benefit pension fund net assets	—	1	18
Total liabilities	9,627,807	8,787,955	
Equity			
Share capital	180,181	180,181	
– of which: portion eligible for inclusion in CET1 capital	—	178,727	19
– of which: revaluation reserve capitalisation issue	—	1,454	20
Other equity instruments	52,465	52,465	
– of which: qualifying AT1 capital instruments	—	52,465	21
Other reserves	117,214	112,804	22
– of which: fair value gains arising from revaluation of land and buildings	—	63,544	23
– of which: cash flow hedging reserves	—	2,018	24
– of which: valuation adjustment	—	41	25
Retained earnings	462,866	442,409	26
– of which: regulatory reserve for general banking risks	—	19,045	27
– of which: regulatory reserve eligible for inclusion in Tier 2 capital	—	8,604	28
– of which: fair value gains arising from revaluation of land and buildings	—	4,106	29
– of which: valuation adjustment	—	2,250	30
Total shareholders' equity	812,726	787,859	
Non-controlling interests	59,860	57,423	
– of which: portion allowable in CET1 capital	—	28,330	31
– of which: portion allowable in AT1 capital	—	1,385	32
– of which: portion allowable in Tier 2 capital	—	974	33
Total equity	872,586	845,282	
Total liabilities and equity	10,500,393	9,633,237	

Table 4: LI1 – Differences between accounting and regulatory scopes of consolidation and mapping of financial statement categories with regulatory risk categories

	a	b	c	d	e	f	g
	Carrying values of items:						
	Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation	Subject to credit risk framework	Subject to counterparty credit risk framework	Subject to securitisation framework ¹	Subject to market risk framework	Not subject to capital requirements or subject to deduction from capital
	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m
Assets							
Cash and balances at central banks	232,987	232,582	232,582	—	—	—	—
Items in the course of collection from other banks	22,049	22,049	22,049	—	—	—	—
Hong Kong Government certificates of indebtedness	328,304	328,304	328,304	—	—	—	—
Trading assets ²	941,250	939,969	448	62,710	—	939,521	—
Derivatives ²	409,253	409,534	—	409,534	—	409,534	—
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	707,573	7,464	5,407	1,988	—	—	69
Reverse repurchase agreements – non-trading	831,186	551,842	—	551,842	—	—	—
Loans and advances to banks	563,801	555,785	553,726	2,059	—	—	—
Loans and advances to customers	3,557,076	3,553,305	3,512,267	3,618	29,001	—	8,419
Financial investments	2,029,212	1,982,128	1,980,317	—	1,579	—	232
Amounts due from Group companies ²	158,592	447,688	82,436	361,375	—	15,043	3,813
Investments in subsidiaries	—	25,992	—	—	—	—	25,992
Interests in associates and joint ventures	170,206	166,424	63,578	—	—	—	102,846
Goodwill and intangible assets ³	38,923	35,293	—	—	—	—	30,401
Property, plant and equipment	129,675	122,182	122,182	—	—	—	—
Deferred tax assets	9,315	3,676	—	—	—	—	3,676
Prepayments, accrued income and other assets ^{3,4}	370,991	249,020	162,400	73,941	21	—	12,657
Total assets at 31 Dec 2023	10,500,393	9,633,237	7,065,696	1,467,067	30,601	1,364,098	188,105
Liabilities							
Hong Kong currency notes in circulation	328,304	328,304	—	—	—	—	328,304
Items in the course of transmission to other banks	27,536	27,536	—	—	—	—	27,536
Repurchase agreements – non-trading	521,984	507,848	—	507,848	—	—	—
Deposits by banks	182,146	182,013	—	—	—	—	182,013
Customer accounts	6,261,051	6,260,942	—	—	—	—	6,260,942
Trading liabilities ²	103,050	103,050	—	32,360	—	103,050	—
Derivatives ²	450,216	450,493	—	450,493	—	450,493	—
Financial liabilities designated at fair value	170,728	140,844	—	—	—	126,512	14,332
Debt securities in issue	87,745	86,891	—	—	—	—	86,891
Retirement benefit liabilities	1,362	1,362	—	—	—	—	1,362
Amounts due to Group companies ²	465,476	479,098	—	120,890	—	108	358,168
Accruals and deferred income, other liabilities and provisions	258,113	182,662	—	—	—	—	182,662
Insurance contract liabilities	730,829	—	—	—	—	—	—
Current tax liabilities	15,344	13,348	—	—	—	—	13,348
Deferred tax liabilities	23,923	23,564	—	—	—	—	23,564
Total liabilities at 31 Dec 2023	9,627,807	8,787,955	—	1,111,591	—	680,163	7,479,122

1 The amounts shown in the column 'subject to securitisation framework' only include non-trading book positions. Trading book securitisation positions are included in the market risk column.

2 Trading assets/liabilities and derivative contracts, including those amounts due from/to Group companies are subject to more than one regulatory risk category. As a result, the amounts shown in column (b) do not equal the sum of columns (c) to (g).

3 The assets disclosed in column (g) are net of any associated deferred tax liability.

4 The difference in the carrying values reported in the financial statements in column (a) and the scope of regulatory consolidation in column (b) mainly represents (i) differences between the financial and regulatory scope of consolidation, and (ii) the amounts of acceptance and endorsements being included as contingencies in accordance with the BCR, whilst for accounting purposes, acceptances and endorsements are recognised on the balance sheet.

Table 5: LI2 – Main sources of differences between regulatory exposure amounts and carrying values in financial statements

	a	b	c	d	e
	Items subject to:				
	Total	credit risk	securitisation	counterparty	market
	HK\$m	framework	framework	credit risk	risk
	HK\$m	HK\$m	HK\$m	framework	framework
1 Asset carrying value amount under scope of regulatory consolidation (as per template LI1) ¹	9,445,132	7,065,696	30,601	1,467,067	1,364,098
2 Liabilities carrying value amount under regulatory scope of consolidation (as per template LI1) ²	1,308,833	—	—	1,111,591	680,163
3 Total net amount under regulatory scope of consolidation	8,136,299	7,065,696	30,601	355,476	683,935
4 Off-balance sheet amounts and potential future exposure for counterparty risk	3,889,607	914,185	1,520	199,223	—
5 Differences in netting rules	(21,279)	(5,909)	—	(15,369)	—
6 Differences due to financial collateral on standardised approach	(41,898)	(41,898)	—	—	—
7 Differences due to impairments on IRB approach	37,855	37,855	—	—	—
8 Differences due to credit risk mitigation	(142,901)	—	—	(142,901)	—
9 Exposure amounts considered for regulatory purposes at 31 Dec 2023	11,857,683	7,969,929	32,121	396,429	683,935

1 The amount shown in column (a) in Table 5 above is equal to column (b) less column (g) in the Total assets row in Table 4.

2 The amount shown in column (a) in Table 5 above is equal to column (b) less column (g) in the Total liabilities row in Table 4.

Explanation of differences between accounting and regulatory exposure amounts

Off-balance sheet amounts and potential future exposure for counterparty risk

Off-balance sheet ('OBS') amounts subject to credit risk and the securitisation regulatory frameworks include the undrawn portions of committed facilities, various trade finance commitments and guarantees. We apply credit conversion factors ('CCF') to these items and add potential future exposures ('PFE') for CCR.

Differences in netting rules

Under HKFRS, netting is only permitted if a legal right of set-off exists and the cash flows are intended to be settled on a net basis. Under the BCR, however, netting is applied when there is a valid bilateral netting agreement. As a consequence, we recognise greater netting under the BCR, reflecting the close-out provisions that would take effect in the event of counterparty default rather than just those transactions that are settled net in the normal course of business.

Differences due to financial collateral

Exposure value under the standardised approach is calculated after deducting credit risk mitigation ('CRM'), whereas the accounting value is before such deductions.

Differences due to expected credit loss

The carrying value of assets is net of credit risk adjustments. The regulatory exposure value under the IRB approach is before deducting credit risk adjustments.

Differences due to credit risk mitigation

In CCR, differences arise between accounting carrying values and regulatory exposure as a result of the application of CRM and the use of modelled exposures.

Explanation of differences between accounting fair value and regulatory prudent valuation

Fair value is defined as the best estimate of the price that would be received to sell an asset or be paid to transfer a liability in an orderly transaction between market participants at the measurement date.

Some fair value adjustments already reflect valuation uncertainty to some degree. These are market data uncertainty and model uncertainty.

However, it is recognised that a variety of valuation techniques using stressed assumptions and combined with the range of plausible market parameters at a given point in time may still generate unexpected uncertainty beyond fair value.

A series of additional valuation adjustments ('AVAs') are therefore required to reach a specified degree of confidence (the 'Prudent Value') set by regulators that differs both in terms of scope and measurement from HSBC's own quantification for disclosure purposes.

AVAs should consider at the minimum: market price uncertainty; bid-offer (close-out) uncertainty; model risk; concentration; administration costs; unearned credit spreads; and investing and funding costs.

AVAs are not limited to Level 3 exposures, for which a 95% uncertainty range is already computed and disclosed, but must also be calculated for any exposure for which the exit price cannot be determined with a high degree of certainty. Table 56 presents further information on the prudent valuation adjustment.

Capital and RWAs

Regulatory capital disclosures

The following table sets out the detailed composition of the group's regulatory capital using the 'Composition of regulatory capital disclosures' template, as specified by the HKMA.

Table 6: CC1 – Composition of regulatory capital

	a	b
	At 31 Dec 2023	
	Component of regulatory capital	Cross-referenced to Table 3
	HK\$m	Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation
CET1 capital: instruments and reserves		
1 Directly issued qualifying CET1 capital instruments plus any related share premium	178,727	19
2 Retained earnings	442,409	26
3 Disclosed reserves	112,804	22
5 Minority interests arising from CET1 capital instruments issued by consolidated bank subsidiaries and held by third parties (amount allowed in CET1 capital of the consolidation group)	28,330	31
6 CET1 capital before regulatory deductions	762,270	
CET1 capital: regulatory deductions		
7 Valuation adjustments	2,291	25+30
8 Goodwill (net of associated deferred tax liabilities)	8,149	4+6+9-16
9 Other intangible assets (net of associated deferred tax liabilities)	25,800	7+10-17
10 Deferred tax assets (net of associated deferred tax liabilities)	3,754	8
11 Cash flow hedge reserve	2,018	24
14 Gains and losses due to changes in own credit risk on fair valued liabilities	(2,264)	-(12+13+15)
15 Defined benefit pension fund net assets (net of associated deferred tax liabilities)	50	11-18
19 Significant LAC investments in CET1 capital instruments issued by financial sector entities that are outside the scope of regulatory consolidation (amount above 10% threshold)	127,173	5
26 National specific regulatory adjustments applied to CET1 capital	86,695	
26a Cumulative fair value gains arising from the revaluation of land and buildings (own-use and investment properties)	67,650	23+29
26b Regulatory reserve for general banking risks	19,045	27
28 Total regulatory deductions to CET1 capital	253,666	
29 CET1 capital	508,604	
AT1 capital: instruments		
30 Qualifying AT1 capital instruments plus any related share premium	52,465	21
31 – of which: classified as equity under applicable accounting standards	52,465	21
34 AT1 capital instruments issued by consolidated bank subsidiaries and held by third parties (amount allowed in AT1 capital of the consolidated group)	1,385	32
36 AT1 capital before regulatory deductions	53,850	
AT1 capital: regulatory deductions	–	
43 Total regulatory deductions to AT1 capital	–	
44 AT1 capital	53,850	
45 Tier 1 capital ('T1' = CET1 + AT1)	562,454	
Tier 2 capital: instruments and provisions		
46 Qualifying Tier 2 capital instruments plus any related share premium	26,060	14
48 Tier 2 capital instruments issued by consolidated bank subsidiaries and held by third parties (amount allowed in Tier 2 capital of the consolidation group)	974	33
50 Collective provisions and regulatory reserve for general banking risks eligible for inclusion in Tier 2 capital	14,260	28-2
51 Tier 2 capital before regulatory deductions	41,294	
Tier 2 capital: regulatory deductions		
55 Significant LAC investments in Tier 2 capital instruments issued by financial sector entities that are outside the scope of regulatory consolidation (net of eligible short positions)	3,144	1+3
56 National specific regulatory adjustments applied to Tier 2 capital	(31,097)	
56a Add back of cumulative fair value gains arising from the revaluation of land and buildings (own-use and investment properties) eligible for inclusion in Tier 2 capital	(31,097)	(20+23+29)x45%
57 Total regulatory adjustments to Tier 2 capital	(27,953)	
58 Tier 2 capital ('T2')	69,247	
59 Total regulatory capital ('TC' = T1 + T2)	631,701	
60 Total RWA	3,212,387	

Table 6: CC1 – Composition of regulatory capital (continued)

		a	b
		At 31 Dec 2023	
		Component of regulatory capital	Cross-referenced to Table 3
		HK\$m	Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation
Capital ratios (as a percentage of RWA)			
61	CET1 capital ratio	15.8%	
62	Tier 1 capital ratio	17.5%	
63	Total capital ratio	19.7%	
64	Institution-specific buffer requirement (capital conservation buffer plus countercyclical capital buffer plus higher loss absorbency requirements)	5.56%	
65	– of which: capital conservation buffer requirement	2.50%	
66	– of which: bank specific countercyclical capital buffer requirement	0.56%	
67	– of which: higher loss absorbency requirement	2.50%	
68	CET1 (as a percentage of RWA) available after meeting minimum capital requirements	11.3%	
Amounts below the thresholds for deduction (before risk weighting)			
72	Insignificant LAC investments in CET1, AT1 and Tier 2 capital instruments issued by, and non-capital LAC liabilities of, financial sector entities that are outside the scope of regulatory consolidation	26,098	
73	Significant LAC investments in CET1 capital instruments issued by financial sector entities that are outside the scope of regulatory consolidation	63,578	
Applicable caps on the inclusion of provisions in Tier 2 capital			
76	Provisions eligible for inclusion in Tier 2 in respect of exposures subject to the basic indicator ('BSC') approach, or the standardise (credit risk) ('STC') approach and SEC-ERBA, SEC-SA and securitisation fall-back approach ('SEC-FBA') (prior to application of cap)	2,979	
77	Cap on inclusion of provisions in Tier 2 under the BSC approach, or the STC approach, and SEC-ERBA, SEC-SA and SEC-FBA	3,148	
78	Provisions eligible for inclusion in Tier 2 in respect of exposures subject to the IRB approach and SEC-IRBA (prior to application of cap)	11,281	
79	Cap for inclusion of provisions in Tier 2 under the IRB approach and SEC-IRBA	14,501	

Total regulatory capital increased by HK\$12.6bn in the second half of 2023, mainly due to:

- a decrease of HK\$17.6bn in threshold deduction for significant investments in financial sector entities mainly driven by an impairment of interest in associate of HK\$24.0bn;
 - an increase of HK\$7.1bn in fair value through other comprehensive income reserve;
 - an increase of HK\$6.4bn from favourable foreign currency translation impacts; and
 - an increase of HK\$2.7bn from repayment of preference shares and a subordinated loan that were subject to Tier 2 capital deduction;
- partly offset by
- a decrease of HK\$22.8bn from regulatory profits, net of dividends, mainly driven by an impairment of interest in associate of HK\$24.0bn.

Table 6: CC1 – Composition of regulatory capital (continued)

Notes to the template:

		At 31 Dec 2023	
		Hong Kong basis	Basel III basis
		HK\$m	HK\$m
10	Deferred tax assets (net of associated deferred tax liabilities)	3,754	210

Explanation:

As set out in paragraphs 69 and 87 of the Basel III text issued by the Basel Committee (December 2010), Deferred Tax Assets ('DTAs') of the bank to be realised are to be deducted, whereas DTAs which relate to temporary differences may be given limited recognition in CET1 capital (and hence be excluded from deduction from CET1 capital up to the specified threshold). In Hong Kong, an AI is required to deduct all DTAs in full, irrespective of their origin, from CET1 capital. Therefore, the amount to be deducted as reported in row 10 may be greater than that required under Basel III.

The amount reported under the column 'Basel III basis' in this box represents the amount reported in row 10 (i.e. the amount reported under the 'Hong Kong basis') adjusted by reducing the amount of DTAs to be deducted which relate to temporary differences to the extent not in excess of the 10% threshold set for DTAs arising from temporary differences and the aggregate 15% threshold set for Mortgage Servicing Rights ('MSRs'), DTAs arising from temporary differences and significant investments in CET1 capital instruments issued by financial sector entities (excluding those that are loans, facilities or other credit exposures to connected companies) under Basel III.

		At 31 Dec 2023	
		Hong Kong basis	Basel III basis
		HK\$m	HK\$m
19	Significant LAC investments in CET1 capital instruments issued by financial sector entities that are outside the scope of regulatory consolidation (amount above 10% threshold)	127,173	127,173

Explanation:

For the purpose of determining the total amount of significant LAC investments in CET1 capital instruments issued by financial sector entities, an AI is required to aggregate any amount of loans, facilities or other credit exposures provided by it to any of its connected companies, where the connected company is a financial sector entity, as if such loans, facilities or other credit exposures were direct holdings, indirect holdings or synthetic holdings of the AI in the capital instruments of the financial sector entity, except where the AI demonstrates to the satisfaction of the HKMA that any such loan was made, any such facility was granted, or any such other credit exposure was incurred, in the ordinary course of the AI's business.

Therefore, the amount to be deducted as reported in row 19 may be greater than that required under Basel III. The amount reported under the column 'Basel III basis' in this box represents the amount reported in row 19 (i.e. the amount reported under the 'Hong Kong basis') adjusted by excluding the aggregate amount of loans, facilities or other credit exposures to the AI's connected companies which were subject to deduction under the Hong Kong approach.

Remarks:

The amount of the 10% threshold is calculated based on the amount of CET1 capital determined in accordance with the deduction methods set out in BCR Schedule 4F. The 15% threshold is referring to paragraph 88 of the Basel III text issued by the Basel Committee (December 2010) and has no effect to the Hong Kong regime.

Table 7: CCA – Capital instruments

		At 31 Dec 2023	
		Total amount	Amount recognised in regulatory capital
			HK\$m
Common Equity Tier 1 ('CET1') capital instruments			
Ordinary shares		HK\$180,181m	178,727
Additional Tier 1 ('AT1') capital instruments			
Fixed rate perpetual subordinated loans, callable from 2024		US\$1,100m	8,617
Fixed rate perpetual subordinated loans, callable from 2024		US\$900m	7,044
Fixed rate perpetual subordinated loans, callable from 2025		US\$1,000m	7,834
Fixed rate perpetual subordinated loans, callable from 2025		US\$700m	5,467
Fixed rate perpetual subordinated loans, callable from 2025		US\$500m	3,905
Fixed rate perpetual subordinated loans, callable from 2026		US\$900m	7,063
Fixed rate perpetual subordinated loans, callable from 2027		US\$600m	4,685
Fixed rate perpetual subordinated loans, callable from 2028		US\$1,000m	7,850
Tier 2 ('T2') capital instruments			
Subordinated loan due 2030, callable from 2025		US\$1,000m	7,659
Subordinated loan due 2030, callable from 2025		US\$180m	1,384
Subordinated loan due 2031, callable from 2026		US\$600m	4,570
Subordinated loan due 2032, callable from 2027		SG\$900m	5,565
Subordinated loan due 2032, callable from 2027		JPY11,900m	657
Subordinated loan due 2033, callable from 2028		SG\$1,000m	6,225

A description of the main features and the full terms and conditions of the group's capital instruments can be found in the Regulatory Disclosures section of our website, www.hsb.com.hk.

Countercyclical capital buffer ratio

The CCyB is calculated as the weighted average of the applicable CCyB ratios in effect in the jurisdictions in which banks have private sector credit exposures. The group uses country of business as the basis of geographical allocation for the majority of its credit risk and risk country for market risk, which is defined by considering the country of incorporation, location of guarantor, headquarter domicile, distribution of revenue and booking country.

Table 8: CCyB1 – Geographical distribution of credit exposures used in countercyclical capital buffer

		a	c	d	e
		At 31 Dec 2023			
Geographical breakdown by Jurisdiction ('J')		Applicable JCCyB ratio in effect	RWAs used in computation of CCyB ratio	AI-specific CCyB ratio	CCyB amount
		%	HK\$m	%	HK\$m
1	Hong Kong ¹	1.00	1,087,188		
2	Australia	1.00	113,967		
3	Bulgaria	2.00	2		
4	Cyprus	0.50	34		
5	Czech Republic	2.00	4		
6	Denmark	2.50	527		
7	France	0.50	1,444		
8	Germany	0.75	1,594		
9	Iceland	2.00	21		
10	Ireland	1.00	5,190		
11	Lithuania	1.00	4		
12	Luxembourg	0.50	3,427		
13	Netherlands	1.00	6,376		
14	Norway	2.50	43		
15	Romania	1.00	32		
16	Sweden	2.00	334		
17	United Kingdom	2.00	19,409		
Sum²			1,239,596		
Total³			2,240,618	0.56	18,083

1 The jurisdictional countercyclical capital buffer ('JCCyB') of Hong Kong used in the calculation of the CCyB buffer requirement has been 1.0% since 31 March 2020. The JCCyB of other countries used in the calculation of the CCyB requirement ranged from 0% to 2.5% at 31 December 2023.

