The Hongkong and Shanghai Banking Corporation Limited

Banking Disclosure Statement at 31 December 2022
(Unaudited)

HSBC

Contents

Tables

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 2022*. The group's *Annual Report and Accounts 2022*, 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 in accordance with the group's policies on disclosure and its financial reporting and governance processes.

Basis of preparation

Except where indicated otherwise, the financial information contained in this Banking Disclosure Statement has been prepared on a consolidated 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 2022 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 2023. 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 2022*, 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.

The Banking Disclosure Statement

The group's Banking Disclosure Statement at 31 December 2022 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 2022*. 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 2022*:	**References:**
• BDR Section 16FJ – LIQA: Liquidity risk management	Pages 57-58
• 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	Page 57
• BDR Section 44 – Assets used as security	Note 12
• BDR Section 46 – The general disclosure of the major business activities and product lines	Page 16, Note 2 & Note 31
• BDR Section 52 – Corporate governance	Page 3-8

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 4Q22:
KM2 – Key metrics of the Asian resolution group
• Table 15.ii of the Group's Pillar 3 Disclosures
TLAC1 – TLAC composition
• Table 16 of the Group's Pillar 3 Disclosures
TLAC3 – HSBC Asia Holdings Limited Creditor Ranking
• Table 20 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 2022	30 Sep 2022	30 Jun 2022	31 Mar 2022	31 Dec 2021
	Regulatory capital (HK$m)[1]					
1	Common Equity Tier 1 ('CET1')	**491,562**	469,133	467,359	468,885	484,654
2	Tier 1	**545,572**	523,053	521,391	515,037	530,701
3	Total capital	**607,312**	582,105	583,691	571,095	590,478
	Risk-weighted assets ('RWAs') (HK$m)[1]					
4	Total RWAs	**3,222,168**	3,186,026	3,252,522	3,206,381	3,156,553
	Risk-based regulatory capital ratios (as a percentage of RWA)[1]					
5	CET1 ratio (%)	**15.3**	14.7	14.4	14.6	15.4
6	Tier 1 ratio (%)	**16.9**	16.4	16.0	16.1	16.8
7	Total capital ratio (%)	**18.8**	18.3	17.9	17.8	18.7
	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**	0.51	0.51	0.50	0.50
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**	5.51	5.51	5.50	5.50
12	CET1 available after meeting the AI's minimum capital requirements (%)	**10.8**	10.2	9.9	9.8	10.7
	Basel III leverage ratio[3]					
13	Total leverage ratio ('LR') exposure measure (HK$m)	**9,301,363**	9,266,023	9,422,058	9,462,765	9,192,814
14	LR (%)	**5.9**	5.6	5.5	5.4	5.8
	Liquidity Coverage Ratio ('LCR')[4]					
15	Total high quality liquid assets ('HQLA') (HK$m)	**1,886,003**	1,902,154	1,953,032	2,016,383	1,911,407
16	Total net cash outflows (HK$m)	**1,196,437**	1,230,424	1,266,403	1,317,227	1,241,508
17	LCR (%)	**157.8**	154.8	154.5	153.2	154.3
	Net Stable Funding Ratio ('NSFR')[5]					
18	Total available stable funding (HK$m)	**5,542,592**	5,381,772	5,559,766	5,561,953	5,514,833
19	Total required stable funding (HK$m)	**3,639,518**	3,649,224	3,719,911	3,697,289	3,631,003
20	NSFR (%)	**152.3**	147.5	149.5	150.4	151.9

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% at 31 December 2022.*

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 aim to 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 20 of the group's Annual Report and Accounts 2022. *The management and mitigation of principal risks facing the group is described in our top and emerging risks on page 23 of the group's* Annual Report and Accounts 2022.

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.

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 21 and 22 of the group's Annual Report and Accounts 2022.

Risk appetite

Risk appetite is a key component of our management of risk. It describes the type and quantum of risk that the group is willing to accept in achieving our strategic goals. 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 informs our strategic and financial planning process, defining the desired forward-looking risk profile of the group. 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 20 of the group's Annual Report and Accounts 2022.

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 testing programme assesses our capital and liquidity strength 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.

Further information about stress testing are set out on page 22 of the group's Annual Report and Accounts 2022.

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 made up of sub-functions covering 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. 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 22 of the group's Annual Report and Accounts 2022.

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.

Regulatory reporting processes and controls

The quality of regulatory reporting remains a key priority for management. We continue to progress with a comprehensive programme to strengthen our processes, improve consistency, and enhance controls on various aspects of regulatory reporting.

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 continue to invest significant resources in IT systems and processes in order to maintain and improve our risk management capabilities. Group standards govern the procurement and operation of systems used in our subsidiaries to process risk information within business lines and risk functions.

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 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, 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 toward 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, Traded risk, Retail risk, and Compliance. Similarly, the GMRC is supported by MOFs at the global level which are responsible for model risk management within their 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 risk appetite statement, 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 their 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 have significantly enhanced our model risk management practices over the last two years and continue to invest in developing and embedding these capabilities.

Further information is available on page 66 of the group's Annual Report and Accounts 2022.

Linkage to the Annual Report and Accounts 2022

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 2022*.

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 securities and insurance companies that 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 authorised institutions 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.

For insurance entities, the present value of in-force long-term insurance business asset of HK$65,537m and the related deferred tax liability are only recognised on consolidation in financial reporting and are therefore not included in the asset or equity positions for the stand-alone entities presented in the below table.

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 2022.

For all subsidiaries included in both the accounting and regulatory scope of consolidation, the same consolidation methodology is applied at 31 December 2022.

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 2022, the effect of this regulatory reserve requirement is to reduce the amount of reserves which can be distributed to shareholders by HK$16,413m.

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

		At 31 Dec 2022	
	Principal activities	Total assets	Total equity
		HK$m	HK$m
HSBC Broking Futures (Hong Kong) Ltd	**Futures broking**	**395**	**106**
HSBC Broking Services (Asia) Ltd and its subsidiaries	**Broking services**	**10,652**	**2,902**
HSBC Corporate Advisory (Malaysia) Sdn Bhd	**Financial services**	**6**	**5**
HSBC Corporate Finance (Hong Kong) Ltd	**Financial services**	**14**	**13**
HSBC Global Asset Management Holdings (Bahamas) Ltd	**Asset management**	**131**	**129**
HSBC Global Asset Management (Hong Kong) Ltd	**Asset management**	**1,004**	**522**
HSBC Asset Management (Japan) Ltd	**Asset management**	**227**	**112**
HSBC Global Asset Management (Singapore) Ltd	**Asset management**	**124**	**29**
HSBC Insurance (Asia-Pacific) Holdings Ltd and its subsidiaries	**Insurance**	**641,892**	**47,176**
HSBC InvestDirect (India) Private Ltd and its subsidiaries	**Financial services**	**1,358**	**892**
HSBC Investment Funds (Hong Kong) Ltd	**Asset management**	**384**	**235**
HSBC Qianhai Securities Ltd	**Securities services**	**1,723**	**1,103**
HSBC Securities (Japan) Ltd[1]	**Broking services**	**0**	**0**
HSBC Securities (Japan) Co. Ltd	**Broking services**	**405,338**	**1,073**
HSBC Securities (Singapore) Pte Ltd	**Broking services**	**260**	**88**
HSBC Securities Brokers (Asia) Ltd	**Broking services**	**491**	**462**
Hang Seng Insurance Co. Ltd and its subsidiaries	**Insurance**	**196,091**	**17,346**
Hang Seng Investment Management Ltd	**Asset management**	**231**	**200**
Hang Seng Investment Services Ltd	**Investment services**	**9**	**9**
Hang Seng Qianhai Fund Management Co. Ltd	**Asset management**	**243**	**217**
Hang Seng Securities Ltd	**Broking services**	**1,854**	**777**