2 This represents the sum of RWAs for the private sector credit exposures in jurisdictions with a non-zero countercyclical buffer rate.

3 The total RWAs used in the computation of the CCyB ratio in column (c) represents the total RWAs for the private sector credit exposures in all jurisdictions to which the group is exposed, including jurisdictions with no countercyclical buffer rate or with a countercyclical buffer rate set at zero. The CCyB amount in column (e) represents the group's total RWAs in row 4 of Table 1 of this document multiplied by the group specific CCyB ratio in column (d).

Leverage ratio

The following table shows the leverage ratio, Tier 1 capital and total exposure measure as contained in the 'Leverage Ratio' return submitted to the HKMA under the requirements specified in Part 1C of the BCR.

Table 9: LR2 – Leverage ratio

	a	b
	31 Dec 2023 HK\$m	30 Sep 2023 HK\$m
On-balance sheet exposures		
1 On-balance sheet exposures (excluding those arising from derivative contracts and securities financing transactions ('SFTs'), but including collateral)	7,966,649	7,859,262
2 Less: Asset amounts deducted in determining Tier 1 capital	(257,384)	(269,835)
3 Total on-balance sheet exposures (excluding derivative contracts and SFTs)	7,709,265	7,589,427
Exposures arising from derivative contracts		
4 Replacement cost associated with all derivative contracts (where applicable net of eligible cash variation margin and/or with bilateral netting)	98,652	154,247
5 Add-on amounts for potential future exposure ('PFE') associated with all derivative contracts	294,583	293,073
7 Less: Deductions of receivables assets for cash variation margin provided under derivative contracts	(93,372)	(114,835)
8 Less: Exempted central counterparty ('CCP') leg of client-cleared trade exposures	(31,362)	(46,984)
9 Adjusted effective notional amount of written credit-related derivative contracts	195,211	216,461
10 Less: Adjusted effective notional offsets and add-on deductions for written credit-related derivative contracts	(181,591)	(201,369)
11 Total exposures arising from derivative contracts	282,121	300,593
Exposures arising from SFTs		
12 Gross SFT assets (with no recognition of netting), after adjusting for sale accounting transactions	1,008,326	1,001,647
13 Less: Netted amounts of cash payables and cash receivables of gross SFT assets	(48,798)	(14,848)
14 CCR exposure for SFT assets	40,558	38,316
16 Total exposures arising from SFTs	1,000,086	1,025,115
Other off-balance sheet exposures		
17 Off-balance sheet exposure at gross notional amount	3,838,766	3,785,577
18 Less: Adjustments for conversion to credit equivalent amounts	(3,116,686)	(3,076,322)
19 Off-balance sheet items	722,080	709,255
Capital and total exposures		
20 Tier 1 capital	562,454	545,780
20a Total exposures before adjustments for specific and collective provisions	9,713,552	9,624,390
20b Adjustments for specific and collective provisions	(40,592)	(41,816)
21 Total exposures after adjustments for specific and collective provisions	9,672,960	9,582,574
Leverage ratio		
22 Leverage ratio (%) ¹	5.8	5.7

1 Leverage ratio is the ratio of Tier 1 capital to the total exposures after adjustments for specific and collective provisions.

The LR was 5.8% at 31 December 2023, which increased from 5.7% at 30 September 2023 due to higher Tier 1 capital, partly offset by an increase in exposures. Total exposures increased by HK\$90.4bn in the fourth quarter of 2023, mainly due to increases in trading assets and financial investments by HK\$164.7bn, partly offset by a decrease of HK\$73.7bn from settlement accounts, SFTs, and derivative exposures.

Table 10: LR1 – Summary comparison of accounting assets against leverage ratio exposure measure

	a
	Value under the LR framework
Item	31 Dec 2023 HK\$m
1 Total consolidated assets as per published financial statements	10,500,393
2 Adjustment for investments in banking, financial, insurance or commercial entities that are consolidated for accounting purposes but outside the scope of regulatory consolidation	(813,071)
2a Adjustment for securitised exposures that meet the operational requirements for the recognition of risk transference	(8,419)
4 Adjustments for derivative contracts	(127,413)
5 Adjustment for SFTs (i.e. repos and similar secured lending)	40,558
6 Adjustment for off-balance sheet ('OBS') items (i.e. conversion to credit equivalent amounts of OBS exposures)	722,080
6a Adjustments for prudent valuation adjustments ('PVA') and specific and collective provisions that are allowed to be excluded from exposure measure	(3,685)
7 Other adjustments	(637,483)
8 Leverage ratio exposure measure	9,672,960

Other adjustments mainly represent the Hong Kong Government certificates of indebtedness and assets deducted in determining Tier 1 capital. These are excluded in deriving the LR exposure measure in accordance with the HKMA requirements specified in Part 1C of the BCR.

Overview of RWAs and the minimum capital requirements

Table 11: OV1 – Overview of RWAs

	a	b	c
	RWAs ¹	RWAs ¹	Minimum ² capital requirements
	31 Dec 2023 HK\$m	30 Sep 2023 HK\$m	31 Dec 2023 HK\$m
1 Credit risk for non-securitisation exposures	2,249,844	2,205,944	189,679
2 – of which: STC approach	230,938	227,056	18,475
4 – of which: supervisory slotting criteria approach	139,441	135,065	11,825
5 – of which: advanced IRB approach	1,879,465	1,843,823	159,379
6 Counterparty default risk and default fund contributions	91,346	100,320	7,675
7 – of which: SA-CCR approach	43,526	45,646	3,659
8 – of which: IMM (CCR) approach	25,705	31,211	2,166
9 – of which: Others	22,115	23,463	1,850
10 Credit valuation adjustment ('CVA') Risk	40,927	42,160	3,274
11 Equity positions in banking book under the simple risk weight method and the internal models method	24,020	27,687	2,037
12 Collective investment scheme ('CIS') exposures – look-through approach ('LTA')	1,567	1,378	133
13 CIS exposures – mandate-based approach ('MBA')	—	309	—
15 Settlement risk	14	36	1
16 Securitisation exposures in banking book	7,648	6,624	611
17 – of which: SEC-IRBA	27	31	2
18 – of which: SEC-ERBA including internal assessment approach ('IAA')	1,455	1,389	116
19 – of which: SEC-SA	6,166	5,204	493
20 Market risk	158,673	149,376	12,697
21 – of which: STM approach	1,423	1,565	117
22 – of which: IMM approach	157,250	147,811	12,580
24 Operational risk	380,575	372,058	30,446
24a Sovereign concentration risk	—	3,258	—
25 Amounts below the thresholds for deduction (subject to 250% risk weight ('RW'))	158,944	158,895	13,478
26a Deduction to RWAs	38,007	37,769	3,041
26c – of which: portion of cumulative fair value gains arising from the revaluation of land and buildings which is not included in Tier 2 Capital	38,007	37,769	3,041
27 Total	3,075,551	3,030,276	256,990

1 RWAs in this table are presented before the application of the 1.06 scaling factor, where applicable.

2 Minimum capital requirements represent the Pillar 1 capital charge at 8% of the RWAs after application of the 1.06 scaling factor, where applicable.

Credit risk for non-securitisation exposures

RWAs increased by HK\$43.9bn in the fourth quarter of 2023. Excluding foreign currency translation impacts of HK\$21.7bn, the increase of HK\$22.2bn was mostly driven by deterioration in asset quality of HK\$30.4bn, principally due to customer risk rating migrations and portfolio mix changes.

RWA flow statements

RWA flow statement for credit risk

Table 12: CR8 – RWA flow statement of credit risk exposures under IRB approach

	a
	HK\$m
1 RWAs as at 30 Sep 2023	1,978,888
2 Asset size	(7,920)
3 Asset quality	30,395
5 Methodology and policy	(1,330)
7 Foreign exchange movements	18,873
9 RWAs as at 31 Dec 2023	2,018,906

1 Credit risk in this table represents the credit risk for non-securitisation exposures excluding CCR.

RWAs under the IRB approach increased by HK\$40.0bn in the fourth quarter of 2023. Excluding foreign currency translation impacts of HK\$18.9bn, the increase of HK\$21.1bn was mostly driven by deterioration in asset quality of HK\$30.4bn, principally due to customer risk rating migrations and portfolio mix changes.

RWA flow statement for counterparty credit risk

Table 13: CCR7 – RWA flow statement of default risk exposures under IMM(CCR) approach

	a
	HK\$m
1 RWAs as at 30 Sep 2023	31,211
2 Asset size	(6,436)
3 Credit quality of counterparties	1,007
7 Foreign exchange movements	(77)
9 RWAs as at 31 Dec 2023	25,705

RWA flow statement for market risk

Table 14: MR2 – RWA flow statement of market risk exposures under IMM approach

	a	b	c	e	f
	Value at Risk (‘VaR’) HK\$m	Stressed VaR HK\$m	Incremental Risk Charge (‘IRC’) HK\$m	Other HK\$m	Total RWAs HK\$m
1 RWAs as at 30 Sep 2023	30,393	50,986	32,837	33,595	147,811
2 Movement in risk levels	(6,467)	10,751	1,679	3,840	9,803
6 Foreign exchange movements	(75)	(125)	(81)	(83)	(364)
8 RWAs as at 31 Dec 2023	23,851	61,612	34,435	37,352	157,250

Loss-absorbing Capacity

Table 15: KM2(A) – Key metrics – LAC requirements for material subsidiaries

	a	b	c	d	e
	At				
	31 Dec 2023	30 Sep 2023	30 Jun 2023	31 Mar 2023	31 Dec 2022
At LAC consolidation group level					
1 Internal loss-absorbing capacity available (HK\$m)	864,931	847,264	864,323	904,573	841,962
2 Risk-weighted amount under the LAC Rules (HK\$m)	3,212,387	3,165,255	3,166,612	3,173,613	3,222,168
3 Internal LAC risk-weighted ratio (%)	26.9	26.8	27.3	28.5	26.1
4 Exposure measure under the LAC Rules (HK\$m)	9,669,807	9,576,735	9,493,579	9,469,537	9,294,951
5 Internal LAC leverage ratio (%)	8.9	8.8	9.1	9.6	9.1
6a Does the subordination exemption in the antepenultimate paragraph of Section 11 of the Financial Stability Board ('FSB') Total Loss-absorbing Capacity ('TLAC') Term Sheet apply? ¹	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
6b Does the subordination exemption in the penultimate paragraph of Section 11 of the FSB TLAC Term Sheet apply? ¹	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
6c If the capped subordination exemption applies, the amount of funding issued that ranks <i>pari passu</i> with excluded liabilities and that is recognised as external loss-absorbing capacity, divided by funding issued that ranks <i>pari passu</i> with excluded liabilities and that would be recognised as external loss-absorbing capacity if no cap was applied (%) ¹	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

1 The subordination exemption in the antepenultimate and penultimate paragraphs of Section 11 of the FSB TLAC Term Sheet do not apply in Hong Kong under the LAC Rules.

Internal LAC available increased by HK\$17.7bn in the fourth quarter of 2023, arising from an increase of HK\$21.1bn in regulatory capital elements and a decrease of HK\$3.4bn in non-regulatory capital elements.

The increase in regulatory capital was mainly due to:

- a decrease of HK\$16.4bn in threshold deduction for significant investments in financial sector entities mainly driven by an impairment of interest in associate of HK\$24.0bn;
 - an increase of HK\$10.7bn from favourable foreign currency translation impacts;
 - an increase of HK\$4.7bn in fair value through other comprehensive income reserve;
 - an increase of HK\$2.7bn from repayment of preference shares and a subordinated loan that were subject to Tier 2 capital deduction;
- partly offset by

- a decrease of HK\$16.4bn from regulatory profits, net of dividends, mainly driven by an impairment of interest in associate of HK\$24.0bn.

The decrease in non-regulatory capital elements was mainly driven by the redemption of LAC capital instruments of HK\$15.6bn; partly offset by an increase in carrying value of LAC instruments of HK\$12.1bn.

Table 16: TLAC1(A) – TLAC composition

		a
		At 31 Dec 2023
Regulatory capital elements of internal loss-absorbing capacity and adjustments (HK\$m)		
1	Common Equity Tier 1 ('CET1') capital	508,604
2	Additional tier 1 ('AT1') capital before LAC adjustments	53,850
5	AT1 capital eligible under the LAC Rules	53,850
6	Tier 2 ('T2') capital before LAC adjustments	69,247
10	T2 capital eligible under the LAC Rules	69,247
11	Internal loss-absorbing capacity arising from regulatory capital	631,701
Non-regulatory capital elements of internal loss-absorbing capacity (HK\$m)		
12	Internal non-capital LAC debt instruments issued directly or indirectly to, and held indirectly or indirectly by, the resolution entity or non-HK resolution entity in the material subsidiary's resolution group	233,239
17	Internal loss-absorbing capacity arising from non-capital LAC debt instruments before adjustments	233,239
Non-regulatory capital elements of internal loss-absorbing capacity: adjustments (HK\$m)		
18	Internal loss-absorbing capacity before deductions	864,940
19	Deductions of exposures between the material subsidiary's LAC consolidation group and group companies outside that group that correspond to non-capital items eligible for internal loss-absorbing capacity	9
22	Internal loss-absorbing capacity after deductions	864,931
Risk-weighted amount and exposure measure under the LAC Rules for internal loss-absorbing capacity purposes (HK\$m)		
23	Risk-weighted amount under the LAC Rules	3,212,387
24	Exposure measure under the LAC Rules	9,669,807
Internal LAC ratios and buffers (%)		
25	Internal LAC risk-weighted ratio	26.9%
26	Internal LAC leverage ratio	8.9%
27	CET1 capital (as a percentage of RWA under the BCR) available after meeting the LAC consolidation group's minimum capital and LAC requirements	8.9%
28	Institution-specific buffer requirement (capital conservation buffer plus countercyclical capital buffer requirements plus higher loss absorbency requirement, expressed as a percentage of RWA under the BCR)	5.56%
29	– of which: capital conservation buffer requirement	2.50%
30	– of which: institution-specific countercyclical capital buffer requirement	0.56%
31	– of which: higher loss absorbency requirement	2.50%

Table 17: TLAC2 – The Hongkong and Shanghai Banking Corporation Limited creditor ranking

		Creditor ranking (HK\$m)			
		1	2	3	4
		(most junior)			(most senior)
		Sum of 1 to 4			
1	Is the resolution entity or a non-HK resolution entity the creditor/investor? (yes or no)	Yes	Yes	Yes	Yes
2	Description of creditor ranking	Ordinary shares ¹	AT1 instruments	T2 instruments	LAC loans
3	Total capital and liabilities net of credit risk mitigation ('CRM')	180,181	52,343	25,817	239,347
5	Total capital and liabilities less excluded liabilities	180,181	52,343	25,817	239,347
6	– of row 5 that are eligible as internal loss-absorbing capacity	180,181	52,343	25,817	239,347
7	– of row 6 with 1 year ≤ residual maturity < 2 years	—	—	—	9,765
8	– of row 6 with 2 years ≤ residual maturity < 5 years	—	—	—	120,457
9	– of row 6 with 5 years ≤ residual maturity < 10 years	—	—	25,817	51,196
10	– of row 6 with residual maturity ≥ 10 years, but excluding perpetual securities	—	—	—	57,929
11	– of row 6 that are perpetual securities	180,181	52,343	—	—

¹ Excludes the value of share premium and reserves attributable to ordinary shareholders.

Credit risk

Overview and responsibilities

Credit risk represents our largest regulatory capital requirement. The principal objectives of our credit risk management sub-function are:

- to maintain across HSBC a strong culture of responsible lending and a robust credit risk policy and control framework;
- to both partner and challenge our global businesses in defining, implementing and continually re-evaluating our credit risk appetite under actual and stress scenario conditions; and
- to ensure there is independent, expert scrutiny of credit risks, their costs and their mitigation.

The credit risk sub-functions within Wholesale Credit and Market Risk and Wealth and Personal Banking ('WPB') Risk are the constituent parts of the group's Risk functions that support the group's CRO in overseeing credit risks. Their major duties comprise undertaking independent review of large and high-risk credit proposals, overseeing large exposure policy and reporting on our wholesale and retail credit risk management disciplines. They also own our credit policy and credit system programmes, oversee portfolio management and report on risk matters to senior executive management and to regulators.

These credit risk sub-functions work closely with other parts of the group's Risk function; for example, with Operational and Resilience Risk on the internal control framework and with Risk Strategy on the risk appetite process. In addition, they work jointly with Finance on stress testing.

The credit responsibilities of the group's Risk function are described on page 35 of the group's Annual Report and Accounts 2023.

Within the group, the credit risk sub-functions comprise a network of credit risk management offices reporting within their respective local wholesale and retail credit risk sub-functions, which in turn report to their relevant risk functions at Group level. They fulfil an essential role as independent risk control units distinct from global business line management in providing objective scrutiny of risk rating assessments, credit proposals for approval and other risk matters.

Our credit risk procedures operate through a hierarchy of personal credit limit approval authorities. Operating company chief executives, acting under authorities delegated by their boards and Group standards, are accountable for credit risk and other risks in their business. In turn, chief executives delegate authority to operating company CROs and management teams on an individual basis. Each operating company is responsible for the quality and performance of its credit portfolios in accordance with Group standards. Above these thresholds of delegated personal credit limited approval authorities, approval must be sought from the group's and, as appropriate, the global credit risk sub-function.

Credit risk management

Our exposures to credit risk arise from a wide range of customer types and products, and the risk rating systems in place to measure and monitor these risks are correspondingly diverse. Senior management receives reports on our credit risk exposures, including expected credit losses, total exposures and RWAs, as well as updates on specific portfolios that are considered to have heightened credit risk.

Credit risk exposures are generally measured and managed in portfolios of either customer types or product categories. Risk rating systems are designed to assess the probability of default ('PD') and loss severity associated with, distinct customers who are typically managed as individual relationships or, in the case of retail business exposures, on a product portfolio basis.

Risk rating systems for retail exposures are generally quantitative in nature, applying techniques such as behavioural analysis across product portfolios comprising large numbers of homogeneous transactions.

Rating systems for individually managed relationships typically use customer financial statements and market data analysis, but also qualitative elements and a final judgemental overlay to reflect any relevant risk drivers not captured in the rating system.

See 'Credit risk under internal ratings-based approach' on page 26.

A fundamental principle of our policy and approach is that analytical risk rating systems and scorecards are all valuable management tools that are fully embedded within the credit risk management framework, ensuring compliance with the regulatory use test requirements.

For wholesale lending, the credit process requires for at least an annual review of the internal rating. For retail lending revolving facilities, an annual review is undertaken. Review may be more frequent as required by circumstances such as the emergence of adverse risk factors.

We seek to continually improve the quality of our risk management. IT systems that process credit risk data continue to be enhanced in order to deliver both comprehensive management information in support of business strategy and solutions to evolving regulatory reporting requirements.

Like other facets of risk management, analytical risk rating systems are not static. They are subject to review and modification in light of the changing economic environment, regulatory requirements and any deficiencies identified through internal and external regulatory review. Structured processes and metrics are in place to capture relevant data and feed this into continuous model improvement. See 'Model performance' on page 35 for more information.

Post Model Adjustments ('PMAs') are held to ensure that capital requirements are not under-stated due to non-compliance of risk rating systems with regulatory requirements or model limitations. PMAs of the active portfolios will be held until redeveloped models are approved by the HKMA or model limitations have been remediated. Consent from the HKMA must be obtained before any PMA is implemented for HKMA reporting.

Credit risk models governance

All new or materially changed IRB capital models require pre-approval from the HKMA, as set out in more detail on page 26. Throughout HSBC, such models fall directly under the remit of the respective MOFs, operating in line with HSBC's model risk policy, and under the oversight of the Group Model Risk Committee.

Global Risk Policy and Standards govern the development, validation, independent review, approval, implementation and performance monitoring of credit risk rating models. Independent reviews of credit risk models are performed by the Independent Model Review team within the Model Risk Management function which is separate from the Risk Analytics functions that are responsible for the development of models.

Compliance with Group standards is subject to examination by risk oversight and review from within the Risk function itself, and by Internal Audit.

Dilution risk

Dilution risk is the risk that an amount receivable is reduced through cash or non-cash credit to the obligor, and arises mainly from factoring and invoice discounting transactions.