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 risk-weighted amount. 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 (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 2022		
	Balance sheet as in published financial statements	**Under regulatory scope of consolidation**	Cross-referenced to definition of Capital Components
	HK$m	**HK$m**	
Assets			
Cash and balances at central banks	**232,740**	**230,996**	
Items in the course of collection from other banks	**28,557**	**28,557**	
Hong Kong Government certificates of indebtedness	**341,354**	**341,354**	
Trading assets	**699,805**	**698,667**	
of which: significant Loss-absorbing capacity ('LAC') investments eligible as Additional tier1 ('AT1') capital issued by financial sector entities	**–**	***9***	*1*
of which: significant LAC investments eligible as Tier 2 capital issued by financial sector entities	**–**	***6***	*2*
Derivatives	**502,771**	**502,667**	
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	**226,451**	**5,674**	
Reverse repurchase agreements – non-trading	**927,976**	**553,654**	
Loans and advances to banks	**519,024**	**510,862**	
Loans and advances to customers	**3,705,149**	**3,691,935**	
of which: impairment allowances eligible for inclusion in Tier 2 capital	**–**	***(7,744)***	*3*
Financial investments	**2,221,361**	**1,702,937**	
Amounts due from Group companies	**140,546**	**542,875**	
of which: significant LAC investments eligible as Tier 2 capital issued by financial sector entities	**–**	***6,372***	*4*
Investments in subsidiaries	**–**	**22,666**	
Interests in associates and joint ventures	**185,898**	**182,422**	
of which: goodwill	**–**	***3,727***	*5*
of which: significant LAC investments in financial sector entities exceeding 10% threshold	**–**	***140,987***	*6*
Goodwill and intangible assets	**102,419**	**32,992**	
of which: goodwill	**–**	***4,594***	*7*
of which: intangible assets	**–**	***28,398***	*8*
Property, plant and equipment	**130,926**	**123,531**	
Deferred tax assets	**3,856**	**3,587**	
of which: deferred tax assets net of related tax liabilities	**–**	***3,688***	*9*
of which: deferred tax liabilities related to goodwill	**–**	***(89)***	*10*
of which: deferred tax liabilities related to intangible assets	**–**	***(8)***	*11*
of which deferred tax liabilities related to defined benefit pension fund net assets	**–**	***(4)***	*12*
Prepayments, accrued income and other assets	**355,319**	**233,600**	
of which: defined benefit pension fund net assets	**–**	***32***	*13*
Total assets	**10,324,152**	**9,408,976**	

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

	a	b	c
	At 31 Dec 2022		
	Balance sheet in published financial statements	Under regulatory scope of consolidation	Cross-referenced to definition of Capital Components
	HK$m	HK$m	
Liabilities			
Hong Kong currency notes in circulation	**341,354**	**341,354**	
Items in the course of transmission to other banks	**33,073**	**33,073**	
Repurchase agreements – non-trading	**351,093**	**343,053**	
Deposits by banks	**198,908**	**198,880**	
Customer accounts	**6,113,709**	**6,112,445**	
Trading liabilities	**142,453**	**142,453**	
Derivatives	**551,745**	**552,071**	
of which: gains and losses due to changes in own credit risk on fair valued liabilities	**–**	***(490)***	*14*
Financial liabilities designated at fair value	**167,743**	**134,712**	
of which: gains and losses due to changes in own credit risk on fair valued liabilities	**–**	***(119)***	*15*
Debt securities in issue	**100,909**	**100,477**	
Retirement benefit liabilities	**1,655**	**1,654**	
Amounts due to Group companies	**398,705**	**421,402**	
of which: qualifying Tier 2 capital instruments	**–**	***19,505***	*16*
of which: gains and losses due to changes in own credit risk on fair valued liabilities	**–**	***(2,885)***	*17*
Accruals and deferred income, other liabilities and provisions	**238,726**	**161,097**	
Liabilities under insurance contracts	**700,758**	**–**	
Current tax liabilities	**6,002**	**5,516**	
Deferred tax liabilities	**32,937**	**21,372**	
of which: deferred tax liabilities related to goodwill	–	***4***	*18*
of which: deferred tax liabilities related to intangible assets	**–**	***4,554***	*19*
of which: deferred tax liabilities related to defined benefit pension fund net assets	**–**	***1***	*20*
Subordinated liabilities	**3,119**	**3,119**	
Total liabilities	**9,382,889**	**8,572,678**	
Equity			
Share capital	**180,181**	**180,181**	
of which: portion eligible for inclusion in CET1 capital	**–**	***178,727***	*21*
of which: revaluation reserve capitalisation issue	**–**	***1,454***	*22*
Other equity instruments	**52,386**	**52,386**	
of which: qualifying AT1 capital instruments	**–**	***52,386***	*23*
Other reserves	**109,235**	**110,278**	*24*
of which: fair value gains arising from revaluation of land and buildings	**–**	***63,478***	*25*
of which: cash flow hedging reserves	**–**	***(233)***	*26*
of which: valuation adjustment	**–**	***13***	*27*
Retained earnings	**533,518**	**438,875**	*28*
of which: regulatory reserve for general banking risks	**–**	***16,413***	*29*
of which: regulatory reserve eligible for inclusion in Tier 2 capital	**–**	***8,264***	*30*
of which: fair value gains arising from revaluation of land and buildings	**–**	***4,130***	*31*
of which: valuation adjustment	**–**	***2,363***	*32*
Total shareholders' equity	**875,320**	**781,720**	
Non-controlling interests	**65,943**	**54,578**	
of which: portion allowable in CET1 capital	**–**	***30,106***	*33*
of which: portion allowable in AT1 capital	**–**	***1,633***	*34*
of which: portion allowable in Tier 2 capital	**–**	***1,527***	*35*
Total equity	**941,263**	**836,298**	
Total liabilities and equity	**10,324,152**	**9,408,976**	

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	**232,740**	**230,996**	**230,996**	**–**	**–**	**–**	**–**
Items in the course of collection from other banks	**28,557**	**28,557**	**28,557**	**–**	**–**	**–**	**–**
Hong Kong Government certificates of indebtedness	**341,354**	**341,354**	**341,354**	**–**	**–**	**–**	**–**
Trading assets[2]	**699,805**	**698,667**	**2,492**	**59,397**	**–**	**696,175**	**–**
Derivatives[2]	**502,771**	**502,667**	**–**	**502,667**	**–**	**502,667**	**–**
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	**226,451**	**5,674**	**2,430**	**3,241**	**–**	**–**	**3**
Reverse repurchase agreements – non-trading	**927,976**	**553,654**	**–**	**553,654**	**–**	**–**	**–**
Loans and advances to banks	**519,024**	**510,862**	**507,812**	**3,050**	**–**	**–**	**–**
Loans and advances to customers	**3,705,149**	**3,691,935**	**3,664,075**	**2,639**	**19,628**	**–**	**5,593**
Financial investments	**2,221,361**	**1,702,937**	**1,700,784**	**–**	**1,914**	**–**	**239**
Amounts due from Group companies[2]	**140,546**	**542,875**	**95,609**	**433,794**	**–**	**2,334**	**13,423**
Investments in subsidiaries	**–**	**22,666**	**–**	**–**	**–**	**–**	**22,666**
Interests in associates and joint ventures	**185,898**	**182,422**	**63,255**	**–**	**–**	**–**	**119,167**
Goodwill and intangible assets[3]	**102,419**	**32,992**	**–**	**–**	**–**	**–**	**28,434**
Property, plant and equipment	**130,926**	**123,531**	**123,531**	**–**	**–**	**–**	**–**
Deferred tax assets	**3,856**	**3,587**	**–**	**–**	**–**	**–**	**3,587**
Prepayments, accrued income and other assets[3,4]	**355,319**	**233,600**	**131,850**	**87,397**	**14**	**–**	**14,338**
Total assets at 31 Dec 2022	**10,324,152**	**9,408,976**	**6,892,745**	**1,645,839**	**21,556**	**1,201,176**	**207,450**
Liabilities							
Hong Kong currency notes in circulation	**341,354**	**341,354**	**–**	**–**	**–**	**–**	**341,354**
Items in the course of transmission to other banks	**33,073**	**33,073**	**–**	**–**	**–**	**–**	**33,073**
Repurchase agreements – non-trading	**351,093**	**343,053**	**–**	**343,053**	**–**	**–**	**–**
Deposits by banks	**198,908**	**198,880**	**–**	**–**	**–**	**–**	**198,880**
Customer accounts	**6,113,709**	**6,112,445**	**–**	**–**	**–**	**–**	**6,112,445**
Trading liabilities[2]	**142,453**	**142,453**	**–**	**61,403**	**–**	**142,453**	**–**
Derivatives[2]	**551,745**	**552,071**	**–**	**552,071**	**–**	**552,071**	**–**
Financial liabilities designated at fair value	**167,743**	**134,712**	**–**	**–**	**–**	**116,427**	**18,285**
Debt securities in issue	**100,909**	**100,477**	**–**	**–**	**–**	**–**	**100,477**
Retirement benefit liabilities	**1,655**	**1,654**	**–**	**–**	**–**	**–**	**1,654**
Amounts due to Group companies[2]	**398,705**	**421,402**	**–**	**49,138**	**–**	**55**	**372,263**
Accruals and deferred income, other liabilities and provisions	**238,726**	**161,097**	**–**	**–**	**–**	**–**	**161,097**
Liabilities under insurance contracts	**700,758**	**–**	**–**	**–**	**–**	**–**	**–**
Current tax liabilities	**6,002**	**5,516**	**–**	**–**	**–**	**–**	**5,516**
Deferred tax liabilities	**32,937**	**21,372**	**–**	**–**	**–**	**–**	**21,372**
Subordinated liabilities	**3,119**	**3,119**	**–**	**–**	**–**	**–**	**3,119**
Total liabilities at 31 Dec 2022	**9,382,889**	**8,572,678**	**–**	**1,005,665**	**–**	**811,006**	**7,369,535**