Where there is recourse to the seller, we treat these transactions as loans secured by the collateral of the debts purchased and do not report dilution risk for them. For our non-recourse portfolio we obtain an indemnity from the seller that indemnifies us against this risk. Moreover, factoring transactions involve lending at a discount to the face-value of the receivables, which provides protection against dilution risk.

Credit quality of assets

Credit quality of exposures

Tables 18 to 22 present information on the credit quality of exposures by exposure category, geographical location, industry and residual maturity, and changes in defaulted loans and debt securities on a regulatory consolidation basis. For further details on the credit quality of IRB and STC exposures, refer to Tables 34 to 36 and 38 respectively.

The loans covered in these tables are generally referred to as any on-balance sheet exposures included as credit risk for non-securitisation exposures, covering exposures to customers, banks, sovereigns and others. Cash items and non-financial assets are excluded.

Table 18: CR1 – Credit quality of exposures

	a	b	c	d	e	f	g
	Gross carrying amounts of			of which: Expected Credit Loss ('ECL') accounting provisions ¹ for credit losses on STC approach exposures		of which: ECL accounting provisions for credit losses on IRB approach exposures	
	Defaulted exposures	Non-defaulted exposures	Allowances/ impairments	Allocated in regulatory category of specific provisions	Allocated in regulatory category of collective provisions		Net values (a+b-c)
	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m
1 Loans	63,597	4,418,141	39,118	1,718	1,050	36,350	4,442,620
2 Debt securities	95	1,970,680	140	—	12	128	1,970,635
3 Off-balance sheet exposures	2,778	3,876,748	1,296	4	84	1,208	3,878,230
4 Total at 31 Dec 2023	66,470	10,265,569	40,554	1,722	1,146	37,686	10,291,485

¹ The categorisation of ECL accounting provisions into the regulatory categories of specific and collective provisions follows the treatment specified in the completion instructions of the HKMA Capital Adequacy Ratio – MA(BS)3 return. According to the completion instructions, the ECL accounting provisions classified into Stage 1 and Stage 2 are treated as collective provisions, while those classified under Stage 3 are treated as specific provisions. Provisions made for purchased or originated credit-impaired financial assets, under which any changes in lifetime ECL will be recognised in the profit or loss account as an impairment gain or loss, are treated as specific provisions.

Table 19: CR2 – Changes in defaulted loans and debt securities

	a
	HK\$m
1 Defaulted loans and debt securities at 30 Jun 2023	67,779
2 Loans and debt securities that have defaulted since 30 Jun 2023	12,975
3 Returned to non-defaulted status	(932)
4 Amounts written off	(10,064)
5 Other changes ¹	(6,066)
6 Defaulted loans and debt securities at 31 Dec 2023	63,692

¹ Other changes include repayment and FX movements.

Table 20: CRB1 – Exposures by geographical location

	Gross carrying amounts at 31 Dec 2023
	HK\$m
Hong Kong ¹	5,827,641
Mainland China ¹	1,162,141
Others ²	3,342,257
Total	10,332,039

¹ The geographical locations shown in this table above represent the location of the principal operations of the subsidiary and by the location of the branch responsible for advancing the funds.

² Any segment which constitutes less than 10% of total gross carrying amounts is disclosed on an aggregated basis under the category 'others'.

Table 21: CRB2 – Exposures by industry

	Gross carrying amounts at 31 Dec 2023
	HK\$m
Financial concerns	1,874,375
Individuals	2,709,484
Others ¹	5,748,180
Total	10,332,039

¹ Any segment which constitutes less than 10% of total gross carrying amounts is disclosed on an aggregated basis under the category 'others'.

Table 22: CRB3 – Exposures by residual maturity

	Gross carrying amounts at
	31 Dec 2023 HK\$m
Less than 1 year	5,628,922
Between 1 and 5 years	2,090,734
More than 5 years	2,559,921
Undated	52,462
Total	10,332,039

Credit-impaired exposures, past-due unimpaired exposures and forborne exposures

Tables 23 to 26 analyse credit-impaired exposures, impairment allowances, past-due unimpaired exposures and forborne exposures on a regulatory consolidation basis. Our approach for determining impairment allowances, definitions for accounting purposes of 'credit impaired', 'forborne' and the definition of default for regulatory capital are explained in Note 1.2(ii) on the group's *Annual Report and Accounts 2023*. The analysis of gross impaired loans and advances, and impairment allowances by major industry sectors based on categories and definitions used by the HSBC Group, is as follows:

Table 23: CRB4 – Credit-impaired exposures and impairment allowances and write-offs by industry

	Total gross loans and advances to customers ¹	Gross credit-impaired loans and advances	Specific provisions ²	Collective provisions ²	Net new impairment allowances	Advances written-off in a year
	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m
At 31 Dec 2023						
Residential mortgages	1,224,324	4,422	(208)	(120)	(129)	15
Real estate and construction	537,393	32,476	(15,604)	(3,998)	9,704	7,079
Wholesale and retail trade	350,492	8,878	(5,398)	(611)	503	1,945
Manufacturing	359,852	4,144	(2,610)	(648)	383	1,384
Others ³	1,120,093	13,049	(3,776)	(5,876)	2,679	3,434
Total	3,592,154	62,969	(27,596)	(11,253)	13,140	13,857

The geographical information shown below has been classified by the location of the principal operations of the subsidiary and by the location of the branch responsible for advancing the funds.

Table 24: CRB5 – Credit-impaired exposures and impairment allowances and write-offs by geographical location

	Total gross loans and advances to customers ¹	Gross credit-impaired loans and advances	Overdue loans and advances	Specific provisions ²	Collective provisions ²	Net new impairment allowances	Advances written-off in a year
	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m
At 31 Dec 2023							
Hong Kong	2,209,529	46,038	12,393	(20,233)	(7,433)	11,701	9,544
Mainland China	349,085	3,078	1,016	(1,436)	(1,789)	907	1,094
Others ³	1,033,540	13,853	13,247	(5,927)	(2,031)	532	3,219
Total	3,592,154	62,969	26,656	(27,596)	(11,253)	13,140	13,857

1 The amounts shown in column 'Total gross loans and advances to customers' represent loans and advances to customers gross of provisions in the financial statements under regulatory consolidation scope.

2 The classification of specific and collective provisions follows the treatment specified in the completion instructions of the HKMA Capital Adequacy Ratio – MA(BS)3 return. Details can be found in footnote 1 under Table 18 of this document.

3 Any segment which constitutes less than 10% of total gross loans and advances to customers is disclosed on an aggregated basis under the category 'others'.

Past-due unimpaired exposures are those loans where customers have failed to make payments in accordance with the contractual terms of their facilities. Exposures past due for more than 90 days are considered credit impaired.

Table 25: CRB6 – Ageing analysis of accounting past-due unimpaired exposures

	Up to 29 days	30-59 days	60-89 days	Total
	HK\$m	HK\$m	HK\$m	HK\$m
At 31 Dec 2023				
Loans and advances to customers held at amortised cost	22,787	2,414	1,455	26,656
– personal	15,137	2,242	1,216	18,595
– corporate and commercial	6,500	172	237	6,909
– non-bank financial institutions	1,150	–	2	1,152
Total	22,787	2,414	1,455	26,656

Table 26: CRB7 – Breakdown of forborne loans between credit impaired and not credit impaired

	31 Dec 2023 HK\$m
Not credit impaired	12,306
Credit impaired	17,570
Total	29,876

Loans and advances to customers

Tables 27 to 29 analyse loans and advances to customers by geographical locations, by industries and by which are overdue and rescheduled on an accounting consolidation basis. The accounting consolidation basis is different from the regulatory consolidation basis as explained in the 'Basis of consolidation' section of this document.

The following analysis of loans and advances to customers by geographical areas is in accordance with the location of counterparties, after recognised risk transfer.

Table 27: Loans and advances to customers by geographical locations

	Hong Kong HK\$m	Rest of Asia-Pacific HK\$m	Other HK\$m	Total HK\$m
At 31 Dec 2023				
Gross loans and advances to customers ¹	1,975,628	1,428,685	191,616	3,595,929

¹ The balances include gross credit impaired loans and advances to customers of HK\$42,158m in Hong Kong, HK\$20,517m in Rest of Asia-Pacific and HK\$294m in Other.

Tables 28 and 29 analyse the group's loans and advances to customers based on the categories used by the HKMA in the 'Quarterly Analysis of Loans and Advances and Provisions – MA(BS)2A' return.

Table 28: Loans and advances to customers by industry

	Gross advances at 31 Dec 2023 HK\$m	Collateral and other security at 31 Dec 2023 HK\$m
Industrial, commercial and financial	816,927	463,998
– property development	115,504	50,303
– property investment	253,218	226,668
– financial concerns	87,161	44,835
– stockbrokers	3,344	1,536
– wholesale and retail trade	75,437	34,218
– manufacturing	50,672	10,522
– transport and transport equipment	45,791	30,788
– recreational activities	1,029	678
– information technology	41,398	899
– others	143,373	63,551
Individuals	1,009,730	890,426
– advances for the purchase of flats under the Hong Kong Government's Home Ownership Scheme, Private Sector Participation Scheme and Tenants Purchase Scheme	76,407	75,718
– advances for the purchase of other residential properties	740,218	737,629
– credit card advances	74,423	—
– others	118,682	77,079
Gross loans and advances to customers for use in Hong Kong	1,826,657	1,354,424
Trade Finance	129,073	22,850
Gross loans and advances to customers for use outside Hong Kong	1,640,199	651,985
Gross loans and advances to customers	3,595,929	2,029,259

The categories of advances, and the relevant definitions, used by the HKMA differ from those used for internal purposes by the group as disclosed in Note 10 on the group's *Annual Report and Accounts 2023*.

Collateral includes any tangible security that has a determinable fair market value and is readily marketable. This includes (but is not limited to) cash and deposits, stocks and bonds, mortgages over properties and charges over other fixed assets, such as plant and equipment. Where collateral values are greater than gross advances, only the amount of collateral up to the gross advance has been included.

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Rescheduled loans and advances to customers are those loans and advances that have been restructured or renegotiated because of deterioration in the financial position of the borrower, or because of the inability of the borrower to meet the original repayment schedule.

Rescheduled loans and advances to customers are stated net of any loans and advances that have subsequently become overdue for more than three months and which are included in overdue loans and advances to customers.

Table 29: Overdue and rescheduled loans and advances to customers

	Hong Kong		Rest of Asia-Pacific		Total	
	HK\$m	% ¹	HK\$m	% ¹	HK\$m	% ¹
At 31 Dec 2023						
Gross amounts which have been overdue with respect to either principal or interest for:						
– more than three months but not more than six months	8,561	0.4	1,558	0.1	10,119	0.3
– more than six months but not more than one year	8,093	0.4	1,951	0.1	10,044	0.3
– more than one year	14,771	0.7	4,756	0.3	19,527	0.5
Total	31,425	1.5	8,265	0.5	39,690	1.1
Specific provisions made in respect of amounts overdue ²	(12,721)		(5,169)		(17,890)	
Fair value of collateral held in respect of amounts overdue	7,592		4,627		12,219	
Rescheduled loans and advances to customers	3,758	0.2	3,714	0.3	7,472	0.2

¹ Percentages shown are of gross loans and advances to customers.

² The classification of specific provisions follows the treatment specified in the completion instructions of the HKMA Capital Adequacy Ratio – MA(BS)3 return. Details can be found in footnote 1 under Table 18 of this document.

Off-balance sheet exposures other than derivative transactions

The following table gives the nominal contract amounts and RWA of contingent liabilities and commitments. The information is consistent with that in the 'Capital Adequacy Ratio' return submitted to the HKMA by the group. The return is prepared on a regulatory consolidation basis as specified by the HKMA under the requirements of section 3C(1) of the BCR.

For accounting purposes, acceptances and endorsements are recognised on the balance sheet in 'Other assets'. For the purpose of the BCR, acceptances and endorsements are included in the capital adequacy calculation as if they were contingencies.

Table 30: Off-balance sheet exposures other than derivative transactions

	31 Dec 2023 HK\$m
Contract amounts	
Direct credit substitutes	55,796
Transaction-related contingencies	337,941
Trade-related contingencies	121,746
Forward asset purchases	3,382
Commitments that are unconditionally cancellable without prior notice	2,973,632
Commitments which have an original maturity of not more than one year	72,454
Commitments which have an original maturity of more than one year	324,656
Total	3,889,607
Risk-weighted amounts	377,207

Credit risk under internal ratings-based approach

The internal ratings system and its risk components

Model governance

Throughout HSBC, models are governed under the remit of the GMRC and MRC, operating in line with HSBC's model risk policy. The MRC is responsible to authorize MOFs, where required, to operate under its remit and are responsible for model risk management within their areas. All new or materially changed IRB capital models require pre-approval from regulators and such models are under the oversight of Group and Regional Wholesale MOFs ('WMOF') and Retail MOFs ('RMOF').

WMOFs and RMOFs have the responsibilities to review and understand the model portfolio and model risk profile, and to ensure that the portfolio and model approval decisions remain within any applicable risk limits. All senior managers (or delegates) approving credit risk models which fall within the scope of an MOF are required to notify the relevant MOF to ensure oversight responsibility is retained.

Global Model Risk Policy and Standards govern the development, validation, independent review, approval, implementation and performance monitoring of credit risk rating models. Independent reviews of credit risk models are performed by the Independent Model Review team within the Model Risk Management function which is separate from the Risk Analytics functions that are responsible for the development of models.

Compliance with Group standards is subject to examination by risk oversight and review from within the Risk function itself, and by Internal Audit.

Nature of exposures within each IRB class

The group uses the advanced IRB approach for the majority of its business under the approval granted by the HKMA. This includes the following major classes of non-securitisation exposures:

- Corporate exposures, including exposures to global and local large corporates, middle-market corporates and non-bank financial institutions ('NBFIs').
- Sovereign exposures, including exposures to central governments, central monetary institutions, multilateral development banks and relevant international organisations.
- Bank exposures, including exposures to banks and regulated securities firms.
- Retail exposures, including residential mortgages, qualifying revolving retail exposures ('QRRE') and other retail exposures.
- Equity exposures.
- Other exposures, including cash items and other assets.

At 31 December 2023, the portions of exposure at default ('EAD') and RWAs within the group covered by the IRB approach are summarised in the following table. The remaining portions not covered by the IRB approach are under the STC approach.

Table 31: CRE1 – Percentage of total EAD and RWAs covered by IRB approach

Portfolio	Percentage of total EAD under IRB approach	Percentage of total RWAs under IRB approach
Corporate exposures (include SMEs and other corporates and specialised lending ¹)	95%	92%
Sovereign exposures	99%	100%
Bank exposures (including securities firms)	99%	98%
Residential mortgage loans	92%	80%
Other retail exposures	84%	59%
Equity exposures	100%	100%
Other exposures	100%	100%

¹ Specialised lending exposures adopt regulatory slotting approach under the IRB framework.

The above table covers credit risk for non-securitisation exposures excluding CCR. For CCR, the percentage of total RWAs covered by IRB models is 93% for sovereign exposures, 97% for bank exposures and 77% for corporate exposures.

Application of IRB parameters

The group's credit risk rating framework incorporates the PD of a borrower and the loss severity, expressed in terms of EAD and loss given default ('LGD'). These measures are used to calculate both expected loss ('EL') and capital requirements, subject to any floors required by the HKMA. They are also used in conjunction with other inputs to inform rating assessments for the purpose of credit approval and many other risk management decisions. The narrative explanations that follow relate to the advanced IRB approaches, that is, advanced IRB for distinct customers and retail IRB for the portfolio-managed retail business.

Details on the measurement and monitoring of risk rating systems can be found in the 'Credit risk management' section on page 21 of this document.

Wholesale business

PD for wholesale customer segments (central governments and central banks (sovereigns), institutions, corporates) are derived from a customer risk rating ('CRR') scale of 23 grades. Of these, 21 are non-default grades representing varying degrees of strength of financial condition and two are default grades. Each CRR has a PD range associated with it as well as a mid-point PD.

The score generated by a credit risk rating model for the obligor is mapped to the corresponding CRR. The process through which this, or a judgmentally amended CRR, is then recommended to and reviewed by a credit approver takes into account all additional information relevant to the risk rating determination, including external ratings where available. The approved CRR is mapped to a PD value range of which the 'mid-point' is used in the regulatory capital calculation. PD models are developed where the risk profile of corporate borrowers is specific to a country and sector. For illustration purposes, the CRR is also mapped to external ratings of Standard and Poor's Ratings Services ('S&P'), though we also benchmark against other agencies' ratings in an equivalent manner.

LGD and EAD estimation for the wholesale business is subject to a Group framework of basic principles. EAD is estimated to a 12-month forward time horizon and represents the current exposure, plus an estimate for future increases in exposure and the realisation of contingent exposures post-default. LGD is based on the effects of facility and collateral structure on outcomes post-default. This includes factors such as the type of client, the facility seniority, the type and value of collateral, past recovery experience and priority under law. It is expressed as a percentage of EAD.

The group uses the Supervisory Slotting Criteria approach in rating its specialised lending exposures. Under this approach, ratings are determined by considering both the borrower and the transaction risk characteristics.

Retail business

The wide range of application and behavioural information used in the management of retail portfolios has been supplemented with models to derive the measures of PD, EAD and LGD required for the Basel framework. For management information and reporting purposes, retail portfolios are segmented according to location and analytically derived PD bands, in nine composite PD grades, facilitating comparability across the group's retail customer segments, business lines and product types.

PD models are developed using statistical estimation generally based on a minimum of five years of historical data. The modelling approach is typically a hybrid approach, which includes elements of Through-The-Cycle ('TTC') and Point-in-Time ('PiT') approaches.

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EAD models are also generally developed using at least five years of historical observations and typically adopt one of two approaches:

- For closed-end products without the facility for additional drawdowns, EAD is estimated as the outstanding balance of accounts at the time of observation; or

- EAD for products with the facility for additional drawdowns is estimated as the outstanding balance of accounts at the time of observation plus a CCF applied to the undrawn portion of the facility.

LGD estimates have more variation, particularly in respect of the time period that is used to quantify economic downturn assumptions.

Table 32: CRE2 – Wholesale IRB credit risk models

Regulatory asset classes measured	Component	Number of significant models	Model description and methodology	Number of years loss data	Regulatory Floors
Sovereign/Multilateral development banks	PD	1	A shadow rating approach that includes macroeconomic and political factors, constrained with expert judgement.	>10	No
	LGD	1	An unsecured model built on assessment of structural factors that influence the country's long-term economic performance. For senior unsecured LGD, a floor of 45% is applied.	>10	45% ¹
	EAD	1	A cross-classification model that uses both internal data and expert judgement, as well as information on similar exposure types from other asset classes.	>10	EAD must be at least equal to the current utilisation of the balance at account level
Bank/Securities firms	PD	2	Statistical models that combine quantitative analysis on financial information with expert inputs and macroeconomic factors.	>10	0.03%
	LGD	1	A quantitative model that produces both downturn and expected LGD. Several securities types are included in the model to recognise collateral in the LGD calculation. For senior unsecured LGD, a floor of 45% is applied.	>10	45% ²
	EAD	1	A quantitative model that assigns CCF taking into account product types and committed/uncommitted indicator to calculate EAD using current utilisation and available headroom.	>10	EAD must be at least equal to the current utilisation of the balance at account level
Other Corporate/SMEs ³	PD	12	The corporate models use financial information, macroeconomic information and market-driven data, and is complemented by a qualitative assessment. The NBFIs models which are the predominantly statistical models that combine quantitative analysis on financial information with expert inputs. The Global Private Banking & Wealth Lombard model is a market-oriented model that relies upon historical financial price information and levels of collateralisation at product level to determine PD estimates.	>=10	0.03%
	LGD	2	Regional statistical model covering all corporates, developed using historical loss/recovery data and various data inputs, including collateral information, facility seniority and customer geography. The Global Private Banking & Wealth Lombard model is a market-oriented model that relies upon historical financial price information and levels of collateralisation at product level to determine LGD estimates.	>10	No
	EAD	1	Regional statistical model covering all corporates, developed using historical utilisation information and various data inputs, including product type and nature of commitment.	>10	EAD must be at least equal to the current utilisation of the balance at account level

¹ LGD floor exemption for mainland China and Hong Kong.

² LGD floor exemption for intra-group entities.

³ Excludes specialised lending exposures subject to supervisory slotting approach.

Table 33: CRE3 – Material retail IRB credit risk models

Retail Portfolio	Component	Number of significant models	Model description and methodology	Number of years loss data	Regulatory Floors
Hong Kong – HSBC Residential Mortgages (Residential mortgage exposures)	PD	2	Statistical model built on internal behavioural data and calibrated to a long-run default rate by segment.	>10	0.03%
	LGD	2	Two statistical models and one historical average model based on estimate of loss incurred over a recovery period derived from historical data with downturn adjustment.	>10	10% at portfolio level
	EAD	2	Rule-based calculation based on current balance which continues to be a conservative estimate for EAD.	>10	EAD must at least be equal to current balance
Hong Kong – HSBC Credit Cards (QRRE and Other retail exposures to individuals)	PD	1	Statistical model built on internal behavioural data and calibrated to a long-run default rate by segment.	>10	0.03%
	LGD	1	Statistical model based on forecasting the amount of expected future losses with downturn adjustment.	>10	
	EAD	1	EAD derived by different segments. Statistical models which derive CCF to determine the undrawn portion of the facility to be added to the outstanding balance of accounts at the time of observation.	>10	EAD must at least be equal to current balance
Hong Kong – HSBC Personal Loans (QRRE and Other retail exposures to individuals)	PD	1	Statistical model built on internal behavioural data and calibrated to a long-run default rate.	> 10	0.03%
	LGD	1	Statistical model based on forecasting the amount of expected future recoveries. Downturn LGD derived using data from the period with highest observed default rate.	> 10	
	EAD	1	Statistical model which derives a CCF to determine the proportion of undrawn limit to be added to the balance at observation.	> 10	EAD must at least be equal to current balance
Hong Kong – HSBC Overdraft (QRRE and Other retail exposures to individuals)	PD	1	Statistical model built on internal behavioural data and calibrated to a long-run default rate by segment.	> 10	0.03%
	LGD	1	Statistical model based on forecasting the amount of ELs. Downturn LGD derived using data from the period with highest observed default rate.	> 10	
	EAD	1	Statistical model which derives a credit limit utilisation which is used to determine the EAD.	> 10	EAD must at least be equal to current balance
Hong Kong – Hang Seng Personal Residential Mortgages (Residential mortgage exposures)	PD	1	Statistical model built on internal behavioural data and calibrated to a long-run default rate.	>10	0.03%
	LGD	3	One component based model and two historical average models based on estimate of loss incurred over a recovery period derived from historical data with downturn LGD based on the worst observed default rate.	>10	10%
	EAD	1	Rule-based calculation based on current balance and estimated incurred interest which continues to be a conservative estimate for EAD.	>10	EAD must at least be equal to current balance
Hong Kong – Hang Seng Credit Cards (QRRE and Other retail exposures to individuals)	PD	1	Statistical model built on internal behavioural data and calibrated to a long-run default rate by segment.	>10	0.03%
	LGD	1	Statistical model based on forecasting the amount of expected future losses with downturn adjustment.	>10	
	EAD	1	Statistical model which derives a credit limit utilisation by segment which is used to determine the EAD.	>10	EAD must at least be equal to current balance
Hong Kong – Hang Seng Personal Loans (Other retail exposures to individuals)	PD	1	Statistical model built on internal behavioural data and calibrated to a long-run default rate by segment.	> 10	0.03%
	LGD	1	Statistical model based on forecasting the amount of expected future losses with downturn adjustment.	> 10	
	EAD	1	Rule-based calculation based on current balance and estimated incurred interest which continues to be a conservative estimate for EAD.	> 10	EAD must at least be equal to current balance
Other Asia-Pacific countries – Residential Mortgage (Residential mortgage exposures)	PD	8	Statistical model built on internal behavioural data and calibrated to a long-run default rate by segment.	> 10	0.03%
	LGD	6	Statistical model based on forecasting the amount of expected future losses, or statistical model or historical average model based on estimate of loss incurred over a recovery period derived from historical data, with downturn adjustment.	> 10	10% at portfolio level
	EAD	8	Rule-based calculation based on current balance, total approved loan amount and limit, or derives a CCF to determine the proportion of the undrawn limit to be added to the balance at observation, which continue to be a conservative estimate for EAD.	> 10	EAD must at least be equal to current balance

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Table 34.1: CR6 – Credit risk exposures by portfolio and PD range – for IRB approach (Wholesale)

	a	b	c	d	e	f	g	h	i	j	k	l
	Original on-balance sheet gross exposure	Off-balance sheet exposures pre-CCF	Average CCF	EAD post-CRM and post-CCF	Average PD	Number of obligors	Average LGD	Average maturity	RWAs	RWA density	EL	Provisions
PD scale	HK\$m	HK\$m	%	HK\$m	%		%	years	HK\$m	%	HK\$m	HK\$m
Portfolio (i) – Sovereign												
0.00 to < 0.15	2,266,338	2,209	22.1	2,266,827	0.02	658	36.3	1.69	140,867	6	153	
0.15 to < 0.25	8,807	34	50.0	8,824	0.22	40	45.0	1.03	2,844	32	9	
0.25 to < 0.50	488	—	—	488	0.37	8	45.0	1.00	215	44	1	
0.50 to < 0.75	6,945	—	—	6,945	0.63	9	45.0	1.31	4,351	63	20	
0.75 to < 2.50	10,761	1,670	92.8	12,311	0.87	14	45.0	1.12	8,662	70	48	
2.50 to < 10.00	1,385	318	30.0	1,480	4.85	7	45.0	1.22	1,960	132	32	
10.00 to < 100.00	2,601	—	—	2,601	19.00	5	88.0	1.00	11,199	431	434	
100.00 (Default)	1,255	—	—	1,255	100.00	8	15.8	4.22	2,172	173	49	
Sub-total at 31 Dec 2023	2,298,580	4,231	50.8	2,300,731	0.10	749	36.5	1.69	172,270	7	746	1,736
Portfolio (ii) – Bank												
0.00 to < 0.15	499,080	72,723	40.9	528,839	0.05	17,285	40.5	1.19	68,124	13	96	
0.15 to < 0.25	14,080	6,759	36.8	16,565	0.22	427	44.7	1.00	6,589	40	16	
0.25 to < 0.50	4,488	4,375	41.4	6,299	0.37	1,062	38.5	1.08	3,031	48	9	
0.50 to < 0.75	5,933	3,673	40.5	7,421	0.63	232	42.0	0.85	4,720	64	20	
0.75 to < 2.50	1,663	791	41.7	1,993	1.19	139	39.1	0.94	1,426	72	10	
2.50 to < 10.00	256	241	89.8	472	3.54	56	42.3	0.61	527	112	7	
10.00 to < 100.00	134	111	2.9	138	18.61	26	40.5	2.34	304	221	10	
100.00 (Default)	111	—	—	111	100.00	1	64.7	1.00	2	2	92	
Sub-total at 31 Dec 2023	525,745	88,673	40.7	561,838	0.09	19,228	40.7	1.18	84,723	15	260	868
Portfolio (iii) – Corporate – SMEs												
0.00 to < 0.15	14,902	32,140	33.4	25,621	0.10	1,095	43.8	1.55	4,942	19	11	
0.15 to < 0.25	6,801	17,918	27.2	11,667	0.22	881	43.8	1.89	4,130	35	11	
0.25 to < 0.50	17,592	22,299	24.8	23,125	0.37	1,101	30.4	1.63	6,994	30	26	
0.50 to < 0.75	22,177	14,959	24.3	25,808	0.63	1,046	30.5	1.76	10,694	41	50	
0.75 to < 2.50	95,875	60,563	26.1	111,699	1.37	3,879	30.0	1.81	62,401	56	458	
2.50 to < 10.00	24,259	18,306	24.5	28,739	4.10	1,134	35.1	1.49	24,237	84	428	
10.00 to < 100.00	6,769	1,752	23.6	7,182	22.56	174	31.9	1.35	8,352	116	500	
100.00 (Default)	6,122	141	30.3	6,164	100.00	94	34.0	1.34	16,974	275	1,025	
Sub-total at 31 Dec 2023	194,497	168,078	27.1	240,005	4.50	9,404	33.0	1.70	138,724	58	2,509	2,402
Portfolio (iv) – Corporate – other												
0.00 to < 0.15	574,083	846,753	27.4	800,577	0.08	20,713	46.2	1.54	161,066	20	298	
0.15 to < 0.25	147,797	266,949	28.2	222,600	0.22	5,053	48.4	1.59	91,685	41	237	
0.25 to < 0.50	134,944	231,429	24.6	191,532	0.37	4,720	46.2	1.54	99,733	52	328	
0.50 to < 0.75	120,996	216,820	23.4	171,714	0.63	4,245	43.8	1.30	105,251	61	473	
0.75 to < 2.50	356,015	450,227	23.1	460,169	1.44	9,955	40.6	1.30	372,393	81	2,681	
2.50 to < 10.00	85,237	120,814	20.4	109,921	4.55	2,857	40.7	1.25	132,066	120	2,096	
10.00 to < 100.00	31,478	8,058	22.0	33,251	18.11	446	29.0	1.41	42,856	129	1,755	
100.00 (Default)	44,293	2,403	24.7	44,886	100.00	616	43.8	1.15	52,651	117	24,263	
Sub-total at 31 Dec 2023	1,494,843	2,143,453	25.5	2,034,650	3.22	48,605	44.3	1.44	1,057,701	52	32,131	41,901

Table 34.2: CR6 – Credit risk exposures by portfolio and PD range – for IRB approach (Retail)

	a	b	c	d	e	f	g	h	i	j	k	l
	Original on-balance sheet gross exposure	Off-balance sheet exposures pre-CCF	Average CCF	EAD post-CRM and post-CCF	Average PD	Number of obligors	Average LGD	Average maturity ¹	RWAs	RWA density	EL	Provisions
PD scale	HK\$m	HK\$m	%	HK\$m	%		%	years	HK\$m	%	HK\$m	HK\$m
Portfolio (v) – Retail – QRRE												
0.00 to < 0.15	36,131	468,854	33.4	192,867	0.06	4,289,134	99.9	—	7,381	4	116	
0.15 to < 0.25	3,645	18,980	47.0	12,573	0.23	253,231	99.9	—	1,478	12	28	
0.25 to < 0.50	9,523	34,253	39.4	23,015	0.40	388,617	96.9	—	4,204	18	88	
0.50 to < 0.75	6,622	7,897	52.5	10,767	0.58	97,139	97.6	—	2,729	25	61	
0.75 to < 2.50	18,668	33,967	39.2	31,983	1.36	333,121	96.1	—	14,944	47	419	
2.50 to < 10.00	10,458	6,000	61.1	14,124	4.50	121,705	90.8	—	14,501	103	582	
10.00 to < 100.00	3,999	1,190	82.0	4,975	23.26	41,927	87.8	—	9,458	190	1,037	
100.00 (Default)	212	59	1.0	213	100.00	2,621	97.9	—	367	172	180	
Sub-total at 31 Dec 2023	89,258	571,200	35.2	290,517	0.94	5,527,495	98.5	—	55,062	19	2,511	2,960
Portfolio (vi) – Retail – Residential mortgage exposures												
0.00 to < 0.15	472,262	34,256	53.8	490,676	0.09	164,816	17.5	—	58,879	12	75	
0.15 to < 0.25	217,781	11,677	89.2	228,197	0.19	120,589	14.5	—	29,204	13	61	
0.25 to < 0.50	165,136	2,080	58.5	166,353	0.36	59,393	10.0	—	23,130	14	59	
0.50 to < 0.75	96,881	936	112.4	97,932	0.57	36,376	15.5	—	16,407	17	84	
0.75 to < 2.50	112,944	823	100.8	113,774	1.13	50,700	12.3	—	21,643	19	156	
2.50 to < 10.00	47,603	292	102.8	47,903	4.19	19,562	12.4	—	19,772	41	254	
10.00 to < 100.00	7,104	67	103.7	7,173	21.13	4,991	18.8	—	7,600	106	296	
100.00 (Default)	4,695	37	—	4,695	100.00	4,486	13.4	—	6,702	143	212	
Sub-total at 31 Dec 2023	1,124,406	50,168	64.4	1,156,703	1.00	460,913	14.9	—	183,337	16	1,197	964
Portfolio (vii) – Retail – small business retail exposures												
0.00 to < 0.15	2,621	10	100.0	2,631	0.07	1,264	12.1	—	66	3	—	
0.15 to < 0.25	406	2	100.0	408	0.19	107	16.9	—	27	7	—	
0.25 to < 0.50	612	—	—	612	0.35	137	41.6	—	149	24	1	
0.50 to < 0.75	432	1	100.0	433	0.55	167	7.8	—	25	6	—	
0.75 to < 2.50	437	2	100.0	439	1.20	103	31.7	—	149	34	2	
2.50 to < 10.00	388	—	100.0	388	5.54	154	10.0	—	58	15	2	
10.00 to < 100.00	51	—	100.0	52	24.02	27	18.8	—	23	45	3	
100.00 (Default)	11	—	—	11	100.00	2	2.0	—	11	100	—	
Sub-total at 31 Dec 2023	4,958	15	100.0	4,974	1.15	1,961	17.3	—	508	10	8	4
Portfolio (viii) – Other retail exposures to individuals												
0.00 to < 0.15	5,215	28,570	28.8	13,452	0.08	69,284	15.8	—	394	3	2	
0.15 to < 0.25	3,013	20,925	30.3	9,350	0.20	53,089	6.4	—	250	3	1	
0.25 to < 0.50	11,605	13,373	34.9	16,269	0.34	81,123	60.5	—	5,598	34	33	
0.50 to < 0.75	4,707	4,442	40.9	6,524	0.65	20,780	39.1	—	2,057	32	15	
0.75 to < 2.50	10,270	1,884	28.8	10,812	1.38	34,848	69.1	—	8,592	79	108	
2.50 to < 10.00	5,081	3,205	42.2	6,434	3.60	26,717	47.8	—	4,453	69	131	
10.00 to < 100.00	731	31	62.3	750	19.21	5,119	87.4	—	1,384	185	133	
100.00 (Default)	124	24	11.7	126	100.00	1,195	63.4	—	249	197	63	
Sub-total at 31 Dec 2023	40,746	72,454	31.7	63,717	1.22	292,155	41.4	—	22,977	36	486	523

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Table 34.3: CR6 – Credit risk exposures by portfolio and PD range – for IRB approach (Total)

	a	b	c	d	e	f	g	h	i	j	k	l
	Original on-balance sheet gross exposure HK\$m	Off-balance sheet exposures pre-CCF HK\$m	Average CCF %	EAD post-CRM and post-CCF HK\$m	Average PD %	Number of obligors	Average LGD %	Average ¹ maturity years	RWAs HK\$m	RWA density %	EL HK\$m	Provisions ² HK\$m
Total (sum of all portfolios) at 31 Dec 2023	5,773,033	3,098,272	28.6	6,653,135	1.42	6,360,510	38.1	1.54	1,715,302	26	39,848	51,358

¹ The average maturity is relevant to wholesale portfolios only.

² Provisions in this table represent the eligible provisions as defined under Division 1, Part 6 of the BCR which include the regulatory reserves for general banking risks and the impairment allowances reported under IRB approach.

RWAs increased by HK\$42.6bn in the second half of 2023 mainly due to foreign currency translation impacts by HK\$17.8bn, and an increase of HK\$24.8bn from deterioration in asset quality as well as portfolio mix changes. The decrease in weighted average PD from 1.56% in June 2023 to 1.42% in December 2023 was mainly driven by an increase in the proportion of non-default corporate exposures.

Table 35: CR10 – Specialised Lending under supervisory slotting criteria approach – High volatility commercial real estate ('HVCRE')

	a	b	c	d	e	f
	On-balance sheet exposure amount HK\$m	Off-balance sheet exposure amount HK\$m	Supervisory risk weight ('SRW') %	EAD amount HK\$m	RWAs HK\$m	EL amount HK\$m
Supervisory Rating Grade Remaining maturity						
Strong [^] Less than 2.5 years	500	—	70	500	350	2
Strong Equal to or more than 2.5 years	35	—	95	35	33	—
Satisfactory	1	—	140	1	1	—
Total at 31 Dec 2023	536	—		536	384	2

[^] Use of preferential risk-weights.

Table 36: CR10 – Specialised Lending under supervisory slotting criteria approach – Other than HVCRE

	a	b	c	d(i)	d(iv)	d(v)	e	f
	On-balance sheet exposure amount HK\$m	Off-balance sheet exposure amount HK\$m	SRW %	Project Finance ('PF') HK\$m	Income Producing Real Estate ('IPRE') HK\$m	EAD amount Total HK\$m	RWAs HK\$m	EL amount HK\$m
Supervisory Rating Grade Remaining Maturity								
Strong [^] Less than 2.5 years	39,331	10,917	50	1,820	41,126	42,946	21,473	—
Strong Less than 2.5 years	10,158	2,932	70	5,263	5,895	11,158	7,810	45
Strong [^] Equal to or more than 2.5 years	4,312	1,748	50	4,997	—	4,997	2,499	—
Strong Equal to or more than 2.5 years	30,285	305	70	9,771	20,650	30,421	21,295	122
Good [^] Less than 2.5 years	27,944	4,387	70	1,313	27,989	29,302	20,511	117
Good Less than 2.5 years	7,321	1,787	90	—	7,939	7,939	7,145	64
Good [^] Equal to or more than 2.5 years	3,358	298	70	3,519	—	3,519	2,463	14
Good Equal to or more than 2.5 years	14,561	938	90	—	14,901	14,901	13,411	119
Satisfactory	17,101	1,283	115	2,489	14,926	17,415	20,027	488
Weak	8,966	13	250	17	8,953	8,970	22,423	718
Default	4,053	10	—	759	3,297	4,056	—	2,028
Total at 31 Dec 2023	167,390	24,618		29,948	145,676	175,624	139,057	3,715

[^] Use of preferential risk weights.

Table 37: CR10 – Equity exposures under the simple risk weight method

	a	c	d	e
	On-balance sheet exposure amount HK\$m	SRW %	EAD amount HK\$m	RWAs HK\$m
Categories				
Publicly traded equity exposures	141	300	141	423
All other equity exposures	5,899	400	5,899	23,597
Total at 31 Dec 2023	6,040		6,040	24,020

Credit risk under standardised approach

Use of external credit ratings under the standardised approach for credit risk

The STC approach is applied where exposures do not qualify for use of an IRB approach and/or where an exemption from IRB has been granted. The STC approach requires banks to use risk assessments prepared by External Credit Assessment Institutions ('ECAI') to determine the risk weightings applied to rated counterparties.

ECAI risk assessments are used within the group as part of the determination of risk weightings for the following classes of exposure:

- public sector entity ('PSE') exposures; and
- bank or corporate exposures (those without an internal CRR).

The group uses external credit ratings from the following ECAIs:

- Fitch Ratings ('Fitch');
- Moody's Investors Service ('Moody's'); and
- S&P.

The group determines ECAI issuer ratings or ECAI issue-specific ratings in the banking book in a process consistent with Part 4 of the BCR.

All other exposure classes are assigned risk weightings as prescribed in the HKMA's BCR.

Table 38: CR5 – Credit risk exposures by asset classes and by risk weights – for STC approach

	a	c	d	e	f	g	h	j
	0%	20%	35%	50%	75%	100%	150%	Total credit risk exposures amount (post-CCF and post-CRM)
Risk Weight	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m
Exposure class								
1 Sovereign exposures	27,795	650	—	59	—	—	—	28,504
2 PSE exposures	86,389	36,340	—	762	—	7,591	—	131,082
2a – of which: domestic PSEs	—	21,235	—	—	—	—	—	21,235
2b – of which: foreign PSEs	86,389	15,105	—	762	—	7,591	—	109,847
4 Bank exposures	—	1,786	—	2,179	—	15	1	3,981
5 Securities firm exposures	—	—	—	633	—	—	—	633
6 Corporate exposures	—	14,055	—	3,954	—	107,612	591	126,212
10 Regulatory retail exposures	—	—	—	—	55,215	—	—	55,215
11 Residential mortgage loans	—	—	90,557	—	9,498	5,919	—	105,974
12 Other exposures which are not past due exposures	—	—	—	—	—	11,205	—	11,205
13 Past due exposures	69	3	—	—	—	277	1,894	2,243
15 Total at 31 Dec 2023	114,253	52,834	90,557	7,587	64,713	132,619	2,486	465,049

Credit risk mitigation

Our approach when granting credit facilities is to do so on the basis of capacity to repay, rather than placing primary reliance on CRMs. Depending on a customer's standing and the type of product, facilities may be provided unsecured.

Mitigation of credit risk is a key aspect of effective risk management and takes many forms. Our general policy is to promote the use of CRM, justified by commercial prudence and capital efficiency. Detailed policies cover the acceptability, structuring and terms with regard to the availability of CRM such as in the form of collateral security. These policies, together with the setting of suitable valuation parameters, are subject to regular review to ensure that they are supported by empirical evidence and continue to fulfil their intended purpose.

Collateral

The most common method of mitigating credit risk is to take a charge over collateral. In our retail residential and commercial real estate ('CRE') businesses, a mortgage over the property is usually taken to help secure claims. Physical collateral is also taken in various forms of specialised lending and leasing transactions where income from the physical assets that are financed is also the principal source of facility repayment. In the commercial and industrial sectors, charges are created over business assets such as premises, stock and debtors. Loans to private banking clients may be made against a pledge of eligible marketable securities, cash or real estate. Facilities to SMEs are commonly granted against guarantees given by their owners and/or directors.