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 framework	securitisation framework	counterparty credit risk framework	market risk framework
		HK$m	HK$m	HK$m	HK$m	HK$m
1	Asset carrying value amount under scope of regulatory consolidation (as per template LI1)[1]	**9,201,526**	**6,892,745**	**21,556**	**1,645,839**	**1,201,176**
2	Liabilities carrying value amount under regulatory scope of consolidation (as per template LI1)[2]	**1,203,143**	**–**	**–**	**1,005,665**	**811,006**
3	**Total net amount under regulatory scope of consolidation**	**7,998,383**	**6,892,745**	**21,556**	**640,174**	**390,170**
4	Off-balance sheet amounts and potential future exposure for counterparty risk	**3,637,980**	**865,467**	**162**	**193,726**	**–**
5	Differences in netting rules	**(47,331)**	**(11,280)**	**–**	**(36,051)**	**–**
6	Differences due to financial collateral on standardised approach	**(39,968)**	**(39,968)**	**–**	**–**	**–**
7	Differences due to impairments on IRB approach	**38,779**	**38,779**	**–**	**–**	**–**
8	Differences due to credit risk mitigation	**(392,998)**	**–**	**–**	**(392,998)**	**–**
9	**Exposure amounts considered for regulatory purposes at 31 Dec 2022**	**11,194,845**	**7,745,743**	**21,718**	**404,851**	**390,170**

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 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 2022	
		Component of regulatory capital	Cross-referenced to Table 3 Source based on reference numbers/ letters of the balance sheet under the regulatory scope of consolidation
		HK$m	
	CET1 capital: instruments and reserves		
1	Directly issued qualifying CET1 capital instruments plus any related share premium	**178,727**	*21*
2	Retained earnings	**438,875**	*28*
3	Disclosed reserves	**110,278**	*24*
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)	**30,106**	*33*
6	**CET1 capital before regulatory deductions**	**757,986**	
	CET1 capital: regulatory deductions		
7	Valuation adjustments	**2,376**	*27+32*
8	Goodwill (net of associated deferred tax liabilities)	**8,228**	*5+7+10-18*
9	Other intangible assets (net of associated deferred tax liabilities)	**23,836**	*8+11-19*
10	Deferred tax assets (net of associated deferred tax liabilities)	**3,688**	*9*
11	Cash flow hedge reserve	**(233)**	*26*
14	Gains and losses due to changes in own credit risk on fair valued liabilities	**3,494**	*-(14+15+17)*
15	Defined benefit pension fund net assets (net of associated deferred tax liabilities)	**27**	*12+13-20*
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)	**140,987**	*6*
26	National specific regulatory adjustments applied to CET1 capital	**84,021**	
26a	Cumulative fair value gains arising from the revaluation of land and buildings (own-use and investment properties)	**67,608**	*25+31*
26b	Regulatory reserve for general banking risks	**16,413**	*29*
28	**Total regulatory deductions to CET1 capital**	**266,424**	
29	**CET1 capital**	**491,562**	
	AT1 capital: instruments		
30	Qualifying AT1 capital instruments plus any related share premium	**52,386**	*23*
31	*of which: classified as equity under applicable accounting standards*	***52,386***	*23*
34	AT1 capital instruments issued by consolidated bank subsidiaries and held by third parties (amount allowed in AT1 capital of the consolidated group)	**1,633**	*34*
36	**AT1 capital before regulatory deductions**	**54,019**	
	AT1 capital: regulatory deductions		
40	Significant LAC investments in AT1 capital instruments issued by financial sector entities that are outside the scope of regulatory consolidation	**9**	1
43	**Total regulatory deductions to AT1 capital**	**9**	
44	**AT1 capital**	**54,010**	
45	**Tier 1 capital ('T1' = CET1 + AT1)**	**545,572**	
	Tier 2 capital: instruments and provisions		
46	Qualifying Tier 2 capital instruments plus any related share premium	**19,505**	*16*
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)	**1,527**	*35*
50	Collective provisions and regulatory reserve for general banking risks eligible for inclusion in Tier 2 capital	**16,008**	*30-3*
51	**Tier 2 capital before regulatory deductions**	**37,040**	
	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)	**6,378**	*2+4*
56	National specific regulatory adjustments applied to Tier 2 capital	**(31,078)**	
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	**(31,078)**	*(22+25+31)x45%*
57	**Total regulatory adjustments to Tier 2 capital**	**(24,700)**	
58	**Tier 2 capital ('T2')**	**61,740**	
59	**Total regulatory capital ('TC' = T1 + T2)**	**607,312**	
60	**Total RWAs**	**3,222,168**	

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

		a	b
		At 31 Dec 2022	
		Component of regulatory capital	Cross-referenced to Table 3 Source based on reference numbers/ letters of the balance sheet under the regulatory scope of consolidation
		HK$m	
	Capital ratios (as a percentage of RWA)		
61	CET1 capital ratio	**15.3%**	
62	Tier 1 capital ratio	**16.9%**	
63	Total capital ratio	**18.8%**	
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	**10.8%**	
	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	**16,898**	
73	Significant LAC investments in CET1 capital instruments issued by financial sector entities that are outside the scope of regulatory consolidation	**63,255**	
	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 SEC-FBA (prior to application of cap)	**3,109**	
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	**3,327**	
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)	**12,899**	
79	Cap for inclusion of provisions in Tier 2 under the IRB approach and SEC-IRBA	**14,733**	

Total regulatory capital increased by HK$23.6bn in the second half of 2022, mainly due to:

- a HK$28.2bn increase from regulatory profits, net of dividends;
- a HK$5.0bn decrease in the threshold deduction for significant investments in financial sector entities;
- a HK$2.9bn decrease in regulatory reserves deduction;
- a HK$0.6bn increase from the issuance of new Tier 2 capital instrument;

partly offset by

- a HK$9.5bn decrease from unfavourable foreign currency translation differences;
- a HK$2.4bn decrease in fair value through other comprehensive income reserve;
- a HK$1.1bn decrease in regulatory reserves and provisions eligible for inclusion in Tier 2 capital.

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

Notes to the template:

		At 31 Dec 2022	
		Hong Kong basis	Basel III basis
		HK$m	HK$m
10	Deferred tax assets (net of associated deferred tax liabilities)	**3,688**	**89**

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 2022	
		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)	**140,987**	**139,382**

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 2022	
	Total amount	Amount recognised in regulatory capital
		HK$m
CET1 capital instruments		
Ordinary shares	**HK$180,181m**	**178,726**
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 2027	**US$1,000m**	**7,771**
Tier 2 capital instruments		
Subordinated loan due 2030, callable from 2025	**US$1,000m**	**7,522**
Subordinated loan due 2030, callable from 2025	**US$180m**	**1,362**
Subordinated loan due 2031, callable from 2026	**US$600m**	**4,496**
Subordinated loan due 2032, callable from 2027	**SG$900m**	**5,391**
Subordinated loan due 2032, callable from 2027	**JPY11,900m**	**733**

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.hsbc.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 2022			
	Geographical breakdown by Jurisdiction ('J')	Applicable JCCyB ratio in effect	RWAs used in computation of CCyB ratio	Al-specific CCyB ratio	CCyB amount
		%	HK$m	%	HK$m
1	Hong Kong[1]	**1.00**	**1,184,300**		
2	Australia	**1.00**	**99,466**		
3	Bulgaria	**1.50**	**2**		
4	Czech Republic	**2.00**	**1**		
5	Denmark	**2.00**	**156**		
6	Iceland	**2.00**	**18**		
7	Luxembourg	**0.50**	**5,199**		
8	Norway	**2.00**	**119**		
9	Romania	**0.50**	**20**		
10	Slovakia	**1.00**	**1**		
11	Sweden	**1.00**	**35**		
12	United Kingdom	**1.00**	**13,779**		
	Sum[2]		**1,303,096**		
	Total[3]		**2,319,923**	**0.56**	**18,067**

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% at 31 December 2022.

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).

RWAs used in the computation of CCyB ratio decreased by HK$24.6bn in the second half of 2022, mainly due to movements in asset size in Hong Kong corporate portfolios.