For CRM in the form of immovable property, the key determinant of concentration is geographic. Use of immovable property mitigants for risk management purpose is predominant.

Financial collateral

In the institutional sector, trading facilities are supported by charges over financial instruments, such as cash, debt securities and equities. Financial collateral in the form of marketable securities is used in much of the group's derivatives activities and in SFTs, such as repos, reverse repos, securities lending and borrowing. Netting is used extensively and is a prominent feature of market standard documentation.

In the non-trading book, we provide customers with working capital management products. In some cases, these products combine loans and advances to customers with customer accounts over which we have right of offset which comply with the regulatory requirements for on-balance sheet netting.

Under on-balance sheet netting agreements, the customer accounts are treated as though they are covered by cash collateral and the effects of this collateral are incorporated in our model estimates. For risk management purposes, the net amounts of such exposures are subject to limits and the relevant customer agreements are subject to review to ensure the legal right of offset remains appropriate.

Other forms of credit risk mitigation

Our Global Banking and Markets and Securities Services businesses utilise CRM to manage the credit risk of their portfolios, with the goal of reducing concentrations in individual names, sectors or portfolios. The techniques in use include credit default swap ('CDS') purchases, structured credit notes and securitisation structures. Buying credit protection creates credit exposure against the protection provider, which is monitored as part of the overall credit exposure to them. Where applicable, the transaction is entered into directly with a central clearing house counterparty; otherwise our exposure to CDS protection providers is diversified among mainly banking counterparties with strong credit ratings.

In our corporate lending, we also take guarantees from banks, corporates and export credit agencies ('ECA'). Corporates would normally provide guarantees as part of a parent/subsidiary or common parent relationship and would span a number of credit grades. The ECAs will normally be investment grade.

Policy and procedures

Policies and procedures cover the end to end Credit lending process including the governance of the protection of our position from the commencement of a customer relationship; for instance, in requiring standard terms and conditions or specifically agreed documentation permitting the offset of credit balances against debt obligations, and through controls over the integrity, current valuation and, if necessary, realisation of collateral security.

Valuing collateral

Valuation strategies are established to monitor collateral mitigants to ensure that they will continue to provide the anticipated secure secondary repayment source. The frequency of valuation increases with the volatility of the collateral. For market trading activities such as collateralised over-the-counter ('OTC') derivatives and SFTs, we typically carry out daily valuations. In the residential mortgage business, Group policy prescribes revaluation of the portfolio at intervals of up to three years, or more frequently as the need arises; for example, where market conditions are subject to significant change, and for non-performing loans on a regular basis (at least annually). Residential property collateral values are determined through a combination of professional appraisals, house price indices or statistical analysis.

For CRE, where the facility exceeds regulatory threshold requirements, Group policy requires an independent review of the valuation at least every three years, or more frequently as the need arises. Revaluations are sought where, for example, material concerns arise in relation to the performance of the collateral. CRE revaluation also occurs commonly in circumstances where an obligor's credit quality has declined sufficiently to cause concern that the principal payment source may not fully meet the obligation.

Recognition of risk mitigation under the IRB approach

Within an IRB approach, risk mitigants are considered in two broad categories:

- those which reduce the intrinsic PD of an obligor and therefore operate as determinants of PD; and
- those which affect the estimated recoverability of obligations and require adjustment of LGD or, in certain limited circumstances, EAD.

The first category typically includes full parental guarantees where one obligor within a group guarantees another. In these circumstances, the PD of the parent guarantor is used to adjust or substitute the PD of the guaranteed obligor. PD estimates may be subject to a 'sovereign ceiling', constraining the risk ratings assigned to obligors in countries of higher risk, and where only partial parental support exists. In certain jurisdictions, certain types of third-party guarantee are recognised by substituting the obligor's PD with that of the guarantor.

In the second category, LGD estimates are affected by a wider range of collateral, including cash, charges over real estate property, fixed assets, trade goods, receivables and floating charges such as mortgage debentures. Unfunded mitigants, such as third-party guarantees, are also considered in LGD estimates where there is evidence that they reduce loss expectation.

The main types of guarantors are banks, other financial institutions and corporates. The creditworthiness of providers of unfunded CRM taken into consideration as part of the guarantor's risk profile. Internal limits for such contingent exposure are approved in the same way as direct exposures.

EAD and LGD values are calculated using regulatory approved models, where available. Regulatory values are used for those portfolios on a standardised approach as agreed with the HKMA under the IRB exemption or portfolios which are dependent upon model development pipeline with the consent of the HKMA. For retail portfolios, CRM data is incorporated into the internal risk parameters for exposures and feeds into the calculation of the EL band value summarising both customer delinquency and product or facility risk. Credit and CRM data form inputs submitted by all group offices to centralised databases.

A range of collateral recognition approaches are applied to IRB capital treatments:

- Unfunded protection, including credit derivatives and guarantees, under the advanced IRB approach is recognized in PD or LGD.
- Eligible financial collateral under the advanced IRB approach is recognised in LGD models.
- For all other types of collateral, including real estate, the LGD for exposures under the advanced IRB approach is calculated by models.

Recognition of risk mitigation under the standardised approach

Where CRM is available in the form of an eligible guarantee, non-financial collateral or credit derivatives, the exposure is divided into covered and uncovered portions. The covered portion is determined after applying an appropriate 'haircut' for currency and maturity mismatches (and for omission of restructuring clauses for credit derivatives, where appropriate) to the amount of the protection provided and attracts the RW of the protection provider. The uncovered portion attracts the RW of the obligor.

The value of exposure fully or partially covered by eligible financial collateral is adjusted under the financial collateral comprehensive method using supervisory volatility adjustments (including those for currency mismatch) which are determined by the specific type of collateral (and its credit quality, in the case of eligible debt securities) and its liquidation period. The adjusted exposure value is subject to the risk rating of the obligor.

Table 39: CR3 – Overview of recognised credit risk mitigation

	a	b1	b	d
	Exposures unsecured: carrying amount HK\$m	Exposures to be secured HK\$m	Exposures secured by recognised collateral HK\$m	Exposures secured by recognised guarantees HK\$m
1 Loans	2,181,173	2,261,447	1,902,587	358,860
2 Debt securities	1,946,396	24,239	—	24,239
3 Total at 31 Dec 2023	4,127,569	2,285,686	1,902,587	383,099
4 – of which: defaulted	13,189	23,442	21,357	2,085

Unsecured exposures increased by HK\$218.3bn in the second half of 2023 mainly arising from higher sovereign exposures. Secured exposures decreased by HK\$81.5bn in the second half of 2023 primarily due to a fall in corporate lending in Hong Kong.

Table 40: CR7 – Effects on RWAs of recognised credit derivative contracts used as recognised credit risk mitigation – for IRB approach

	a	b
	Pre-credit derivatives RWAs HK\$m	Actual RWAs HK\$m
1 Corporate – Specialised lending under supervisory slotting criteria approach (project finance)	20,218	20,218
4 Corporate – Specialised lending under supervisory slotting criteria approach (income-producing real estate)	118,839	118,839
5 Corporate – Specialised lending (high-volatility commercial real estate)	384	384
6 Corporate – Small-and-medium sized corporates ('SMEs')	138,724	138,724
7 Corporate – Other corporates	1,057,701	1,057,701
8 Sovereigns	168,753	168,753
10 Multilateral development banks	3,517	3,517
11 Bank exposures – Banks	66,941	66,941
12 Bank exposures – Securities firms	17,782	17,782
14 Retail – Small business retail exposures	508	508
15 Retail – Residential mortgages to individuals	180,715	180,715
16 Retail – Residential mortgages to property-holding shell companies	2,622	2,622
17 Retail – Qualifying revolving retail exposures ('QRRE')	55,062	55,062
18 Retail – Other retail exposures to individuals	22,977	22,977
19 Equity – Equity exposures under market-based approach (simple risk weight method)	24,020	24,020
25 Equity – Equity exposures associated with equity investments in funds (CIS exposures)	1,567	1,567
26 Other – Cash items	1,302	1,302
27 Other – Other items	162,875	162,875
28 Total (under the IRB calculation approaches) at 31 Dec 2023	2,044,507	2,044,507

Table 41: CR4 – Credit risk exposures and effects of recognised credit risk mitigation – for STC approach

	a	b	c	d	e	f
	Exposures pre-CCF and pre-CRM		Exposures post-CCF and post-CRM		RWAs and RWA density	
	On-balance sheet amount HK\$m	Off-balance sheet amount HK\$m	On-balance sheet amount HK\$m	Off-balance sheet amount HK\$m	RWAs HK\$m	RWA density %
Exposure classes						
1 Sovereign exposures	4	—	27,731	773	159	1
2 PSE exposures	160,986	15,460	127,208	3,874	15,240	12
2a – of which: domestic PSEs	19,641	2,947	19,929	1,306	4,247	20
2b – of which: foreign PSEs	141,345	12,513	107,279	2,568	10,993	10
4 Bank exposures	2,448	900	3,732	249	1,462	37
5 Securities firm exposures	633	39	633	—	317	50
6 Corporate exposures	139,485	200,646	117,773	8,439	113,287	90
10 Regulatory retail exposures	56,859	508,813	55,016	199	41,411	75
11 Residential mortgage loans	105,473	7,670	105,136	838	44,738	42
12 Other exposures which are not past due exposures	22,876	19,625	11,017	188	11,205	100
13 Past due exposures	2,194	101	2,209	34	3,119	139
15 Total at 31 Dec 2023	490,958	753,254	450,455	14,594	230,938	50

Model performance

The disclosure covers wholesale and retail models which have been approved by regulators. It compares the PD estimated by our IRB models against actual default experience and shows our IRB models are generally conservative.

Table 42: CR9 – Back-testing of PD per portfolio

b	c(i)	c(ii)	c(iii)	d	e	f		g	h	i
PD range	External rating equivalent (S&P)	External rating equivalent (Moody's)	External rating equivalent (Fitch)	Weighted average PD % ¹	Arithmetic average PD by obligors % ¹	Number of obligors ^{2,3}		Defaulted obligors in the year	of which: new defaulted obligors in the year	Average historical annual default rate %
						Beginning of the year	End of the year			
Sovereigns										
0.00 to <0.15	AAA to BBB	Aaa to Baa2	AAA to BBB	0.02	0.02	40	38	—	—	—
0.15 to <0.25	BBB-	Baa3	BBB-	0.22	0.22	3	4	—	—	—
0.25 to <0.50	BBB-	Baa3	BBB-	0.37	0.37	2	1	—	—	—
0.50 to <0.75	BB+ to BB	Ba1 to Ba2	BB+ to BB	0.63	0.63	2	1	—	—	—
0.75 to <2.50	BB- to B+	Ba3 to B2	BB- to B-	2.25	—	—	1	—	—	—
2.5 to <10.00	B to B-	B2 to Caa1	CCC+ to CCC	4.25	5.42	3	3	—	—	6.67
10.00 to <100.00	B- to C	Caa1 to C	CCC to C	36.00	36.00	1	1	—	—	20.00
Banks										
0.00 to <0.15	AAA to A-	Aaa to Baa1	AAA to BBB+	0.04	0.07	325	367	—	—	—
0.15 to <0.25	BBB+	Baa2	BBB	0.22	0.22	66	60	—	—	—
0.25 to <0.50	BBB	Baa3	BBB-	0.37	0.37	44	46	—	—	—
0.50 to <0.75	BBB-	Baa3	BBB-	0.63	0.63	36	33	—	—	—
0.75 to <2.50	BB+ to BB-	Ba1 to B1	BB+ to B+	1.29	1.37	31	37	—	—	—
2.5 to <10.00	B+ to B-	B2 to Caa1	B to CCC+	4.16	4.04	6	8	—	—	1.43
10.00 to <100.00	CCC+ to C	Caa1 to C	CCC to C	27.75	24.00	6	5	—	—	—
Corporate – SMEs										
0.00 to <0.15	AAA to A-	Aaa to Baa1	AAA to BBB+	0.10	0.11	615	611	—	—	—
0.15 to <0.25	BBB+	Baa2	BBB	0.22	0.22	724	652	—	—	0.05
0.25 to <0.50	BBB	Baa3	BBB-	0.37	0.37	1,033	904	—	—	0.15
0.50 to <0.75	BBB-	Baa3	BBB-	0.63	0.63	1,034	844	4	—	0.11
0.75 to <2.50	BB+ to BB-	Ba1 to B1	BB+ to B+	1.49	1.51	3,742	3,322	31	—	0.52
2.5 to <10.00	B+ to B-	B2 to Caa1	B to CCC+	4.62	4.08	1,097	925	34	—	2.01
10.00 to <100.00	CCC+ to C	Caa1 to C	CCC to C	16.17	23.07	124	115	13	—	14.33
Corporate – other ⁴										
0.00 to <0.15	AAA to A-	Aaa to Baa1	AAA to BBB+	0.08	0.09	5,390	5,173	—	—	0.01
0.15 to <0.25	BBB+	Baa2	BBB	0.22	0.22	2,272	2,216	—	—	0.07
0.25 to <0.50	BBB	Baa3	BBB-	0.37	0.37	2,134	2,416	1	—	0.23
0.50 to <0.75	BBB-	Baa3	BBB-	0.63	0.63	1,956	2,107	2	—	0.16
0.75 to <2.50	BB+ to BB-	Ba1 to B1	BB+ to B+	1.42	1.45	4,891	5,146	16	—	0.56
2.5 to <10.00	B+ to B-	B2 to Caa1	B to CCC+	4.29	4.16	1,508	1,512	19	—	1.55
10.00 to <100.00	CCC+ to C	Caa1 to C	CCC to C	18.34	21.56	214	205	33	—	13.46

1 The weighted average PD% and the arithmetic average PD% by obligors are based on the position at the beginning of the year.

2 The number of obligors represents the obligor rated by key wholesale IRB models directly.

3 The number of obligors for corporates is being reported at counterparty level, while the number of obligors for banks and multilateral development banks is being reported at entity level. Sovereigns are reported at country level based on local currency and foreign currency ratings.

4 Specialised lending exposures are excluded.

Table 42: CR9 – Back-testing of PD per portfolio (continued)

b	d	e	f		g	h	i
PD range	Weighted average PD % ¹	Arithmetic average PD % by obligors ¹	Number of obligors ²		Defaulted obligors in the year	of which: new defaulted obligors in the year	Average historical annual default rate %
			Beginning of the year	End of the year			
Retail – QRRE							
0.00 to < 0.15	0.06	0.06	4,757,312	4,828,359	2,788	31	0.05
0.15 to < 0.25	0.22	0.22	266,581	263,273	423	9	0.14
0.25 to < 0.50	0.40	0.40	399,270	408,804	1,186	37	0.27
0.50 to < 0.75	0.58	0.59	98,517	99,804	450	37	0.43
0.75 to < 2.50	1.35	1.31	483,227	506,820	3,561	169	0.67
2.50 to < 10.00	4.48	4.37	142,252	151,687	4,096	29	2.81
10.00 to < 100.00	22.86	25.81	41,792	46,391	5,481	4	12.13
Retail – Residential mortgage exposures							
0.00 to < 0.15	0.09	0.09	171,748	176,448	134	15	0.05
0.15 to < 0.25	0.19	0.18	127,272	128,186	256	28	0.19
0.25 to < 0.50	0.36	0.36	58,938	63,708	176	5	0.18
0.50 to < 0.75	0.57	0.60	39,633	38,179	86	—	0.30
0.75 to < 2.50	1.14	1.15	54,930	53,938	183	1	0.33
2.50 to < 10.00	4.27	4.61	19,876	20,831	385	8	1.77
10.00 to < 100.00	19.60	20.03	5,064	5,144	447	—	7.79
Retail – small business retail exposures							
0.00 to < 0.15	0.07	0.07	1,589	1,484	—	—	—
0.15 to < 0.25	0.19	0.19	145	116	—	—	—
0.25 to < 0.50	0.32	0.32	148	194	—	—	—
0.50 to < 0.75	0.55	0.55	203	204	—	—	—
0.75 to < 2.50	1.33	1.34	146	134	—	—	0.19
2.50 to < 10.00	4.93	4.91	180	179	7	—	1.15
10.00 to < 100.00	36.92	36.92	33	29	—	—	—
Other retail exposures to individuals							
0.00 to < 0.15	0.08	0.09	40,360	37,094	23	—	0.05
0.15 to < 0.25	0.21	0.20	26,305	26,776	20	—	0.06
0.25 to < 0.50	0.33	0.33	68,102	63,442	124	7	0.14
0.50 to < 0.75	0.66	0.64	15,476	15,416	74	9	0.37
0.75 to < 2.50	1.50	1.55	34,958	33,010	328	38	0.93
2.50 to < 10.00	3.54	4.42	18,923	21,948	528	72	2.48
10.00 to < 100.00	18.22	19.66	4,697	5,703	449	10	9.86

¹ The weighted average PD% and the arithmetic average PD% by obligors are based on the position at the beginning of the year.

² The number of obligors is based on account level information for all IRB portfolios except for the Hong Kong overdraft portfolio, which is presented at an aggregated level by consolidating savings and current account information.

Counterparty credit risk exposures

Counterparty credit risk management

CCR arises for derivatives (including long settlement transactions) and SFTs. It is calculated in both the trading and banking books, and is the risk that a counterparty may default before final settlement, for cases where there is a bilateral risk of loss.

Under the SA-CCR approach, the EAD is calculated as the sum of Replacement Cost ('RC') and PFE multiplied by an alpha factor of 1.4. We use this approach for all derivative and long settlement transactions not covered by our IMM(CCR) permission. Under the IMM(CCR) approach, EAD is calculated by multiplying the Effective Expected Positive Exposure ('EEPE') with a multiplier 'alpha'. The two alpha factors for standardised and internal model method are distinct.

Alpha, for IMM(CCR), is currently set at 1.45 and accounts for several portfolio features that increase EL above that indicated by EEPE in the event of default, such as:

- co-variance of exposures;
- correlation between exposures and default;
- level of volatility/correlation that might coincide with a downturn;
- concentration risk; and
- model risk.

The EEPE is derived from simulation, pricing and aggregation under the internal models approved by the HKMA. The IMM(CCR) model is subject to ongoing model validation including monthly model performance monitoring.

From a risk management perspective, products not covered by IMM(CCR) are subject to regulatory asset class add-ons, in addition to daily monitoring of credit limit utilisation.

Limits for CCR exposures, including to CCPs are assigned within the overall credit risk management process. The credit risk sub-function assigns a limit against each counterparty to cover exposure which may arise as a result of a counterparty default. The magnitude of this limit will depend on the overall risk appetite, type of derivatives and type of SFT trading undertaken with a counterparty.

Models and methodologies used in the calculation of CCR are overseen and monitored by the Regional Traded Risk Model Oversight Forum. Models are subject to ongoing monitoring and validation. Additionally, they are subject to independent review at inception and on an ongoing basis.

Credit valuation adjustment

CVAs represent the risk of mark-to-market losses on the expected counterparty risk to OTC derivatives. Certain exposures to qualifying central counterparties are exempt from CVA.

Collateral arrangements

Our policy is to revalue all traded transactions and associated collateral positions on a daily basis. An independent collateral management sub-function manages the collateral process, including pledging collateral, receiving collateral, investigating disputes and following up on non-receipts.

Collateral types are controlled under a policy to ensure price transparency, price stability, liquidity, enforceability, independence, reusability and eligibility for regulatory purposes. A valuation 'haircut' policy reflects the fact that collateral may fall in value between the date the collateral was called and the date of liquidation or enforcement. A very high proportion of collateral held as variation

margin under credit support annex ('CSAs') agreements is composed of either cash or liquid government securities.

Further information on gross fair value exposure and the offset due to legally enforceable netting and collateral is set out on page 130 of the group's Annual Report and Accounts 2023.

Central counterparties

While exchange traded derivatives have been cleared through CCPs for many years, recent regulatory initiatives designed to reduce systemic risk in the banking system are directing increasing volumes of OTC derivatives to also be cleared through CCPs.

To manage the significant concentration of risk in CCPs that results from this, we have developed a risk appetite framework to manage risk accordingly, at the level of individual CCPs and globally. A dedicated CCP risk team has been established in the Group to manage the interface with CCPs and undertake in-depth due diligence of the unique risks associated with these organisations.

Wrong-way risk

Wrong-way risk occurs when a counterparty's exposures are adversely correlated with its credit quality.

There are two types of wrong-way risk:

- general wrong-way risk occurs when the probability of counterparty default is positively correlated with general risk factors, such as where a counterparty is resident and/or incorporated in a higher-risk country and seeks to sell a non-domestic currency in exchange for its home currency; and
- specific wrong-way risk occurs in self-referencing transactions. These are transactions in which exposure is driven by capital or financing instruments issued by the counterparty and occurs where exposure from HSBC's perspective materially increases as the value of the counterparty's capital or financing instruments referenced in the contract decreases. It is HSBC policy that specific wrong-way transactions are approved on a case-by-case basis.

We use a range of tools to monitor and control wrong-way risk, including requiring the business to obtain prior approval before undertaking wrong-way risk transactions outside pre-agreed guidelines.

The regional Traded Risk sub-functions are responsible for the control and monitoring process within an overarching Group framework and limit framework.

Credit rating downgrade

A credit rating downgrade clause in a Master Agreement or a credit rating downgrade threshold clause in a CSA is designed to trigger an action if the credit rating of the affected party falls below a specified level. These actions may include the requirement to pay or increase collateral, the termination of transactions by the non-affected party or the assignment of transactions by the affected party.

At 31 December 2023, the value of the additional collateral pertaining to International Swaps and Derivatives Association CSA downgrade thresholds that we would potentially need to post with counterparties in the event of a one-notch downgrade of our rating was HK\$10m and for a two-notch downgrade was HK\$49m.

Table 43: CCR1 – Analysis of counterparty default risk exposures (other than those to CCPs) by approaches

	a	b	c	d	e	f
	Replacement cost ('RC')	PFE	EEPE	Alpha (α) used for computing default risk exposure	Default risk exposure after CRM	RWAs
	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m
1 SA-CCR approach (for derivative contracts)	29,195	73,010		1.4	143,086	43,526
2 IMM (CCR) approach			53,221	1.45	77,171	25,705
4 Comprehensive approach (for SFTs)					140,730	20,617
6 Total at 31 Dec 2023						89,848

Table 44: CCR2 – CVA capital charge

	a	b
	EAD post CRM	RWAs
	HK\$m	HK\$m
Netting sets for which CVA capital charge is calculated by the advanced CVA method	77,171	11,741
1 (i) VaR (after application of multiplication factor if applicable)		2,359
2 (ii) Stressed VaR (after application of multiplication factor if applicable)		9,382
3 Netting sets for which CVA capital charge is calculated by the standardised CVA method	143,550	29,186
4 Total at 31 Dec 2023	220,721	40,927

Table 45: CCR6 – Credit-related derivatives contracts

	a	b
	Protection bought	Protection sold
	HK\$m	HK\$m
At 31 Dec 2023		
Notional amounts		
Single-name credit default swaps	115,553	109,673
Index credit default swaps	90,397	83,884
Total return swaps	44,083	1,958
Total notional amounts	250,033	195,515
Fair values		
Positive fair value (asset)	224	2,188
Negative fair value (liability)	(2,687)	(87)

Table 46: CCR5 – Composition of collateral for counterparty default risk exposures (including those for contracts or transactions cleared through CCPs)

	a	b	c	d	e	f
	Derivative contracts				SFTs	
	Fair value of recognised collateral received		Fair value of posted collateral		Fair value of recognised collateral received	Fair value of posted collateral
	Segregated	Unsegregated	Segregated	Unsegregated	received	collateral
	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m
Cash – domestic currency	—	18,913	—	14,733	41,070	20,723
Cash – other currencies	—	143,158	—	152,075	637,184	1,050,222
Domestic sovereign debt	—	—	—	—	7,630	45,976
Other sovereign debt	297	12,536	17,304	37,441	817,814	749,589
Government agency debt	—	245	—	434	—	—
Corporate bonds	200	13,600	351	255	288,186	50,308
Equity securities	—	4,784	—	—	125,116	112,149
Other collateral	—	18,395	—	7,035	23	—
Total at 31 Dec 2023	497	211,631	17,655	211,973	1,917,023	2,028,967

The unsegregated collateral received and posted for derivative contracts increased by HK\$69.3bn and HK\$51.3bn in the second half of 2023, mainly from “Cash – other currencies” due to appreciation of local currencies against USD. The received and posted collateral for SFTs increased by HK\$64.7bn and HK\$56.1bn respectively in the second half of 2023, due to higher demand for repo transactions with Sovereign counterparties.

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Table 47: CCR8 – Exposures to CCPs

	a	b
	Exposure after CRM HK\$m	RWAs HK\$m
At 31 Dec 2023		
1 Exposures of the AI as clearing member or clearing client to qualifying CCPs (total)		1,296
2 Default risk exposures to qualifying CCPs (excluding items disclosed in rows 7 to 10)	20,769	487
3 – of which: (i) OTC derivative transactions	8,332	238
4 – of which: (ii) exchange-traded derivative contracts	12,437	249
7 Segregated initial margin	24,225	
8 Unsegregated initial margin	12,598	256
9 Funded default fund contributions	1,888	553
11 Exposures of the AI as clearing member or clearing client to non-qualifying CCPs (total)		202
12 Default risk exposures to non-qualifying CCPs (excluding items disclosed in rows 17 to 20)	2	2
14 – of which: (ii) exchange-traded derivative contracts	2	2
18 Unsegregated initial margin	183	183
19 Funded default fund contributions	1	17

Counterparty default risk under internal ratings-based approach

Table 48: CCR4 – Counterparty default risk exposures (other than those to CCPs) by portfolio and PD range – for IRB approach

	a	b	c	d	e	f	g
	EAD post- CRM HK\$m	Average PD %	Number of obligors	Average LGD %	Average maturity years	RWAs HK\$m	RWA density %
PD scale							
Portfolio (i) – Sovereign							
0.00 to < 0.15	39,957	0.03	43	44.5	0.26	2,067	5
0.15 to < 0.25	186	0.22	2	45.0	1.00	73	39
0.25 to < 0.50	—	—	—	—	—	—	—
0.50 to < 0.75	—	—	—	—	—	—	—
0.75 to < 2.50	—	0.87	1	48.0	5.00	—	127
2.50 to < 10.00	—	—	—	—	—	—	—
10.00 to < 100.00	—	—	—	—	—	—	—
100.00 (Default)	—	—	—	—	—	—	—
Sub-total at 31 Dec 2023	40,143	0.03	46	44.5	0.27	2,140	5
Portfolio (ii) – Bank							
0.00 to < 0.15	198,123	0.05	1,874	35.8	0.83	26,005	13
0.15 to < 0.25	23,498	0.22	155	45.4	0.21	7,698	33
0.25 to < 0.50	5,877	0.37	179	47.5	0.55	3,194	54
0.50 to < 0.75	2,893	0.63	33	46.6	1.01	2,272	79
0.75 to < 2.50	962	1.03	30	45.5	0.96	895	93
2.50 to < 10.00	38	3.87	4	47.7	1.14	60	156
10.00 to < 100.00	3	19.00	1	76.2	1.00	11	373
100.00 (Default)	—	—	—	—	—	—	—
Sub-total at 31 Dec 2023	231,394	0.09	2,276	34.7	0.70	40,135	17
Portfolio (iii) – Corporate							
0.00 to < 0.15	35,298	0.08	1,857	46.9	1.87	8,524	24
0.15 to < 0.25	8,517	0.22	545	50.3	1.70	4,209	49
0.25 to < 0.50	14,347	0.37	434	48.5	2.88	12,535	87
0.50 to < 0.75	2,018	0.63	337	51.2	1.26	1,518	75
0.75 to < 2.50	5,316	1.36	749	48.7	1.18	4,923	93
2.50 to < 10.00	1,355	5.72	191	49.8	2.43	2,300	170
10.00 to < 100.00	27	22.60	15	43.2	1.20	56	205
100.00 (Default)	766	100.00	5	48.0	0.02	—	—
Sub-total at 31 Dec 2023	67,644	1.53	4,133	48.0	1.98	34,065	50
Total (sum of all portfolios) at 31 Dec 2023	339,181	0.37	6,455	38.5	0.91	76,340	23

The decrease in average LGD% between 30 June 2023 and 31 December 2023 was due to a change in portfolio mix with a higher proportion of counterparty credit risk exposures from banks with lower LGDs.

Details on the scope of models for each of the regulatory portfolios can be found in the ‘Credit risk under internal ratings-based approach’ section from pages 26 to 28 of this document.

Counterparty default risk under standardised approach

Table 49: CCR3 – Counterparty default risk exposures (other than those to CCPs) by asset classes and by risk weights – for STC approach

Risk Weight	Exposure class	a	c	d	e	f	g	i
		0% HK\$m	20% HK\$m	50% HK\$m	75% HK\$m	100% HK\$m	150% HK\$m	Total default risk exposure after CRM HK\$m
1	Sovereign exposures	—	822	—	—	—	—	822
2	PSE exposures	1,104	1,729	2,255	—	1	—	5,089
2a	– of which: domestic PSEs	—	1,289	—	—	—	—	1,289
2b	– of which: foreign PSEs	1,104	440	2,255	—	1	—	3,800
4	Bank exposures	—	4,231	684	—	—	—	4,915
5	Securities firm exposures	—	—	99	—	—	—	99
6	Corporate exposures	—	—	1	—	10,075	1	10,077
8	Regulatory retail exposures	—	—	—	446	—	—	446
12	Total at 31 Dec 2023	1,104	6,782	3,039	446	10,076	1	21,448

Securitisation

Securitisation strategy

The group acts as originator, sponsor, liquidity provider and derivative counterparty to our own originated and sponsored securitisations, as well as those of third parties. Our strategy is to use securitisation to meet our needs for aggregate funding or capital management, to the extent that market, regulatory treatments and other conditions are suitable, and for customer facilitation.

Securitisation activity

Our roles in the securitisation process can include the following:

- Originator: where we originate the assets being securitised, either directly or indirectly;
- Sponsor: where we establish and manage a securitisation programme that purchases exposures from third parties; and
- Investor: where we invest in a securitisation transaction directly or provide derivatives or liquidity facilities to a securitisation.

The group as originator

We use special purpose entities ('SPEs') to securitise customer loans and advances and other debt that we have originated in order to diversify our sources of funding for asset origination and for capital efficiency purposes. In such cases, we transfer the loans and advances to the SPEs for cash, and the SPEs issue debt securities to investors to fund the cash purchases.

In addition, we use SPEs to mitigate the capital absorbed by some of the customer loans and advances we have originated. Credit derivatives are used to transfer the credit risk associated with such customer loans and advances to an SPE, using an approach commonly known as synthetic securitisation by which the SPE writes CDS protection for the group.

The group as sponsor

There were no outstanding underlying exposures in securitisation transactions where the group acted as a sponsor.

The group as investor

We have exposure to third-party securitisations across a wide range of sectors in the form of investments, liquidity facilities and as a derivative counterparty.

Monitoring of securitisation positions

Securitisation positions are managed by a dedicated team in the Group that uses a combination of market standard systems and third-party data providers to monitor performance data and manage market and credit risks.

In the case of re-securitisation positions, similar processes are conducted in respect of the underlying securitisations.

Liquidity risk of securitised assets is consistently managed as part of the group's liquidity and funding risk management framework and further details are provided on page 62 to 63 of the group's *Annual Report and Accounts 2023*.

Valuation of securitisation positions

The process of valuing our investments in securitisation exposures primarily focuses on quotations from third parties, observed trade levels and calibrated valuations from market standard models.

Our hedging and CRM strategy, with regards to retained securitisation and re-securitisation exposures, is to continually review our positions.

Securitisation accounting treatment

For accounting purposes, we consolidate structured entities (including SPEs) when the substance of the relationship indicates that we control them; that is, we are exposed, or have rights, to variable returns from our involvement with the structured entity and have the ability to affect those returns through our power over the entity.

Full details of these assessments and our accounting policy on structured entities may be found in Note 36 on the group's Financial Statements in the Annual Report and Accounts 2023.

We reassess the need to consolidate whenever there is a change in the substance of the relationship between the group and a structured entity.

The group enters into transactions in the normal course of business by which it transfers financial assets to structured entities. Depending on the circumstances, these transfers may either result in these financial assets being fully or partly derecognised, or continuing to be recognised in their entirety.

Full derecognition occurs when we transfer our contractual right to receive cash flows from the financial assets, or assume an obligation to pass on the cash flows from the assets, and transfer substantially all the risks and rewards of ownership. Only in the event that derecognition is achieved are sales and any resultant gains recognised in the financial statements.

Partial derecognition occurs when we sell or otherwise transfer financial assets in such a way that some but not substantially all of the risks and rewards of ownership are transferred and control is retained. These financial assets are recognised on the balance sheet to the extent of our continuing involvement and an associated liability is also recognised. The net carrying amount of the financial asset and associated liability will be based on the measurement basis of the financial asset, either the amortised cost or the fair value of the rights and obligations retained by the entity.

Securitisation regulatory treatment

For regulatory purposes, any reduction in RWAs that would be achieved by our own originated securitisations must satisfy section 229 (1) of the BCR. If achieved, the associated SPEs and underlying assets are not consolidated but exposures to them, including derivatives or liquidity facilities, are risk-weighted as securitisation positions.

For our securitised banking book positions, we use either the SEC-IRBA, SEC-ERBA or SEC-SA to calculate the credit risk for our securitisation exposures. Securitisation positions in the trading book are under the standardised (market risk) approach, which calculates the market risk capital charge for specific risk interest rate exposures.

The group uses S&P, Moody's and Fitch as the ECAs for each and all classes of securitisation exposures.

Analysis of securitisation exposures

The group's involvement in securitisation activities is as follows:

- as an investor, the group's securitisation activities mainly consisted of changes to the existing portfolio mix in the normal course of business;
- as an originator, the group's securitised residential mortgages in the banking book of existing SPEs reduced by HK\$3,152m.

Table 50: SEC1 – Securitisation exposures in banking book

		a	b	c	g	h	i
		Acting as originator (excluding sponsor)			Acting as investor		
		Traditional HK\$m	Synthetic HK\$m	Sub-total HK\$m	Traditional HK\$m	Synthetic HK\$m	Sub-total HK\$m
At 31 Dec 2023							
1	Retail (total) – of which:	43,897	—	43,897	31,944	—	31,944
2	residential mortgage	43,897	—	43,897	7,006	—	7,006
4	other retail exposures	—	—	—	24,938	—	24,938

Table 51: SEC2 – Securitisation exposures in trading book

		g		i	
		Acting as investor			
		Traditional		Sub-total	
		HK\$m		HK\$m	
At 31 Dec 2023					
1	Retail (total) – of which:	7,642		7,642	
2	residential mortgage	575		575	
4	other retail exposures	7,067		7,067	

Table 52: SEC4 – Securitisation exposures in banking book and associated capital requirements – where AI acts as investor

		a	b	c	d	g	h	k	l	o	p
		Exposure values (by RW bands)				Exposure values (by regulatory approach)		RWAs (by regulatory approach)		Capital charges after cap	
		≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	SEC- ERBA (including IAA)	SEC-SA	SEC- ERBA (including IAA)	SEC-SA	SEC- ERBA (including IAA)	SEC-SA
		HK\$m	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m	HK\$m
At 31 Dec 2023											
1	Total exposures	24,060	4,634	3,155	95	8,186	23,757	1,455	6,166	116	493
2	Traditional securitisation	24,060	4,634	3,155	95	8,186	23,757	1,455	6,166	116	493
3	– of which: securitisation	24,060	4,634	3,155	95	8,186	23,757	1,455	6,166	116	493
4	– of which: retail	24,060	4,634	3,155	95	8,186	23,757	1,455	6,166	116	493

Market risk

Overview of market risk

Market risk is the risk that movements in market factors, such as FX rates, interest rates, credit spreads, equity prices and commodity prices, will reduce our income or the value of our portfolios.

Exposure to market risk

Exposure to market risk is separated into trading portfolios and banking portfolios:

- Trading portfolios: these comprise positions held for client servicing and market-making, with the intention of short-term resale and/or to hedge risks resulting from such positions.
- Banking portfolios: these comprise positions that primarily arise from the interest rate management of our retail and commercial banking assets and liabilities, financial investments measured at fair value through other comprehensive income, debt instruments measured at amortised cost, and exposures arising from our insurance operations. These portfolios also include non-trading book foreign exchange ('NTBFX') exposures, where risk may arise from change in the accounting value of assets and liabilities held outside of the trading book, due to movements in FX rates. NTBFX exposures originate primarily from structural FX exposures, transactional FX exposures and limited residual FX exposures arising from timing differences or for other reasons.

Where appropriate, we apply similar risk management policies and measurement techniques to both trading and banking portfolios. Our objective is to manage and control market risk exposures to optimise return on risk while maintaining a market risk profile consistent with our established risk appetite.

Market risk governance

The majority of the total VaR, trading VaR, stressed VaR ('SVaR') and incremental risk charge ('IRC') of the group resides in Markets and Securities Services. Markets and Securities Services manages market risk, within overall risk limits set by the group CRO and approved by the Board.

For a discussion on market risk governance and structure, refer to page 64 of the group's Annual Report and Accounts 2023.

Market risk measures

Monitoring and limiting market risk exposures

We use a range of tools to monitor and limit market risk exposures, including sensitivity analysis, VaR and stress testing.

Sensitivity analysis

We use sensitivity measures to monitor the market risk positions within each asset class and risk type. Granular sensitivity limits are set for each trading desk taking into consideration market liquidity, customer demand and capital constraints, amongst other factors.

Value at risk

VaR is a technique that estimates the potential mark-to-market losses on derivative, security and money market positions in the trading and banking portfolios as a result of movements in market rates and prices over a specified time horizon and to a given level of confidence. The use of VaR is an integral part of our market risk management framework and is calculated for a scope of trading and banking positions which is wider than the set of trading positions which are capitalised under a VaR treatment.

Our models are predominantly based on historical simulation. VaR is calculated at a 99% confidence level for a one-day holding period.

Our VaR model uses historical series of market rates and prices, implicitly taking into account inter-relationships between different markets and rates such as interest rates and FX rates.

The primary categories of risk factors driving market risk are summarised below:

Risk factor	Description
FX	Risk arising from changes in FX rates and volatilities.
Interest rate	Risk arising from changes in the level of interest rates that may impact prices of interest rate sensitive assets such as interest rate swaps.
Equity	Risk arising from changes in equity prices, volatilities and dividend yields.
Commodity	Risk arising from changes in commodity prices.
Credit	Risk arising from changes in the level of credit spreads that may impact prices of credit spread sensitive assets.

Our model uses a mixed approach when applying changes in market rates and prices:

- For equity, credit and FX risk factors, VaR scenarios are calculated on a relative return basis.
- For interest rates, a mixed approach is used. The scenarios applied to volatilities are on a relative return basis, whereas the scenarios applied to interest rate curves are calculated using a hybrid of absolute and relative returns. This approach enables the VaR to smoothly adapt to either low or high interest rate environments and to support negative rates.

We use the past two years as the historical data set in our VaR model and the scenarios are updated on a weekly basis. These scenarios are then applied to the market baselines and positions on a daily basis. The model incorporates the effect of option features on the underlying exposures.

The valuation approach used in our model varies:

- Desks trading non-linear instruments mainly use a full revaluation approach; and
- Desks trading only linear instruments, such as bonds and swaps, mainly use a sensitivity based approach.

The nature of the VaR model means that an increase in observed market volatility will lead to an increase in VaR even without any changes in the underlying positions.

VaR model limitations

Although a valuable guide to risk, VaR is used with awareness of its limitations, for example:

- The use of historical data as a proxy for estimating future events may not encompass all potential events, particularly those which are extreme in nature. As the model is calibrated on the last 500 business days, it does not adjust instantaneously to sufficiently reflect a change in the market regime.
- The use of a 1-day holding period for risk management purposes of trading and banking books assumes that this short period is sufficient to hedge or liquidate all positions.
- The use of a 99% confidence level, by definition does not take into account losses that might occur beyond this level of confidence.
- VaR is calculated on the basis of exposures outstanding at close of business and therefore does not necessarily reflect intra-day exposures.

Risk not in VaR framework

The risks not in VaR ('RNIV') framework captures risks from exposures in the trading book that are not captured well by the VaR model. Our VaR model is designed to capture significant basis risk, such as CDS versus bond, asset swap spreads and cross-currency basis. Other basis risks that are not completely covered in VaR, such as CCP swap basis risks, are complemented by our RNIV calculations and are integrated into our capital framework.

Risk factors are reviewed on a regular basis and are either incorporated directly in the VaR model, where possible, or quantified through the VaR-based RNIV approach or a stress test approach within the RNIV framework. While VaR-based RNIVs are calculated by using historical scenarios, stress-type RNIVs are estimated on the basis of stress scenarios whose severity is calibrated to be in line with the capital adequacy requirements. The outcome of the VaR-based RNIV approach is included in the overall VaR calculation for risk management purposes but excluded from the VaR measures used for regulatory back-testing. In addition, SVaR also captures risk factors considered in the VaR-based RNIV approach through a corresponding SVaR RNIV.

Back-testing

We validate daily the accuracy of our VaR model by back-testing the model against both actual and hypothetical profit and loss. Hypothetical profit and loss excludes non-modelled items, such as fees, commissions and revenues of intra-day transactions.