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 2022	30 Sep 2022
		HK$m	HK$m
	On-balance sheet exposures		
1	On-balance sheet exposures (excluding those arising from derivative contracts and securities financing transactions ('SFTs'), but including collateral)	**7,374,467**	7,332,464
2	Less: Asset amounts deducted in determining Tier 1 capital	**(264,393)**	(256,654)
3	**Total on-balance sheet exposures (excluding derivative contracts and SFTs)**	**7,110,074**	7,075,810
	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)	**129,310**	217,276
5	Add-on amounts for potential future exposure ('PFE') associated with all derivative contracts	**292,434**	300,147
7	Less: Deductions of receivables assets for cash variation margin provided under derivative contracts	**(103,400)**	(134,625)
8	Less: Exempted central counterparty ('CCP') leg of client-cleared trade exposures	**(42,752)**	(44,615)
9	Adjusted effective notional amount of written credit-related derivative contracts	**225,248**	234,647
10	Less: Adjusted effective notional offsets and add-on deductions for written credit-related derivative contracts	**(204,221)**	(212,233)
11	**Total exposures arising from derivative contracts**	**296,619**	360,597
	Exposures arising from SFTs		
12	Gross SFT assets (with no recognition of netting), after adjusting for sale accounting transactions	**1,254,471**	1,229,383
13	Less: Netted amounts of cash payables and cash receivables of gross SFT assets	**(29,470)**	(36,591)
14	CCR exposure for SFT assets	**36,535**	24,885
16	**Total exposures arising from SFTs**	**1,261,536**	1,217,677
	Other off-balance sheet exposures		
17	Off-balance sheet exposure at gross notional amount	**3,605,101**	3,452,304
18	Less: Adjustments for conversion to credit equivalent amounts	**(2,930,280)**	(2,804,231)
19	Off-balance sheet items	**674,821**	648,073
	Capital and total exposures		
20	**Tier 1 capital**	**545,572**	523,053
20a	Total exposures before adjustments for specific and collective provisions	**9,343,050**	9,302,157
20b	Adjustments for specific and collective provisions	**(41,687)**	(36,134)
21	**Total exposures after adjustments for specific and collective provisions**	**9,301,363**	9,266,023
	Leverage ratio		
22	Leverage ratio (%)[1]	**5.9**	5.6

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

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

		a
		Value under the LR framework
		31 Dec 2022
	Item	**HK$m**
1	Total consolidated assets as per published financial statements	**10,324,152**
2	Adjustment for investments in banking, financial, insurance or commercial entities that are consolidated for accounting purposes but outside the scope of regulatory consolidation	**(856,730)**
2a	Adjustment for securitised exposures that meet the operational requirements for the recognition of risk transference	**(6,276)**
4	Adjustments for derivative contracts	**(206,048)**
5	Adjustment for SFTs (i.e. repos and similar secured lending)	**36,535**
6	Adjustment for off-balance sheet ('OBS') items (i.e. conversion to credit equivalent amounts of OBS exposures)	**675,504**
6a	Adjustments for prudent valuation adjustments ('PVA') and specific and collective provisions that are allowed to be excluded from exposure measure	**(3,957)**
7	Other adjustments	**(661,817)**
8	**Leverage ratio exposure measure**	**9,301,363**

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 leverage ratio 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 2022	30 Sep 2022	**31 Dec 2022**
		HK$m	HK$m	**HK$m**
1	**Credit risk for non-securitisation exposures**	**2,301,218**	2,268,436	**193,945**
2	*of which: STC approach*	***249,634***	*242,205*	***19,971***
4	*of which: supervisory slotting criteria approach*	***133,756***	*128,447*	***11,342***
5	*of which: advanced IRB approach*	***1,917,828***	*1,897,784*	***162,632***
6	**Counterparty default risk and default fund contributions**	**90,494**	104,015	**7,610**
7	*of which: SA-CCR approach*	***43,136***	*39,294*	***3,628***
8	*of which: IMM (CCR) approach*	***28,548***	*41,911*	***2,403***
9	*of which: Others*	***18,810***	*22,810*	***1,579***
10	**Credit valuation adjustment ('CVA') Risk**	**38,167**	38,284	**3,053**
11	**Equity positions in banking book under the simple risk weight method and the internal models method**	**27,954**	25,345	**2,370**
12	**Collective investment scheme ('CIS') exposures – look-through approach ('LTA')**	**1,191**	1,155	**101**
13	**CIS exposures – mandate-based approach ('MBA')**	**317**	321	**27**
15	**Settlement risk**	**213**	197	**18**
16	**Securitisation exposures in banking book**	**4,224**	5,179	**338**
17	*of which securitisation internal ratings-based approach ('SEC-IRBA')*	***24***	—	***2***
18	*of which: SEC-ERBA including internal assessment approach ('IAA')*	***1,598***	*2,185*	***128***
19	*of which: SEC-SA*	***2,602***	*2,994*	***208***
20	**Market risk**	**160,495**	157,609	**12,843**
21	*of which: STM approach*	***988***	*1,996*	***82***
22	*of which: IMM approach*	***159,507***	*155,613*	***12,761***
24	**Operational risk**	**337,004**	332,589	**26,960**
24a	**Sovereign concentration risk**	**1,708**	1,789	**137**
25	**Amounts below the thresholds for deduction (subject to 250% risk weight ('RW'))**	**158,137**	150,928	**13,410**
26a	**Deduction to RWAs**	**37,984**	37,358	**3,039**
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*	***37,984***	*37,358*	***3,039***
27	**Total**	**3,083,138**	3,048,489	**257,773**

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$32.8bn in the fourth quarter of 2022. Excluding the increase arising from foreign currency translation differences of HK$19.4bn, the increase of HK$13.4bn was mainly due to:

- an increase of HK$26.8bn from asset quality arising from unfavourable credit rating movements in corporate portfolios; partly offset by
- a decrease in asset size of HK$11.1bn primarily driven by a decrease in corporate lending in Hong Kong.

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 2022**	**2,026,231**
2	Asset size	**(16,197)**
3	Asset quality	**26,839**
5	Methodology and policy	**(2,298)**
7	Foreign exchange movements	**17,009**
9	**RWAs as at 31 Dec 2022**	**2,051,584**

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

RWAs under the IRB approach increased by HK$25.4bn in the fourth quarter of 2022. Excluding the increase arising from foreign currency translation differences of HK$17.0bn, the increase of HK$8.4bn was mainly due to:

- an increase of HK$26.8bn from asset quality arising from unfavourable credit rating movements in corporate portfolios; partly offset by
- a decrease in asset size of HK$16.2bn primarily driven by a decrease in corporate lending in Hong Kong.

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 2022**	**41,911**
2	Asset size	**(17,742)**
3	Credit quality of counterparties	**2,067**
4	Model updates	**2,601**
7	Foreign exchange movements	**(289)**
9	**RWAs as at 31 Dec 2022**	**28,548**

RWAs under the IMM(CCR) approach decreased by HK$13.4bn in the fourth quarter of 2022 due to a decrease in asset size by HK$17.7bn. The decrease in asset size was driven by a decline in the net fair value of derivative contracts, mainly from corporate and banking counterparties.

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')	Stressed VaR	Incremental Risk Charge ('IRC')	Other	Total RWAs
		HK$m	HK$m	HK$m	HK$m	HK$m
1	**RWAs as at 30 Sep 2022**	**15,160**	**60,160**	**23,187**	**57,106**	**155,613**
2	Movement in risk levels	**8,364**	**4,632**	**3,228**	**(685)**	**15,539**
3	Model updates/changes	**—**	**(7,256)**	**—**	**(3,316)**	**(10,572)**
6	Foreign exchange movements	**(105)**	**(415)**	**(160)**	**(393)**	**(1,073)**
8	**RWAs as at 31 Dec 2022**	**23,419**	**57,121**	**26,255**	**52,712**	**159,507**

Loss-absorbing Capacity

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

		a	b	c	d	e
		At				
		31 Dec 2022	30 Sep 2022	30 Jun 2022	31 Mar 2022	31 Dec 2021
Of the group at LAC consolidation group level						
1	Internal loss-absorbing capacity available (HK$m)	**841,962**	802,755	808,512	756,510	794,544
2	Risk-weighted amount under the LAC Rules (HK$m)	**3,222,168**	3,186,026	3,252,522	3,206,381	3,156,553
3	Internal LAC risk-weighted ratio (%)	**26.1**	25.2	24.9	23.6	25.2
4	Exposure measure under the LAC Rules (HK$m)	**9,294,951**	9,259,655	9,415,660	9,454,727	9,184,770
5	Internal LAC leverage ratio (%)	**9.1**	8.7	8.6	8.0	8.7
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 *pari passu* with excluded liabilities and that is recognised as external loss-absorbing capacity, divided by funding issued that ranks *pari passu* 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$39.2bn in the fourth quarter of 2022, arising from an increase of HK$25.2bn in regulatory capital elements and an increase of HK$14.0bn in non-regulatory capital elements. The increase in regulatory capital elements is mainly due to an increase in regulatory profits net of dividend paid amounting to HK$14.2bn and favourable foreign currency translation differences of HK$12.8bn. The increase in non-regulatory capital elements is driven by the issuance of new LAC instruments of HK$17.6bn and an increase in carrying value of LAC instruments of HK$4.3bn, partly offset by the redemption of LAC instrument of HK$7.8bn.