The actual number of profits or losses in excess of VaR over this period can therefore be used to gauge how well the models are

performing. A VaR model is deemed satisfactory if it experiences fewer than five profit or loss exceptions in a 250-day period.

We back-test our VaR at various levels of our group entity hierarchy. Our back-testing covers those entities within the group which have approval to use VaR in the calculation of market risk regulatory capital requirements.

Stress testing

Stress testing is an integral part of our market risk management framework which is used to evaluate the potential impact on portfolio values of more extreme, although plausible, events or movements in a set of financial variables. In such scenarios, losses can be greater than those predicted by VaR modelling.

Stress testing is implemented at various legal entity and overall Group levels. The risk appetite around potential stress losses for the group is set and monitored against referral limits.

Market risk reverse stress tests are designed to identify vulnerabilities in our portfolios by looking for scenarios that lead to loss levels considered severe for the relevant portfolio. These scenarios may be local or idiosyncratic in nature, and complement the systematic top-down stress testing.

SVaR and stress testing, together with reverse stress testing and the management of gap risk, provide senior management with insights regarding the 'tail risk' beyond VaR for which the group's appetite is limited.

The market risk stress testing incorporates both historical and hypothetical events.

Market risk under standardised approach

Table 53: MR1 – Market risk under STM approach

		a
		RWAs HK\$m
Outright product exposures		
2	Equity exposures (general and specific risk)	848
4	Commodity exposures	3
8	Securitisation exposures	572
9	Total at 31 Dec 2023	1,423

Market risk capital models

The Group has permission to use a number of market risk capital models to calculate regulatory capital as listed in the table below. For regulatory purposes, the trading book comprises all positions in financial instruments and commodities held with trading intent and positions where it can be demonstrated that they hedge positions in the trading book. Trading book positions must either be free of any restrictive covenants on their tradability or be capable of being hedged.

The Group maintains a trading book policy, which defines the minimum requirements for trading book positions and the process for

classifying positions as trading or banking book. Positions in the trading book are subject to market risk-based rules, i.e. market risk capital, calculated using regulatory approved models. Where we do not have permission to use internal models, market risk capital is calculated using the standardised approach.

If any of the policy criteria are not met, then the position is categorised as a banking book exposure.

Model component	Confidence level	Liquidity horizon	Model description and methodology
VaR	99%	10 day	Uses most recent two years' history of daily returns to determine a loss distribution. The result is scaled, using the square root of 10, to provide an equivalent 10-day loss.
SVaR	99%	10 day	SVaR is calibrated to a one-year period of stress observed in history, calculated using 10 day returns.
IRC	99.9%	1 year	Uses a multi-factor Gaussian Monte-Carlo simulation, which includes product basis, concentration, hedge mismatch, recovery rate and liquidity as part of the simulation process. A minimum liquidity horizon of three months is applied and is based on a combination of factors, including issuer type, currency and size of exposure.

VaR

VaR used for regulatory purposes differs from VaR used for management purpose with key differences listed below.

VaR	Regulatory	Management
Scope	Regulatory approval	Broader population of trading and banking book positions
Confidence interval	99%	99%
Liquidity horizon	10-day	1-day
Data set	Past 2 years	Past 2 years

We calculate VaR for regulatory purposes only in respect of the trading books for which we have received approval to use an internal model from the regulator. Regulatory VaR levels contribute to the calculation of market risk RWAs.

Stressed VaR

SVaR is primarily used for regulatory capital purposes and is integrated into the risk management process to ensure prudent capital management. SVaR complements other risk measures by providing the potential losses under stressed market conditions.

SVaR modelling follows the same approach as our VaR risk measure, except that:

- potential market movements employed for SVaR calculations are based on a continuous one-year period of stress for the trading portfolio;
- it is calculated to a 99% confidence using a 10-day holding period; and
- it is based on an actual 10-day holding period, whereas regulatory VaR is based on a one-day holding period scaled to 10 days.

Analysis of VaR, stressed VaR and incremental risk charge measures

The following table is prepared in accordance with the basis of preparation used to calculate the group's market risk capital charge under the IMM approach.

Table 54: MR3 – IMM approach values for market risk exposures

		a
		HK\$m
At 31 Dec 2023		
VaR (10 day – one-tailed 99% confidence interval)¹		
1	Maximum Value	1,096
2	Average Value	638
3	Minimum Value	435
4	Period End	598
Stressed VaR (10 day – one-tailed 99% confidence interval)¹		
5	Maximum Value	1,907
6	Average Value	1,248
7	Minimum Value	603
8	Period End	1,526
IRC (99.9% confidence interval)		
9	Maximum Value	3,145
10	Average Value	2,632
11	Minimum Value	2,178
12	Period End	2,755

¹ The total VaR excludes RNIV.

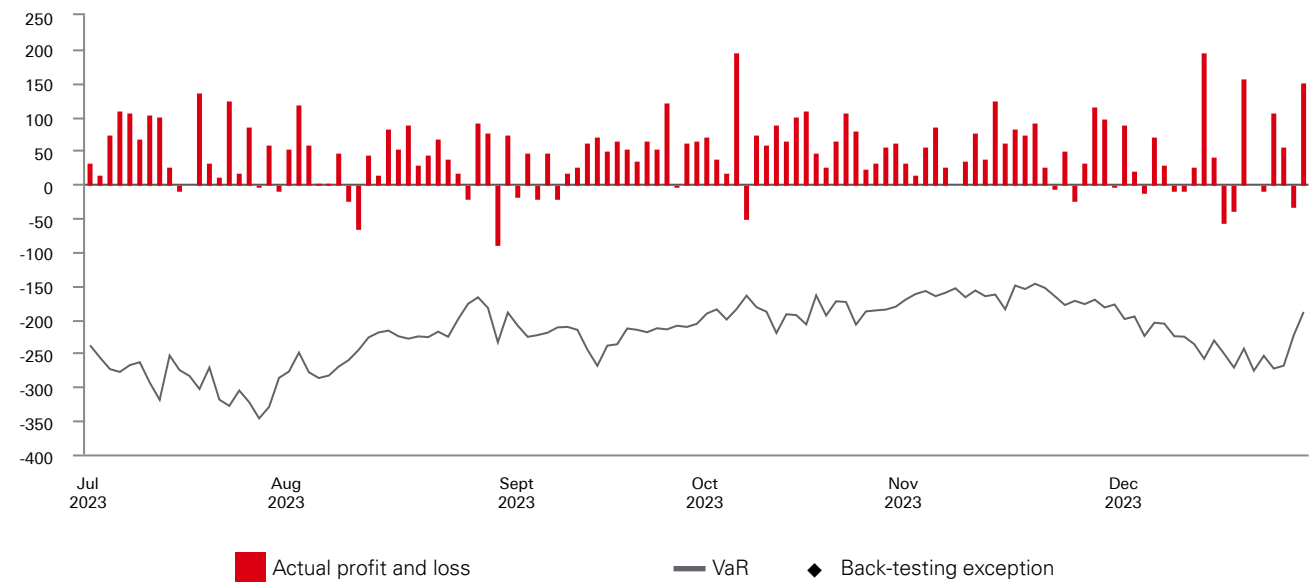
The group's trading VaR at 31 December 2023 was lower than 30 June 2023 mainly due to a decrease in overall outright interest rate risk exposures.

The increment of trading Stressed VaR at 31 December 2023 compared to 30 June 2023 was mainly driven by the increase in interest rate basis risk exposures from cross currency and foreign exchange products.

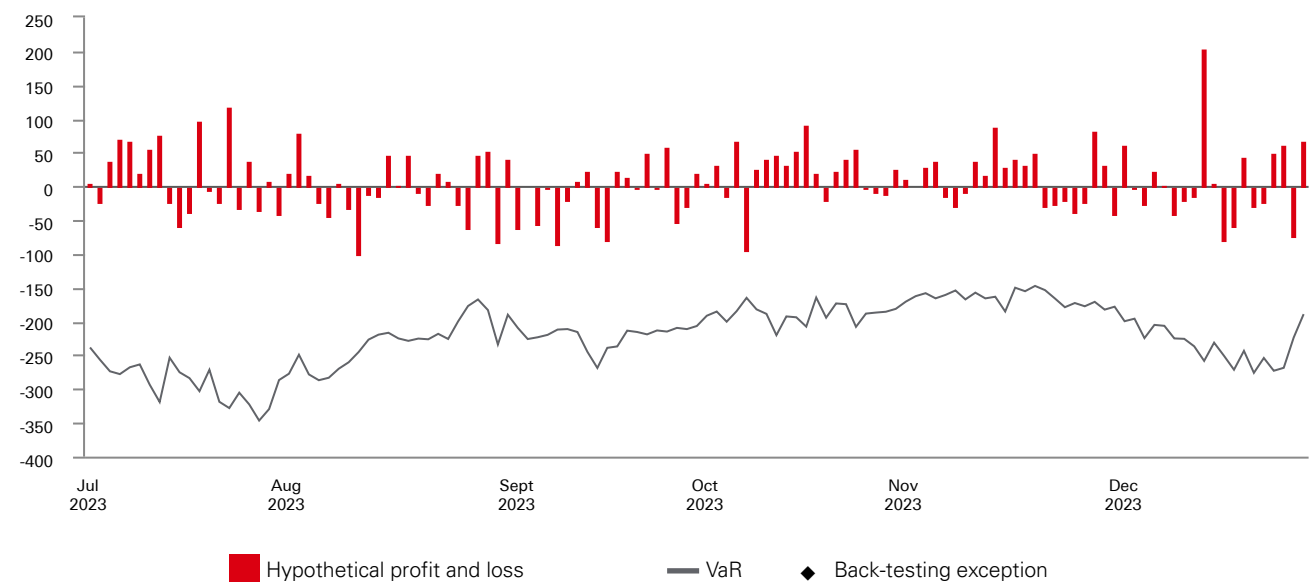
Trading IRC at 31 December 2023 was higher than 30 June 2023 due to an increase in bond trading exposures.

Table 55: MR4 – Comparison of VaR estimates with gains or losses

VaR back-testing exceptions against actual profit and loss (HK\$m)



VaR back-testing exceptions against hypothetical profit and loss (HK\$m)



There was no VaR back-testing loss exception in the second half of year 2023.

Prudent valuation adjustment

The group has documented policies and maintains systems and controls for the calculation of PVA. Prudent value is an estimated conservative pricing with a 90% degree of certainty that would be received to sell an asset or paid to transfer a liability in orderly transactions occurring between market participants at the balance

sheet date. The Group's methodology addresses fair value uncertainties arising from a number of sources; market price uncertainty, bid offer uncertainty, model risk, concentration, administrative cost, unearned credit spreads and investing and funding costs.

Table 56: PV1 – Prudent valuation adjustments

	a	b	c	d	e	f	g	h
	Equity HK\$m	Interest rates HK\$m	FX HK\$m	Credit HK\$m	Commodities HK\$m	Total HK\$m	of which: In the trading book HK\$m	of which: In the banking book HK\$m
1 Close-out uncertainty	394	968	88	123	—	1,573	1,014	559
2 – of which:								
Mid-market value	280	458	39	55	—	832	463	369
3 Close-out costs	45	228	16	16	—	305	243	62
4 Concentration	69	282	33	52	—	436	308	128
5 Early termination	—	—	—	—	—	—	—	—
6 Model risk	18	64	2	2	—	86	86	—
7 Operational risks	33	97	8	8	1	147	111	36
8 Investing and funding costs	—	61	—	—	—	61	61	—
9 Unearned credit spreads	1	386	29	—	7	423	376	47
10 Future administrative costs	—	1	—	—	—	1	1	—
11 Other adjustments	—	—	—	—	—	—	74	(74)
12 Total adjustments at 31 Dec 2023	446	1,577	127	133	8	2,291	1,723	568

Liquidity information

The LCR aims to ensure that a bank has sufficient unencumbered HQLA to meet its liquidity needs in a 30 calendar day liquidity stress scenario. The group also uses the NSFR as a basis for ensuring operating entities raise sufficient stable funding to support their business activities. The NSFR requires institutions to maintain a minimum amount of stable funding based on assumptions of asset liquidity.

The following table displays the LCR and NSFR levels on three reporting bases in accordance with rules 10(1)(a), 10(1)(b) and 11(1) of the BLR:

Table 57: LIQA – LCRs and NSFRs on three liquidity reporting bases

	At 31 Dec 2023	
	LCR %	NSFR %
Hong Kong Office	194.7	139.6
Unconsolidated	188.1	140.9
Consolidated	160.2	156.0

Information relating to the group's approach to liquidity risk management, including customised measurement tools and metrics, and details of collateral pools and funding sources can be found in pages 62 to 63 on the Risk Report of the group's Annual Report and Accounts 2023. The on- and off-balance sheet items, broken down into maturity buckets, is disclosed in Notes 26 and 27 on the group's Annual Report and Accounts 2023.

Table 58: LIQ1 – Liquidity coverage ratio – for category 1 institution

		a	b
Number of data points used in calculating the average value of the LCR and related components set out in this table for the quarters ended on 31 December 2023 was 74.		Quarter ended 31 Dec 2023	
		Unweighted value (average) HK\$m	Weighted value (average) HK\$m
Basis of disclosure: consolidated			
A	HQLA		
1	Total HQLA		1,938,900
B	Cash outflows		
2	Retail deposits and small business funding, of which:	3,663,481	347,400
3	Stable retail deposits and stable small business funding	271,255	8,177
4	Less stable retail deposits and less stable small business funding	3,392,226	339,223
5	Unsecured wholesale funding (other than small business funding) and debt securities and prescribed instruments issued by the AI, of which:	2,382,318	1,092,439
6	Operational deposits	723,411	176,389
7	Unsecured wholesale funding (other than small business funding) not covered in row 6	1,649,372	906,515
8	Debt securities and prescribed instruments issued by the AI and redeemable within the LCR period	9,535	9,535
9	Secured funding transactions (including securities swap transactions)		46,094
10	Additional requirements, of which:	1,164,882	301,696
11	Cash outflows arising from derivative contracts and other transactions, and additional liquidity needs arising from related collateral requirements	165,279	165,207
12	Cash outflows arising from obligations under structured financing transactions and repayment of funding obtained from such transactions	4,376	4,376
13	Potential drawdown of undrawn committed facilities (including committed credit facilities and committed liquidity facilities)	995,227	132,113
14	Contractual lending obligations (not otherwise covered in Section B) and other contractual cash outflows	177,655	177,655
15	Other contingent funding obligations (whether contractual or non-contractual)	2,754,303	22,172
16	Total cash outflows		1,987,456
C	Cash inflows		
17	Secured lending transactions (including securities swap transactions)	823,039	115,466
18	Secured and unsecured loans (other than secured lending transactions covered in row 17) and operational deposits placed at other financial institutions	872,076	495,646
19	Other cash inflows	228,130	227,050
20	Total cash inflows	1,923,245	838,162
D	Liquidity coverage ratio (adjusted value)		
21	Total HQLA		1,938,900
22	Total net cash outflows		1,149,294
23	LCR (%)		168.9

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Table 59: LIQ2 – Net stable funding ratio – for category 1 institution

Basis of disclosure: consolidated	a	b	c	d	e
	Quarter ended 31 Dec 2023				
	Unweighted value by residual maturity				Weighted amount HK\$m
	No specified term to maturity HK\$m	<6 months or repayable on demand HK\$m	6 months to < 12 months HK\$m	12 months or more HK\$m	
A Available stable funding ('ASF') item					
1 Capital:	827,545	—	—	34,673	862,217
2 <i>Regulatory capital</i>	827,545	—	—	27,034	854,578
3 <i>Other capital instruments</i>	—	—	—	7,639	7,639
4 Retail deposits and small business funding:		3,793,081	—	—	3,427,192
5 <i>Stable deposits</i>		268,381	—	—	254,962
6 <i>Less stable deposits</i>		3,524,700	—	—	3,172,230
7 Wholesale funding:	—	3,472,181	53,623	7,478	1,159,559
8 <i>Operational deposits</i>		744,724	—	—	372,362
9 <i>Other wholesale funding</i>	—	2,727,457	53,623	7,478	787,197
10 Liabilities with matching interdependent assets	328,304	—	—	—	—
11 Other liabilities:	330,726	135,080	31,931	282,666	298,631
12 <i>Net derivative liabilities</i>	6,134	—	—	—	—
13 <i>All other funding and liabilities not included in the above categories</i>	324,592	135,080	31,931	282,666	298,631
14 Total ASF					5,747,599
B Required stable funding ('RSF') item					
15 Total HQLA for NSFR purposes ¹		2,171,559			106,737
17 Performing loans and securities:	490,806	2,797,437	455,180	2,283,348	3,004,976
18 <i>Performing loans to financial institutions secured by Level 1 HQLA</i>	—	854,639	21,051	15,287	111,277
19 <i>Performing loans to financial institutions secured by non-Level 1 HQLA and unsecured performing loans to financial institutions</i>	7,652	358,634	114,996	144,730	263,675
20 <i>Performing loans, other than performing residential mortgage, to non-financial corporate clients, retail and small business customers, sovereigns, the Monetary Authority for the account of the Exchange Fund, central banks and PSEs, of which:</i>	158,381	1,089,996	290,639	938,901	1,501,174
21 <i>With a risk-weight of less than or equal to 35% under the STC approach</i>	187	2,199	1,162	32,202	26,818
22 <i>Performing residential mortgages, of which:</i>	—	11,902	10,247	1,105,295	746,513
23 <i>With a risk-weight of less than or equal to 35% under the STC approach</i>	—	10,087	9,580	1,020,797	673,449
24 <i>Securities that are not in default and do not qualify as HQLA, including exchange-traded equities</i>	324,773	482,266	18,247	79,135	382,337
25 Assets with matching interdependent liabilities	328,304	—	—	—	—
26 Other assets:	941,214	76,002	1	1,858	516,571
27 <i>Physical traded commodities, including gold</i>	13,378	—	—	—	11,372
28 <i>Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs</i>	59,877	—	—	—	50,895
30 <i>Total derivative liabilities before adjustments for deduction of variation margin posted</i>	347,010	—	—	—	17,350
31 <i>All other assets not included in the above categories</i>	520,949	76,002	1	1,858	436,954
32 Off-balance sheet items ¹			3,796,213		57,073
33 Total RSF					3,685,357
34 Net Stable Funding Ratio (%)					156.0

Table 59: LIQ2 – Net stable funding ratio – for category 1 institution (continued)

		a	b	c	d	e
		Quarter ended 30 Sep 2023				
		Unweighted value by residual maturity				
		No specified term to maturity	<6 months or repayable on demand	6 months to < 12 months	12 months or more	Weighted amount
Basis of disclosure: consolidated		HK\$m	HK\$m	HK\$m	HK\$m	HK\$m
A	Available stable funding ('ASF') item					
1	Capital:	825,310	—	—	33,392	858,702
2	Regulatory capital	825,310	—	—	26,060	851,370
3	Other capital instruments	—	—	—	7,332	7,332
4	Retail deposits and small business funding:		3,631,026	—	—	3,281,603
5	Stable deposits		273,581	—	—	259,902
6	Less stable deposits		3,357,445	—	—	3,021,701
7	Wholesale funding:	—	3,513,870	50,734	8,137	1,094,275
8	Operational deposits		681,551	—	—	340,776
9	Other wholesale funding	—	2,832,319	50,734	8,137	753,499
10	Liabilities with matching interdependent assets	327,624	—	—	—	—
11	Other liabilities:	300,758	195,973	35,250	281,402	299,027
12	Net derivative liabilities	4,596				—
13	All other funding and liabilities not included in the above categories	296,162	195,973	35,250	281,402	299,027
14	Total ASF					5,533,607
B	Required stable funding ('RSF') item					
15	Total HQLA for NSFR purposes ¹		2,115,531			93,816
17	Performing loans and securities:	433,997	2,778,007	452,669	2,251,929	2,942,622
18	Performing loans to financial institutions secured by Level 1 HQLA	—	894,556	14,916	10,227	107,141
19	Performing loans to financial institutions secured by non-Level 1 HQLA and unsecured performing loans to financial institutions	12,419	381,304	103,731	138,446	259,924
20	Performing loans, other than performing residential mortgage, to non-financial corporate clients, retail and small business customers, sovereigns, the Monetary Authority for the account of the Exchange Fund, central banks and PSEs, of which:	149,418	981,107	299,485	935,975	1,502,114
21	With a risk-weight of less than or equal to 35% under the STC approach	2,013	3,435	1,394	35,864	31,581
22	Performing residential mortgages, of which:	—	12,141	10,383	1,089,563	738,147
23	With a risk-weight of less than or equal to 35% under the STC approach	—	10,013	9,545	1,002,638	662,778
24	Securities that are not in default and do not qualify as HQLA, including exchange-traded equities	272,160	508,899	24,154	77,718	335,296
25	Assets with matching interdependent liabilities	327,624	—	—	—	—
26	Other assets:	993,250	118,060	5	1,872	522,672
27	Physical traded commodities, including gold	18,398				15,639
28	Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs	57,791				49,122
30	Total derivative liabilities before adjustments for deduction of variation margin posted	399,394				19,970
31	All other assets not included in the above categories	517,667	118,060	5	1,872	437,941
32	Off-balance sheet items ¹			3,763,300		50,696
33	Total RSF					3,609,806
34	Net Stable Funding Ratio (%)					153.3

¹ The unweighted values disclosed in these rows are not required to be split by residual maturity.

Other disclosures

Interest rate exposures in the banking book

Interest rate risk in the banking book ('IRRBB') is the potential adverse impact of changes in interest rates on earnings and capital. The component of IRRBB that can be economically neutralised in the market is transferred to Markets Treasury team to manage, in accordance with internal transfer pricing rules. In its management of IRRBB, the group aims to balance the potential adverse effect of future interest rate movements on the net interest income ('NII') against the cost of hedging. The monitoring of the projected NII and economic value of equity ('EVE') sensitivities ('Δ') under varying interest rate scenarios is a key part of this.

Governance and structure

Global Treasury monitors and controls IRRBB. This includes reviewing and challenging the global businesses prior to the release of new products and proposed behavioural assumptions used for hedging activities. Global Treasury is also responsible for maintaining and updating the transfer pricing framework, informing the Asset and Liability Committee ('ALCO') of the group's overall banking book interest rate risk exposure and managing the balance sheet in conjunction with Markets Treasury.

The ALCO defines each operating entity's transfer pricing curve and reviews and approves the transfer pricing policy, including behavioural assumptions used for products where there is either no defined maturity or customer optionality exists.

The ALCO is also responsible for monitoring and reviewing each entity's overall structural interest rate risk position. Structural hedge demand is determined as per Group's Benchmark Structural Hedge methodology and is approved by local ALCOs at least annually. Banking book assets and liabilities are transferred to Markets Treasury based on their repricing and maturity characteristics.

Markets Treasury manages the banking book interest rate positions transferred to it within the Market Risk limits.

Sensitivity of economic value of equity

ΔEVE is the extent to which the EVE will change due to a pre-specified movement in interest rates (six interest rate shock scenarios prescribed by the HKMA), where all other economic variables are held constant. Variations in market interest rates can affect the economic value of assets, liabilities and OBS positions. The economic value of an instrument represents an assessment of the present value of its expected net cash flows, discounted to reflect market rates. The economic value perspective reflects this sensitivity. It provides a more comprehensive view of the potential long-term effects of changes in interest rates.

Sensitivity of net interest income

ΔNII is the sensitivity of expected NII under varying interest rate scenarios, where all other economic variables are held constant. The sensitivity of NII reflects the bank's sensitivity of earnings due to changes in market interest rates. Based on the reported interest rate repricing positions in the Interest Rate Risk Return, the impact on earnings is assessed over the next 12 months using the interest rate shock scenarios prescribed by the HKMA.

The ΔEVE and ΔNII shown in Table 60 are indicative and based on scenarios and assumptions prescribed by the HKMA under its completion instructions for the Return of Interest Rate Risk in the Banking Book – MA(BS)12A, which is completed and reported quarterly on a consolidated basis.

Key modelling and parametric assumptions used in calculating ΔEVE and ΔNII in Table 60 include:

- for ΔEVE, commercial margins and other spread components have been excluded from the cash flows used in the computation and discount rate used;
- all the positions captured are assumed to run to maturity and slotted into the appropriate time bands based on risk transfer profile for material exposures and according to the earliest interest repricing date for the rest (as per the HKMA Return of Interest Rate Risk in the Banking Book – MA(BS)12A) including for non-maturity deposits ('NMDs'); and
- no prepayment or early redemption risk from customer loans and deposits is assumed as majority of loans are on a floating basis and the average term for fixed rate deposits is one to three months, therefore the risk is immaterial.

The group uses an internal measurement system ('IMS') to generate ΔEVE for internal assessment of capital adequacy which is different from the modelling assumptions prescribed for this disclosure, however, the cumulative impact on the quantification of EVE sensitivity is small. This includes:

- structural hedge demand of non-maturity products, the extent of which can be driven by:
 - the amount of the current balance that can be assessed as stable under business-as-usual conditions; and
 - for managed rate balances the historic market interest rate repricing behaviour observed; or
 - for non-interest bearing balances the duration for which the balance is expected to remain under business-as-usual conditions. This assessment is often driven by the re-investment tenors available to Markets Treasury to neutralise the risk through the use of fixed rate government bonds or interest rate derivatives, and for derivatives the availability of cash flow hedging capacity.
- internal measurements consider aggregated results of all currencies and not only material currencies as prescribed by the HKMA under its completion instruction for the Return of Interest Rate Risk in the Banking Book – MA(BS)12A;
- negative rate flooring is set at -1% for the overnight tenor to 0% for 20-year tenor, unlike the modelling assumptions prescribed under this disclosure which is set at -2% for all currencies; and
- economic value gains weighted 50% and losses weighted 100% under internal measurement unlike the modelling assumptions for this disclosure where economic value gains are weighted at 0%.

The repricing maturity of NMDs is determined by the actual risk transfer tenors subject to caps prescribed by the HKMA in the Supervisory Policy Manual for IRRBB (IR-1).

Quantitative information on interest rate risk in banking book

The worst scenario for change in the EVEs is the 'Parallel up' scenario with specific size of interest rate shock for each currency. The year-on-year reduction in EVEs is mainly driven by a change in repricing maturity of NMDs in line with structural hedging portfolios, previously modelled as repricing overnight. As of December 2023, the average and the longest repricing maturity assigned to NMDs are 0.6 years and 5 years respectively.

The scenario with the most adverse impact of interest rate movements from an earnings perspective under the supervisory prescribed interest rate shock scenarios over the next twelve months is the 'Parallel up' scenario. The decrease in net interest income sensitivity is mainly driven by structural hedging activities undertaken during the year.

Table 60: IRRBB1 – Quantitative information on interest rate risk in banking book

		a	b	c	d
		ΔEVE		ΔNII	
		31 Dec 2023 HK\$m	31 Dec 2022 ¹ HK\$m	31 Dec 2023 HK\$m	31 Dec 2022 ¹ HK\$m
1	Parallel up	17,329	33,658	11,399	19,060
2	Parallel down	390	—	(11,638)	(19,186)
3	Steepener	5,618	1,348		
4	Flattener	3,494	10,007		
5	Short rate up	7,388	22,376		
6	Short rate down	1,042	9		
7	Maximum	17,329	33,658	11,399	19,060
	Period	31 Dec 2023		31 Dec 2022	
8	Tier 1 capital	562,454		545,572	

¹ Comparative data have been re-presented to align with the submission to the HKMA.

Mainland activities

The analysis of mainland activities is based on the categories of non-bank counterparties and the type of direct exposures defined by the HKMA under the BDR with reference to the HKMA's Return of Mainland Activities – MA(BS)20, which includes the mainland exposures extended by the Bank's Hong Kong offices and wholly-owned banking subsidiaries in mainland China.

Table 61: Mainland activities

		On-balance sheet exposure HK\$m	Off-balance sheet exposure HK\$m	Total exposures HK\$m
At 31 Dec 2023				
Types of counterparties				
1	Central government, central government-owned entities and their subsidiaries and joint ventures ('JVs')	292,719	35,785	328,504
2	Local governments, local government-owned entities and their subsidiaries and JVs	86,366	4,463	90,829
3	People's Republic of China ('PRC') nationals residing in mainland China or other entities incorporated in mainland China and their subsidiaries and JVs	408,175	81,156	489,331
4	Other entities of central government not reported in item 1 above	11,689	4,659	16,348
5	Other entities of local governments not reported in item 2 above	6,998	2,268	9,266
6	PRC nationals residing outside mainland China or entities incorporated outside mainland China where the credit is granted for use in mainland China	22,435	2,898	25,333
7	Other counterparties where the exposures are considered by the reporting institution to be non-bank mainland China exposures	38,763	4,085	42,848
Total		867,145	135,314	1,002,459
Total assets after provision		6,570,174		
On-balance sheet exposures as percentage of total assets		13.20%		

International claims

The group's country risk exposures in the table below are prepared in accordance with the HKMA Return of International Banking Statistics – MA(BS)21 guidelines on an accounting consolidation basis. International claims are on-balance sheet exposures to counterparties based on the location of the counterparties, after taking into account the transfer of risk, and represent the sum of cross-border claims in all currencies and local claims in foreign currencies.

The table shows claims on individual countries and territories or areas, after recognised risk transfer, amounting to not less than 10% of the group's total international claims.

Table 62: International claims

	Banks HK\$m	Official sector HK\$m	Non-bank financial institutions HK\$m	Non-financial private sector HK\$m	Total HK\$m
At 31 Dec 2023					
Developed countries	465,312	838,735	435,020	628,842	2,367,909
– of which: United States	41,643	577,851	159,300	228,584	1,007,378
– of which: Japan	101,045	140,013	39,946	183,599	464,603
Offshore centres	113,394	59,542	192,863	447,774	813,573
– of which: Hong Kong	57,941	4,681	131,942	293,779	488,343
Developing Asia and Pacific	571,461	171,538	94,215	427,197	1,264,411
– of which: Mainland China	417,297	113,123	61,763	248,679	840,862

Foreign currency positions

The group had the following non-structural foreign currency positions that were not less than 10% of the net non-structural positions in all foreign currencies at 31 December 2023:

Table 63: Non-structural foreign currency positions

HK\$m equivalent	United States Dollars HK\$m	Chinese Renminbi HK\$m
At 31 Dec 2023		
Spot assets	2,629,526	933,216
Spot liabilities	(3,415,918)	(818,273)
Forward purchases	12,407,543	2,750,305
Forward sales	(11,600,683)	(2,869,508)
Net options positions	(10,111)	7,426
Net long (net short) position¹	10,357	3,166

¹ The net options positions reported above are calculated using the delta-weighted positions of the options contracts.

Remuneration

Remuneration Strategy

Our performance and pay framework is underpinned by our Group's Remuneration Strategy and principles. Group refreshed the reward strategy and wider employee proposition centred on our purpose and values.

The refreshed principles and supporting commitments articulate the experience for employees and provide a clear framework to create a dynamic culture where the best talent are motivated to deliver high performance:

- We will reward you responsibly through fixed pay security and protection through core benefits, a competitive total compensation opportunity, and pay equity with a more inclusive and sustainable benefits proposition over time.
- We will recognise your success through our performance culture and routines, including feedback and recognition, pay for performance, and all employees share ownership opportunities.
- We will support you to grow through our proposition beyond pay, with a focus on future skills and development, your mental, physical, social and financial well-being, and flexibility in work practices.

Our aim is to use the framework to deliver an exceptional colleague experience – strengthening our ability to attract, retain and motivate the people we need in competitive labour markets, in the context of evolving employee expectations.

During 2023 we have undertaken significant design work to review our performance approach and pay structures to simplify, improve transparency, and foster an environment focused on growth, learning

and motivating colleagues to perform at their best. This will be implemented from 2024.

In addition to performance and pay, work is underway to drive improvements to our proposition beyond pay, aligned to the principles of our reward strategy, building on our strong benefits and well-being programme, including flexible working, and more inclusive and sustainable benefits.

Please refer to the HSBC remuneration practices and governance at www.hsbc.com/who-we-are/leadership-and-governance/remuneration and the Pillar 3 Remuneration Disclosures in the Director's Remuneration Report section of the Annual Report and Accounts of HSBC Holdings plc for details of the major design characteristics of the remuneration strategy including alignment between risk and reward and the updates on the reward strategy and principles in 2024.

Governance and role of relevant stakeholders

The Group Remuneration Committee is responsible for setting the principles, parameters and governance framework for the Group's remuneration strategy applicable to all Group employees, which is adopted by the Bank. The members of the Bank's Remuneration Committee are independent non-executive Directors of the Bank Board.

The Bank as an authorised institution under the Banking Ordinance is required by HKMA Supervisory Policy Manual CG-5 'Guideline on a Sound Remuneration System' ('the Guideline') to assess whether their existing remuneration systems and policy are in line with the principles in the Guideline, independently of management. This review

is undertaken annually. For the review completed in April 2023, Deloitte LLP confirmed that the Bank's remuneration strategy as adopted from the Group strategy is consistent with the principles set out in the Guideline. Deloitte has been commissioned to undertake the review for 2023/2024.

Senior management and key personnel

Senior management is defined as those persons responsible for oversight of the group's strategy, activities or material business lines. This includes the Executive Directors, Executive Committee members, Co-Chief Executives, Alternative Chief Executive, Head of Control Functions (Audit, Risk, Legal and Compliance) and Managers as registered with the HKMA. There were 35 members of senior management during 2023.

Key personnel is defined as individual employees whose duties or activities involve the assumption of material risk or the taking on of material exposures on behalf of the group. Under the provisions of the UK Prudential Regulation Authority's ('PRA') Remuneration Rules, HSBC is required to identify individuals who will be considered as 'Identified Staff and Material Risk Takers' (collectively referred to as 'Material Risk Takers' or 'MRTs') based on the qualitative and quantitative criteria specified in the Regulatory Technical Standard ('RTS') issued by the European Banking Authority ('EBA'). Based on the criteria applicable to the Group, the identified number of MRTs, and in turn key personnel, in 2023 were 305 members.

Table 64: REM1 – Remuneration awarded during financial year

Remuneration amount and quantitative information	a	b
	2023	
	Senior Management	Key personnel
Fixed remuneration¹		
1 Number of employees	35	305
2 Total fixed remuneration (HK\$m)	296	1,269
3 – of which: cash-based	296	1,269
Variable remuneration²		
9 Number of employees ³	35	305
10 Total variable remuneration (HK\$m)	369	1,227
11 – of which: cash-based	174	588
12 – of which: deferred	102	292
13 – of which: shares or other share-linked instruments	195	639
14 – of which: deferred	124	343
17 Total remuneration (HK\$m)	665	2,496

1 Fixed remuneration includes base salary, cash allowance, pension contribution and international assignment benefits where applicable.

2 The forms of variable remuneration and the proportion deferred are based on the seniority, role and responsibilities of employees and their level of total variable compensation.

3 Number of employees disclosed above includes leavers who may have zero variable pay.

Total remuneration has increased compared to prior year, which is a reflection of the higher number of senior management and key personnel and the improved financial performance of the bank.

Table 65: REM2 – Special payments

Special payments	e	f
	2023	
	Severance payments	
	Number of employees	Total amount HK\$m
2 Key personnel	13	24

Table 66: REM3 – Deferred remuneration

Deferred and retained remuneration	a	b	d	e
	2023			
	Total amount of outstanding deferred remuneration HK\$m	of which: Total amount of outstanding deferred and retained remuneration exposed to ex post explicit and/or implicit adjustment HK\$m	Total amount of amendment during the year due to ex post implicit adjustments HK\$m	Total amount of deferred remuneration paid out in the financial year HK\$m
1 Senior management	468	468	37	134
2 Cash	191	191	—	50
3 Shares	277	277	37	84
6 Key personnel	1,304	1,304	108	574
7 Cash	517	517	—	159
8 Shares	787	787	108	415
11 Total	1,772	1,772	145	708

The amount of outstanding deferred remuneration and the amount of deferred remuneration paid out has increased compared to prior year. This is a reflection of the higher variable remuneration awards made for year 2022 and personnel changes in senior management and key personnel.

Other information

Abbreviations

The following abbreviated terms are used throughout this document.

Currencies

HK\$m	Millions of Hong Kong dollars
HK\$b	Billions (thousands of millions) of Hong Kong dollars

A

α	Alpha
AI	Authorised institution
ALCO	Asset and Liability Management Committee
ASF	Available stable funding
AT1	Additional Tier 1
AVAs	Additional valuation adjustments

B

Bank	The Hongkong and Shanghai Banking Corporation Limited
BCBS	Basel Committee on Banking Supervision
BCR	Banking (Capital) Rules
BDR	Banking (Disclosure) Rules
BLR	Banking (Liquidity) Rules
BSC	Basic indicator approach

C

CCF	Credit conversion factor
CCP ¹	Central counterparty
CCR ¹	Counterparty credit risk
CCyB ¹	Countercyclical capital buffer
CDS ¹	Credit default swap
CET1 ¹	Common equity tier 1
CIS	Collective investment scheme
CRE ¹	Commercial real estate
CRM ¹	Credit risk mitigation/mitigant
CRO	Chief Risk Officer
CRR ¹	Customer risk rating
CSA	Credit support annex
CVA ¹	Credit valuation adjustment

D

D-SIB	Domestic systemically important authorised institution
DTAs	Deferred tax assets

E

EAD ¹	Exposure at default
EBA	European Banking Authority
ECA	Export credit agencies
ECAI	External Credit Assessment Institutions
ECL ¹	Expected credit loss
EEPE	Effective expected positive exposures
EL	Expected loss
EVE	Economic value of equity

F

FIRO	Financial Institutions (Resolution) Ordinance
Fitch	Fitch Ratings
FSB	Financial Stability Board
FX	Foreign exchange

G

GMRC	Global Model Risk Committee
Group	HSBC Holdings together with its subsidiary undertakings
group	The Hongkong and Shanghai Banking Corporation Limited together with its subsidiary undertakings
G-SIB ¹	Global systemically important authorised institution

H

HAHO	HSBC Asia Holdings Limited
HKFRS	Hong Kong Financial Reporting Standards

HKMA	Hong Kong Monetary Authority
Hong Kong/HK	The Hong Kong Special Administrative Region of the People's Republic of China
HQLA	High-quality liquid assets
HSBC	HSBC Holdings together with its subsidiary undertakings
HSBC Group	HSBC Holdings together with its subsidiary undertakings
HVCRE	High volatility commercial real estate

I

IAA	Internal assessment approach
IMM ¹	Internal Models Method
IMM(CCR)	Internal models (counterparty credit risk)
IMS	Internal measurement system
IPRE	Income producing real estate
IRB ¹	Internal ratings-based approach
IRC	Incremental risk charge
IRRBB	Interest rate risk in the banking book

J

J	Jurisdiction
JCCyB	Jurisdictional countercyclical capital buffer
JVs	Joint ventures

L

LAC	Loss-absorbing capacity
LAC Rules	Financial Institutions (Resolution) (Loss-absorbing Capacity Requirements - Banking Sector) Rules
LCR ¹	Liquidity Coverage Ratio
LGD ¹	Loss given default
LR ¹	Leverage ratio
LTA	Look-through approach

M

MBA	Mandate-based approach
MOF	Model Oversight Forum
Moody's	Moody's Investors Service
MRC	Regional Model Risk Committee
MRTs ¹	Identified Staff and Material Risk Takers
MSRs	Mortgage servicing rights

N

NBFI	Non-bank financial institution
NII ¹	Net interest income
NSFR ¹	Net stable funding ratio
NMDs	Non-maturity deposits
NTBFX	Non-trading book foreign exchange

O

OBS	Off-balance sheet
OTC ¹	Over-the-counter

P

PD ¹	Probability of default
PF	Project finance
PFE	Potential future exposure
PIT	Point-in-Time
PMA	Post Model Adjustment
PRA ¹	Prudential Regulation Authority
PRC	People's Republic of China
PSE	Public sector entity
PVA	Prudent valuation adjustments

Q

QRRE	Qualifying revolving retail exposures
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R	
RAS	Risk appetite statement
RC	Replacement cost
RMM	Risk Management Meeting
RMOF	Retail Model Oversight Forum
RNIV	Risks not in VaR
RSF	Required stable funding
RTS	Regulatory Technical Standard
RW	Risk weight
RWA ¹	Risk-weighted asset/risk-weighted amount
S	
SA-CCR	Standardised (counterparty credit risk) approach
SEC-ERBA	Securitisation external ratings-based approach
SEC-FBA	Securitisation fall-back approach
SEC-IRBA	Securitisation internal ratings-based approach
SEC-SA	Securitisation standardised approach
SFT	Securities Financing Transactions
Δ	Sensitivity
SMEs	Small-and-medium sized enterprises/corporates
SPE ¹	Special purpose entities
SRW	Supervisory risk weight
STC	Standardised (credit risk) approach
STM	Standardised (market risk) approach
STO	Standardised (operational risk) approach
SVaR ¹	Stressed Value at risk
S&P	Standard and Poor's Ratings Services
T	
T1 ¹	Tier 1 capital
T2 ¹	Tier 2 capital
TC ¹	Total regulatory capital
TLAC ¹	Total Loss-absorbing Capacity
TTC	Through-The-Cycle
V	
VaR ¹	Value at risk
W	
WMOF	Wholesale Model Oversight Forum
WPB	Wealth and Personal Banking

¹ Full definition included in the Glossary published on HSBC website www.hsbc.com

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