Table 16: TLAC1(A) – TLAC composition

		a
		At 31 Dec 2022
	Regulatory capital elements of internal loss-absorbing capacity and adjustments (HK$m)	
1	Common Equity Tier 1 ('CET1') capital	**491,562**
2	Additional tier 1 ('AT1') capital before LAC adjustments	**54,010**
5	**AT1 capital eligible under the LAC Rules**	**54,010**
6	Tier 2 ('T2') capital before LAC adjustments	**61,740**
8	T2 capital instruments ineligible as internal loss-absorbing capacity as not issued directly or indirectly to, and held directly or indirectly by, the resolution entity or non-HK resolution entity in the material subsidiary's resolution group	**–**
10	**T2 capital eligible under the LAC Rules**	**61,740**
11	**Internal loss-absorbing capacity arising from regulatory capital**	**607,312**
	Non-regulatory capital elements of internal loss-absorbing capacity (HK$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	**234,684**
17	**Internal loss-absorbing capacity arising from non-capital LAC debt instruments before adjustments**	**234,684**
	Non-regulatory capital elements of internal loss-absorbing capacity: adjustments (HK$m)	
18	**Internal loss-absorbing capacity before deductions**	**841,996**
19	Deductions of exposures between the material subsidiary's LAC consolidation group and group companies outside that group that correspond to non-capital items eligible for internal loss-absorbing capacity	**34**
22	**Internal loss-absorbing capacity after deductions**	**841,962**
	Risk-weighted amount and exposure measure under the LAC Rules for internal loss-absorbing capacity purposes (HK$m)	
23	Risk-weighted amount under the LAC Rules	**3,222,168**
24	Exposure measure under the LAC Rules	**9,294,951**
	Internal LAC ratios and buffers (%)	
25	Internal LAC risk-weighted ratio	**26.1%**
26	Internal LAC leverage ratio	**9.1%**
27	CET1 capital (as a percentage of RWA under the BCR) available after meeting the LAC consolidation group's minimum capital and LAC requirements	**8.1%**
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	5	
		(most junior)				(most senior)	Sum of 1 to 5
1	Is the resolution entity or a non-HK resolution entity the creditor/investor? (yes or no)	Yes	Yes	No[1]	Yes	Yes	
2	Description of creditor ranking	Ordinary shares[2]	AT1 instruments	Primary capital notes	Tier 2 instruments	LAC loans	
3	Total capital and liabilities net of credit risk mitigation ('CRM')	180,181	52,232	3,119	19,809	250,256	505,597
5	Total capital and liabilities less excluded liabilities	180,181	52,232	3,119	19,809	250,256	505,597
6	– of row 5 that are eligible as internal loss-absorbing capacity	180,181	52,232	—	19,809	250,256	502,478
7	– of row 6 with 1 year ≤ residual maturity < 2 years	—	—	—	—	70,953	70,953
8	– of row 6 with 2 years ≤ residual maturity < 5 years	—	—	—	—	51,900	51,900
9	– of row 6 with 5 years ≤ residual maturity < 10 years	—	—	—	19,809	108,576	128,385
10	– of row 6 with residual maturity ≥ 10 years, but excluding perpetual securities	—	—	—	—	18,827	18,827
11	– of row 6 that are perpetual securities	180,181	52,232	—	—	—	232,413

1 The company's primary capital notes are held by third parties.
2 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 31 of the group's Annual Report and Accounts 2022.

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 customers and products, and the risk rating systems in place to measure and monitor these risks are correspondingly diverse. Senior management receives a variety of 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 default propensity of, 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 subjective overlay to better reflect any idiosyncratic elements of the customer's risk profile. 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 valuable tools at the disposal of management.

For wholesale lending, the credit process provides for at least an annual review of facility limits granted. 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 constantly seek to 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.

Group standards govern the process through which risk rating systems are initially developed, judged fit for purpose, approved and implemented. They also govern the conditions under which analytical risk model outcomes can be overridden by decision takers and the process of model performance monitoring and reporting. The emphasis is on an effective dialogue between global business line and risk management, suitable independence of decision takers, and a good understanding and robust challenge on the part of senior management.

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 environment, the greater availability and quality of data, 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.

Credit risk models governance

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

Global Model Risk Management sets internal standards for the development, validation, independent review, approval, implementation and performance monitoring of credit risk rating models. Independent reviews of our models are performed by our Independent Model Review sub-function which is separate from our Risk Analytics sub-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	**63,498**	**4,526,714**	**40,401**	***1,683***	***1,350***	***37,368***	**4,549,811**
2	Debt securities	**—**	**1,685,248**	**370**	**—**	***36***	***334***	**1,684,878**
3	Off-balance sheet exposures	**3,318**	**3,634,662**	**1,249**	***19***	***95***	***1,135***	**3,636,731**
4	**Total at 31 Dec 2022**	**66,816**	**9,846,624**	**42,020**	***1,702***	***1,481***	***38,837***	**9,871,420**

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 expected credit losses 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 2022	**55,338**
2	Loans and debt securities that have defaulted since 30 Jun 2022	**21,003**
3	Returned to non-defaulted status	**(1,942)**
4	Amounts written off	**(5,450)**
5	Other changes[1]	**(5,451)**
6	**Defaulted loans and debt securities at 31 Dec 2022**	**63,498**

1 Other changes include repayment and foreign exchange movements.

Table 20: CRB1 – Exposures by geographical location

	Gross carrying amounts at 31 Dec 2022 HK$m
Hong Kong[1]	**5,665,385**
Mainland China[1]	**1,152,661**
Others[2]	**3,095,394**
Total	**9,913,440**

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 2022 HK$m
Financial concerns	**1,759,467**
Individuals	**2,587,197**
Others[1]	**5,566,776**
Total	**9,913,440**

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 2022 HK$m
Less than 1 year	**5,091,324**
Between 1 and 5 years	**2,401,854**
More than 5 years	**2,368,402**
Undated	**51,860**
Total	**9,913,440**

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(i) on the group's *Annual Report and Accounts 2022*. 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] HK$m	Gross credit-impaired loans and advances HK$m	Specific provisions[2] HK$m	Collective provisions[2] HK$m	Net new impairment allowances HK$m	Advances written-off in a year HK$m
At 31 Dec 2022						
Residential mortgages	**1,177,614**	**4,488**	**(290)**	**(102)**	**(115)**	**35**
Real Estate	**569,810**	**28,258**	**(11,004)**	**(6,120)**	**11,259**	**–**
Wholesale and retail trade	**377,326**	**9,708**	**(6,761)**	**(804)**	**922**	**3,792**
Manufacturing	**371,658**	**5,135**	**(3,369)**	**(985)**	**726**	**745**
Others[3]	**1,235,442**	**15,792**	**(4,582)**	**(5,898)**	**2,737**	**2,697**
Total	**3,731,850**	**63,381**	**(26,006)**	**(13,909)**	**15,529**	**7,269**

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] HK$m	Gross credit-impaired loans and advances HK$m	Overdue loans and advances HK$m	Specific provisions[2] HK$m	Collective provisions[2] HK$m	Net new impairment allowances HK$m	Advances written-off in a year HK$m
At 31 Dec 2022							
Hong Kong	**2,320,696**	**43,905**	**11,599**	**(16,953)**	**(9,261)**	**13,488**	**1,956**
Mainland China	**396,963**	**3,016**	**1,036**	**(1,153)**	**(2,301)**	**1,912**	**632**
Others[3]	**1,014,191**	**16,460**	**16,263**	**(7,900)**	**(2,347)**	**129**	**4,681**
Total	**3,731,850**	**63,381**	**28,898**	**(26,006)**	**(13,909)**	**15,529**	**7,269**

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 HK$m	30-59 days HK$m	60-89 days HK$m	Total HK$m
At 31 Dec 2022				
Loans and advances to customers held at amortised cost	**25,824**	**1,789**	**1,285**	**28,898**
– personal	**16,778**	**1,571**	**1,041**	**19,390**
– corporate and commercial	**8,699**	**218**	**242**	**9,159**
– non-bank financial institutions	**347**	**–**	**2**	**349**
Total	**25,824**	**1,789**	**1,285**	**28,898**

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

	31 Dec 2022 HK$m
Not credit impaired	2,149
Credit impaired	12,178
Total	14,327

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 location

	Hong Kong HK$m	Rest of Asia-Pacific HK$m	Other HK$m	Total HK$m
At 31 Dec 2022				
Gross loans and advances to customers	**1,978,714**	**1,493,190**	**273,209**	**3,745,113**

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 2022 HK$m	Collateral and other security at 31 Dec 2022 HK$m
Industrial, commercial and financial	**923,214**	**544,360**
– *property development*	***126,424***	***46,109***
– *property investment*	***294,763***	***262,619***
– *financial concerns*	***100,527***	***56,076***
– *stockbrokers*	***5,838***	***2,344***
– *wholesale and retail trade*	***85,981***	***39,845***
– *manufacturing*	***52,873***	***12,970***
– *transport and transport equipment*	***48,453***	***32,564***
– *recreational activities*	***1,013***	***407***
– *information technology*	***37,100***	***1,233***
– *others*	***170,242***	***90,193***
Individuals	**961,667**	**850,590**
– *advances for the purchase of flats under the Hong Kong Government's Home Ownership Scheme, Private Sector Participation Scheme and Tenants Purchase Scheme*	***66,105***	***66,105***
– *advances for the purchase of other residential properties*	***707,925***	***703,987***
– *credit card advances*	***66,522***	***–***
– *others*	***121,115***	***80,498***
Gross loans and advances to customers for use in Hong Kong	**1,884,881**	**1,394,950**
Trade Finance	**136,407**	**26,158**
Gross loans and advances to customers for use outside Hong Kong	**1,723,825**	**673,582**
Gross loans and advances to customers	**3,745,113**	**2,094,690**

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 2022.*

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.

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 2022						
Gross amounts which have been overdue with respect to either principal or interest for:						
– more than three months but not more than six months	**4,163**	**0.2**	**1,628**	**0.1**	**5,791**	**0.2**
– more than six months but not more than one year	**3,331**	**0.1**	**1,985**	**0.1**	**5,316**	**0.1**
– more than one year	**7,958**	**0.3**	**6,621**	**0.5**	**14,579**	**0.4**
Total	**15,452**	**0.6**	**10,234**	**0.7**	**25,686**	**0.7**
Specific provisions made in respect of amounts overdue[2]	**(6,896)**		**(6,730)**		**(13,626)**	
Fair value of collateral held in respect of amounts overdue	**4,440**		**3,528**		**7,968**	
Rescheduled loans and advances to customers	**5,618**	**0.2**	**3,625**	**0.3**	**9,243**	**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 risk-weighted amounts 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 consolidated 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 2022 HK$m
Contract amounts	
Direct credit substitutes	**43,949**
Transaction-related contingencies	**315,228**
Trade-related contingencies	**122,470**
Forward asset purchases	**2,901**
Commitments that are unconditionally cancellable without prior notice	**2,768,537**
Commitments which have an original maturity of not more than one year	**69,578**
Commitments which have an original maturity of more than one year	**315,317**
Total	**3,637,980**
Risk-weighted amounts	**338,592**

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 Regional MRCs, 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 regulators' approval and such models are under the oversight of Group and Regional Wholesale MOFs ('WMOF') and Retail MOFs ('RMOF').

WMOFs and RMOFs require all credit risk models for which they are responsible, to be approved by delegated senior managers with notification to the respective Committees that retain the responsibility for oversight.

Global Model Risk Management sets internal standards for the development, validation, independent review, approval, implementation and performance monitoring of credit risk rating models. Independent reviews of our models are performed by our Independent Model Review sub-function which is separate from our Risk Analytics sub-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.
- 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 and other retail exposures.
- Equity exposures.
- Other exposures, including cash items and other assets.

At 31 December 2022, 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 (includes small- and medium-sized corporates and other corporates and specialised lending[1])	95%	91%
Sovereign exposures	99%	100%
Bank exposures (including securities firms)	100%	99%
Residential mortgage loans	90%	83%
Other retail exposures	84%	58%
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 counterparty credit risk. For counterparty credit risk, the percentage of total RWAs covered by IRB models is 94% for sovereign exposures, 96% for bank exposures and 79% for corporate exposures.

Application of IRB parameters

The group's credit risk rating framework incorporates the probability of default ('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 IRB advanced approaches, that is, IRB advanced 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 model for the individual borrower type 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 ('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.

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 credit conversion factor 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/Small-and-medium sized corporates[3]	PD	13	The corporate models use financial information, macroeconomic information and market-driven data, and is complemented by a qualitative assessment. The non-bank financial institution ('NBFI') 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	1	Statistical model built on internal behavioural data and calibrated to a long-run default rate by segment.	>10	0.03%
	LGD	3	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	1	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 (Qualifying revolving retail exposures and Other retail exposures to individuals)	PD	4	Statistical model built on internal behavioural data and calibrated to a long-run default rate by segment.	>10	0.03%
	LGD	2	Statistical model based on forecasting the amount of expected future losses with downturn adjustment.	>10	
	EAD	2	EAD derived by different segments. Statistical models which derive credit conversion factors 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 (Qualifying revolving retail exposures 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 credit conversion factor 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 (Qualifying revolving retail exposures 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 losses. 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 (Qualifying revolving retail exposures 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	9	Statistical model built on internal behavioural data and calibrated to a long-run default rate by segment.	> 10	0.03%
	LGD	7	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	10	Rule-based calculation based on current balance, total approved loan amount and limit, or derives a credit conversion factor 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

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
PD scale	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$m	Average PD %	Number of obligors	Average LGD %	Average maturity years	RWAs HK$m	RWA density %	EL HK$m	Provisions HK$m
Portfolio (i) – Sovereign												
0.00 to < 0.15	1,992,412	2,036	22.0	1,992,859	0.02	629	35.2	1.53	108,734	5	130	
0.15 to < 0.25	1,928	34	50.0	1,945	0.22	27	45.0	1.18	655	34	2	
0.25 to < 0.50	8,814	–	–	8,814	0.37	20	45.0	1.00	3,879	44	15	
0.50 to < 0.75	16,518	1,886	84.4	18,109	0.63	19	45.0	1.18	11,071	61	51	
0.75 to < 2.50	–	–	–	–	2.25	3	45.0	1.00	–	100	–	
2.50 to < 10.00	1,092	–	–	1,092	4.25	6	45.0	1.07	1,364	125	21	
10.00 to <100.00	4,457	–	–	4,457	36.00	4	45.0	1.00	10,431	234	721	
100.00 (Default)	1,388	228	30.0	1,457	100.00	8	16.0	4.36	2,642	181	36	
Sub-total at 31 Dec 2022	2,026,609	4,184	50.8	2,028,733	0.18	716	35.4	1.53	138,776	7	976	1,649
Portfolio (ii) – Bank												
0.00 to < 0.15	479,893	61,045	41.5	505,246	0.05	16,509	40.1	1.19	68,461	14	98	
0.15 to < 0.25	18,319	9,943	40.6	22,360	0.22	484	46.0	1.26	10,163	45	23	
0.25 to < 0.50	6,237	3,311	37.2	7,468	0.37	1,129	40.6	1.05	3,585	48	11	
0.50 to < 0.75	8,340	2,295	39.0	9,235	0.63	349	41.0	1.13	5,743	62	24	
0.75 to < 2.50	1,982	1,207	49.9	2,584	1.29	208	42.2	0.84	1,975	76	14	
2.50 to < 10.00	571	311	4.5	585	4.16	82	55.3	0.37	830	142	12	
10.00 to <100.00	12	43	49.7	34	27.75	26	63.1	0.98	108	318	7	
100.00 (Default)	111	–	–	111	100.00	1	64.7	1.00	2	2	92	
Sub-total at 31 Dec 2022	515,465	78,155	41.1	547,623	0.10	18,788	40.4	1.19	90,867	17	281	1,077
Portfolio (iii) – Corporate – small and medium sized corporates												
0.00 to < 0.15	16,407	31,881	35.4	27,465	0.10	1,029	34.6	1.65	4,106	15	9	
0.15 to < 0.25	8,186	27,563	35.1	17,800	0.22	1,023	33.0	1.40	4,082	23	13	
0.25 to < 0.50	20,982	26,926	27.3	28,325	0.37	1,271	29.4	1.76	8,375	30	31	
0.50 to < 0.75	29,088	22,127	27.2	35,111	0.63	1,249	31.5	1.98	15,046	43	70	
0.75 to < 2.50	95,299	57,792	26.0	110,351	1.47	4,314	28.6	1.85	67,654	61	462	
2.50 to < 10.00	37,505	17,510	26.2	42,094	4.60	1,362	30.8	1.54	32,179	76	594	
10.00 to <100.00	3,471	1,105	22.8	3,723	16.16	212	39.9	1.33	5,459	147	269	
100.00 (Default)	4,470	54	13.1	4,477	100.00	72	35.3	1.65	9,936	222	1,058	
Sub-total at 31 Dec 2022	215,408	184,958	29.3	269,346	3.35	10,532	30.6	1.75	146,837	55	2,506	2,652
Portfolio (iv) – Corporate – other												
0.00 to < 0.15	654,564	871,268	26.7	877,625	0.08	20,175	46.1	1.59	181,386	21	333	
0.15 to < 0.25	175,470	270,322	26.0	244,291	0.22	5,240	46.4	1.51	96,044	39	249	
0.25 to < 0.50	138,697	199,044	23.4	185,065	0.37	4,482	44.9	1.43	90,620	49	308	
0.50 to < 0.75	141,178	181,135	22.3	181,614	0.63	3,491	41.6	1.48	108,931	60	476	
0.75 to < 2.50	341,083	359,106	24.1	427,655	1.43	8,838	37.3	1.38	325,006	76	2,301	
2.50 to < 10.00	97,240	86,437	24.4	118,325	4.28	2,957	40.0	1.41	138,936	117	2,081	
10.00 to <100.00	28,706	8,574	22.1	30,604	18.36	418	41.7	1.46	70,747	231	2,537	
100.00 (Default)	47,850	2,811	32.0	48,749	100.00	581	42.6	1.22	67,213	138	22,275	
Sub-total at 31 Dec 2022	1,624,788	1,978,697	25.3	2,113,928	3.25	46,182	43.4	1.49	1,078,883	51	30,560	41,804

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
PD scale	**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$m**	**Average PD %**	**Number of obligors**	**Average LGD %**	**Average maturity[1] years**	**RWAs HK$m**	**RWA density %**	**EL HK$m**	**Provisions HK$m**
Portfolio (v) – Retail – qualifying revolving retail exposures												
0.00 to < 0.15	**34,333**	**456,231**	**33.8**	**188,445**	**0.06**	**4,237,910**	**100.3**	**–**	**7,213**	**4**	**113**	
0.15 to < 0.25	**3,274**	**18,642**	**47.5**	**12,125**	**0.22**	**256,982**	**100.8**	**–**	**1,433**	**12**	**27**	
0.25 to < 0.50	**8,587**	**33,153**	**38.9**	**21,487**	**0.40**	**378,798**	**97.3**	**–**	**3,949**	**18**	**83**	
0.50 to < 0.75	**6,188**	**7,492**	**52.7**	**10,135**	**0.58**	**95,599**	**97.7**	**–**	**2,573**	**25**	**58**	
0.75 to < 2.50	**16,706**	**32,555**	**39.3**	**29,489**	**1.35**	**315,420**	**96.5**	**–**	**13,760**	**47**	**385**	
2.50 to < 10.00	**9,244**	**5,564**	**60.8**	**12,629**	**4.48**	**115,025**	**91.0**	**–**	**12,969**	**103**	**520**	
10.00 to < 100.00	**3,448**	**1,116**	**75.5**	**4,291**	**22.86**	**37,919**	**87.6**	**–**	**8,094**	**189**	**877**	
100.00 (Default)	**161**	**63**	**0.7**	**161**	**100.00**	**2,268**	**98.1**	**–**	**277**	**172**	**136**	
Sub-total at 31 Dec 2022	**81,941**	**554,816**	**35.5**	**278,762**	**0.86**	**5,439,921**	**99.0**	**–**	**50,268**	**18**	**2,199**	**2,551**
Portfolio (vi) – Retail – Residential mortgage exposures												
0.00 to < 0.15	**456,070**	**29,744**	**53.1**	**472,262**	**0.09**	**160,433**	**16.9**	**–**	**85,750**	**18**	**69**	
0.15 to < 0.25	**208,321**	**12,351**	**88.3**	**219,309**	**0.19**	**119,183**	**13.8**	**–**	**37,626**	**17**	**56**	
0.25 to < 0.50	**152,992**	**1,731**	**58.4**	**154,028**	**0.35**	**56,848**	**10.1**	**–**	**29,282**	**19**	**55**	
0.50 to < 0.75	**96,341**	**1,345**	**110.6**	**97,829**	**0.57**	**38,174**	**15.0**	**–**	**20,431**	**21**	**82**	
0.75 to < 2.50	**112,412**	**854**	**97.2**	**113,243**	**1.14**	**52,082**	**12.0**	**–**	**26,912**	**24**	**152**	
2.50 to < 10.00	**43,912**	**301**	**103.7**	**44,223**	**4.27**	**18,852**	**12.1**	**–**	**18,253**	**41**	**236**	
10.00 to < 100.00	**6,539**	**62**	**102.3**	**6,602**	**19.60**	**4,919**	**17.2**	**–**	**6,296**	**95**	**230**	
100.00 (Default)	**4,492**	**43**	**–**	**4,492**	**100.00**	**4,174**	**13.5**	**–**	**6,226**	**139**	**232**	
Sub-total at 31 Dec 2022	**1,081,079**	**46,431**	**65.4**	**1,111,988**	**0.98**	**454,665**	**14.5**	**–**	**230,776**	**21**	**1,112**	**1,108**
Portfolio (vii) – Retail – small business retail exposures												
0.00 to < 0.15	**3,009**	**11**	**100.0**	**3,020**	**0.07**	**1,322**	**11.5**	**–**	**72**	**2**	**–**	
0.15 to < 0.25	**485**	**3**	**100.0**	**488**	**0.19**	**129**	**17.7**	**–**	**34**	**7**	**–**	
0.25 to < 0.50	**536**	**–**	**–**	**536**	**0.32**	**111**	**38.6**	**–**	**113**	**21**	**1**	
0.50 to < 0.75	**479**	**1**	**100.0**	**481**	**0.55**	**176**	**6.9**	**–**	**24**	**5**	**–**	
0.75 to < 2.50	**456**	**2**	**100.0**	**458**	**1.33**	**109**	**26.8**	**–**	**140**	**30**	**2**	
2.50 to < 10.00	**356**	**–**	**110.7**	**356**	**4.93**	**146**	**6.9**	**–**	**36**	**10**	**1**	
10.00 to < 100.00	**55**	**–**	**100.0**	**55**	**36.92**	**31**	**13.6**	**–**	**20**	**36**	**3**	
100.00 (Default)	**3**	**–**	**–**	**3**	**100.00**	**1**	**27.8**	**–**	**9**	**338**	**–**	
Sub-total at 31 Dec 2022	**5,379**	**17**	**100.0**	**5,397**	**1.00**	**2,025**	**15.4**	**–**	**448**	**8**	**7**	**4**
Portfolio (viii) – Other retail exposures to individuals												
0.00 to < 0.15	**6,143**	**29,570**	**28.9**	**14,682**	**0.08**	**75,593**	**13.4**	**–**	**380**	**3**	**1**	
0.15 to < 0.25	**2,042**	**19,132**	**29.7**	**7,733**	**0.21**	**52,246**	**5.4**	**–**	**172**	**2**	**1**	
0.25 to < 0.50	**11,330**	**11,812**	**36.7**	**15,667**	**0.33**	**84,917**	**59.8**	**–**	**5,230**	**33**	**30**	
0.50 to < 0.75	**4,187**	**3,957**	**43.3**	**5,900**	**0.66**	**20,765**	**37.9**	**–**	**1,813**	**31**	**13**	
0.75 to < 2.50	**9,519**	**2,339**	**32.2**	**10,272**	**1.50**	**37,902**	**73.3**	**–**	**8,841**	**86**	**117**	
2.50 to < 10.00	**4,828**	**3,101**	**38.6**	**6,025**	**3.55**	**22,694**	**38.1**	**–**	**3,357**	**56**	**104**	
10.00 to < 100.00	**567**	**39**	**50.4**	**587**	**18.20**	**4,327**	**83.4**	**–**	**1,018**	**174**	**94**	
100.00 (Default)	**120**	**27**	**11.5**	**123**	**100.00**	**1,228**	**67.3**	**–**	**230**	**186**	**68**	
Sub-total at 31 Dec 2022	**38,736**	**69,977**	**31.8**	**60,989**	**1.18**	**299,672**	**40.0**	**–**	**21,041**	**34**	**428**	**271**

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	Off-balance sheet exposures pre-CCF	Average CCF	EAD post-CRM and post-CCF	Average PD	Number of obligors	Average LGD	Average[1] maturity	RWAs	RWA density	EL	Provisions[2]
	HK$m	HK$m	%	HK$m	%		%	years	HK$m	%	HK$m	HK$m
Total (sum of all portfolios) at 31 Dec 2022	**5,589,405**	**2,917,235**	**28.7**	**6,416,766**	**1.49**	**6,272,501**	**37.4**	**1.49**	**1,757,896**	**27**	**38,069**	**51,116**

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.*

The increase in weighted average PD from 1.36% in June 2022 to 1.49% in December 2022 was mainly driven by unfavourable credit rating movements in corporate portfolios.

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

		a	b	c	d	e	f
Supervisory Rating Grade	**Remaining maturity**	**On-balance sheet exposure amount**	**Off-balance sheet exposure amount**	**Supervisory risk weight ('SRW')**	**EAD amount**	**RWAs**	**EL amount**
		HK$m	HK$m	%	HK$m	HK$m	HK$m
Strong^	Less than 2.5 years	**500**	**–**	**70**	**500**	**350**	**2**
Strong	Equal to or more than 2.5 years	**132**	**–**	**95**	**132**	**125**	**1**
Good^	Less than 2.5 years	**–**	**–**	**95**	**–**	**–**	**–**
Good	Equal to or more than 2.5 years	**115**	**10**	**120**	**125**	**150**	**1**
Total at 31 Dec 2022		**747**	**10**		**757**	**625**	**4**

^ *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
					EAD amount				
Supervisory Rating Grade	**Remaining Maturity**	**On-balance sheet exposure amount**	**Off-balance sheet exposure amount**	**SRW**	**Project Finance ('PF')**	**Income Producing Real Estate ('IPRE')**	**Total**	**RWAs**	**EL amount**
		HK$m	HK$m	%	HK$m	HK$m	HK$m	HK$m	HK$m
Strong^	Less than 2.5 years	**43,457**	**6,869**	**50**	**1,331**	**44,835**	**46,166**	**23,083**	**–**
Strong	Less than 2.5 years	**8,104**	**3,016**	**70**	**1,014**	**8,153**	**9,167**	**6,417**	**37**
Strong^	Equal to or more than 2.5 years	**5,201**	**2,057**	**50**	**6,019**	**–**	**6,019**	**3,009**	**–**
Strong	Equal to or more than 2.5 years	**40,565**	**2,050**	**70**	**13,024**	**28,477**	**41,501**	**29,052**	**166**
Good^	Less than 2.5 years	**21,999**	**5,044**	**70**	**567**	**23,016**	**23,583**	**16,508**	**94**
Good	Less than 2.5 years	**7,428**	**2,600**	**90**	**–**	**8,312**	**8,312**	**7,481**	**66**
Good^	Equal to or more than 2.5 years	**3,935**	**98**	**70**	**3,973**	**–**	**3,973**	**2,781**	**16**
Good	Equal to or more than 2.5 years	**17,638**	**2,051**	**90**	**–**	**18,377**	**18,377**	**16,540**	**147**
Satisfactory		**18,049**	**1,511**	**115**	**2,785**	**15,687**	**18,472**	**21,243**	**517**
Weak		**2,806**	**1**	**250**	**–**	**2,807**	**2,807**	**7,017**	**225**
Default		**1,776**	**15**	**–**	**944**	**838**	**1,782**	**–**	**891**
Total at 31 Dec 2022		**170,958**	**25,312**		**29,657**	**150,502**	**180,159**	**133,131**	**2,159**

^ *Use of preferential risk weights.*

RWAs of specialised lending under the supervisory slotting approach increased by HK$16.9bn over the second half of 2022, mainly due to growth in IPRE exposures in Hong Kong.

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

	a	c	d	e
	On-balance sheet exposure amount	**SRW**	**EAD amount**	**RWAs**
	HK$m	%	HK$m	HK$m
Categories				
Publicly traded equity exposures	**–**	**300**	**–**	**1**
All other equity exposures	**6,988**	**400**	**6,988**	**27,953**
Total at 31 Dec 2022	**6,988**		**6,988**	**27,954**

Credit risk under standardised approach

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

The standardised (credit risk) ('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;
- Moody's Investors Service; and
- Standard & Poor's Ratings Services.

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
	Risk Weight	**0%**	**20%**	**35%**	**50%**	**75%**	**100%**	**150%**	**Total credit risk exposures amount (post-CCF and post-CRM)**
	Exposure class	**HK$m**	**HK$m**	**HK$m**	**HK$m**	**HK$m**	**HK$m**	**HK$m**	**HK$m**
1	Sovereign exposures	**30,372**	**216**	**–**	**15**	**–**	**–**	**–**	**30,603**
2	Public sector entities ('PSE') exposures	**75,028**	**25,416**	**–**	**1,780**	**–**	**10,061**	**13**	**112,298**
2a	*of which: domestic PSEs*	**–**	***14,905***	**–**	***1,171***	**–**	**–**	**–**	***16,076***
2b	*of which: foreign PSEs*	***75,028***	***10,511***	**–**	***609***	**–**	***10,061***	***13***	***96,222***
4	Bank exposures	**–**	**2,039**	**–**	**381**	**–**	**96**	**43**	**2,559**
5	Securities firm exposures	**–**	**–**	**–**	**45**	**–**	**–**	**–**	**45**
6	Corporate exposures	**–**	**8,387**	**–**	**3,910**	**–**	**126,897**	**1,030**	**140,224**
10	Regulatory retail exposures	**–**	**–**	**–**	**–**	**52,082**	**–**	**–**	**52,082**
11	Residential mortgage loans	**–**	**–**	**103,879**	**–**	**9,300**	**4,365**	**–**	**117,544**
12	Other exposures which are not past due exposures	**–**	**–**	**–**	**–**	**–**	**11,076**	**–**	**11,076**
13	Past due exposures	**106**	**3**	**–**	**–**	**–**	**229**	**1,739**	**2,077**
15	**Total at 31 Dec 2022**	**105,506**	**36,061**	**103,879**	**6,131**	**61,382**	**152,724**	**2,825**	**468,508**

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 credit risk mitigants. Depending on a customer's standing and the type of product, unsecured facilities may be provided.

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 credit risk mitigation, justified by commercial prudence and capital efficiency. Detailed policies cover the acceptability, structuring and terms with regard to the availability of credit risk mitigation 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 collateral. In our retail residential and commercial real estate ('CRE') businesses, a mortgage over the property is frequently 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 small-and-medium sized enterprises ('SMEs') are commonly granted against guarantees given by their owners and/or directors.

For credit risk mitigants in the form of immovable property, the key determinant of concentration is geographic.

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 securities financing transactions, 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, the customer accounts are treated as cash collateral and the effects of this collateral are incorporated in our LGD 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 credit risk mitigation 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 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 govern the protection of our position from the outset 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 securities financing transactions ('SFTs'), we typically carry out daily valuations. For residential mortgages, Group policy prescribes revaluation 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 parent guarantor materially influences the PD of the guaranteed obligor. PD estimates are also 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 provider of guarantees are banks, other financial institutions and corporates. The creditworthiness of providers of unfunded credit risk mitigation is 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, in the case of individually assessed exposures, are determined by reference to locally approved internal risk parameters based on the nature of the exposure. For retail portfolios, credit risk mitigation 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 credit risk mitigation 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, which includes credit derivatives and guarantees, is reflected through adjustment or determination of PD or LGD. Under the advanced IRB approach, recognition may be through 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 calculated under the advanced IRB approach are calculated by models.

Recognition of risk mitigation under the standardised approach

Where credit risk mitigation 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, which 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 risk weight of the protection provider. The uncovered portion attracts the risk weight 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 weight of the obligor.

Table 39: CR3 – Overview of recognised credit risk mitigation

		a	b1	b	d
		Exposures unsecured: carrying amount	Exposures to be secured	Exposures secured by recognised collateral	Exposures secured by recognised guarantees
		HK$m	HK$m	HK$m	HK$m
1	Loans	2,191,189	2,358,622	1,969,619	389,003
2	Debt securities	1,656,856	28,022	–	28,022
3	**Total at 31 Dec 2022**	3,848,045	2,386,644	1,969,619	417,025
4	*of which: defaulted*	*12,509*	*25,378*	*23,190*	*2,188*

Unsecured and secured loan exposures decreased by HK$72.9bn and HK$110.3bn respectively over the second half of 2022, primarily due to a decrease 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	Actual RWAs
		HK$m	HK$m
1	Corporate – Specialised lending under supervisory slotting criteria approach (project finance)	19,883	19,883
4	Corporate – Specialised lending under supervisory slotting criteria approach (income-producing real estate)	113,248	113,248
5	Corporate – Specialised lending (high-volatility commercial real estate)	625	625
6	Corporate – Small-and-medium sized corporates	146,837	146,837
7	Corporate – Other corporates	1,078,883	1,078,883
8	Sovereigns	136,430	136,430
10	Multilateral development banks	2,346	2,346
11	Bank exposures – Banks	68,474	68,474
12	Bank exposures – Securities firms	22,393	22,393
14	Retail – Small business retail exposures	448	448
15	Retail – Residential mortgages to individuals	227,179	227,179
16	Retail – Residential mortgages to property-holding shell companies	3,597	3,597
17	Retail – Qualifying revolving retail exposures ('QRRE')	50,268	50,268
18	Retail – Other retail exposures to individuals	21,041	21,041
19	Equity – Equity exposures under market-based approach (simple risk weight method)	27,954	27,954
25	Equity – Equity exposures associated with equity investments in funds (CIS exposures)	1,508	1,508
26	Other – Cash items	1,743	1,743
27	Other – Other items	158,402	158,402
28	**Total (under the IRB calculation approaches) at 31 Dec 2022**	2,081,259	2,081,259

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	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount	RWAs	RWA density
		HK$m	HK$m	HK$m	HK$m	HK$m	%
	Exposure classes						
1	Sovereign exposures	1	–	30,015	588	51	–
2	PSE exposures	146,124	13,141	108,684	3,614	16,055	14
2a	*of which: domestic PSEs*	*14,562*	*2,946*	*14,770*	*1,306*	*3,567*	*22*
2b	*of which: foreign PSEs*	*131,562*	*10,195*	*93,914*	*2,308*	*12,488*	*13*
4	Bank exposures	2,325	895	2,464	95	759	30
5	Securities firm exposures	45	24	45	–	23	50
6	Corporate exposures	148,668	203,137	132,090	8,134	132,073	94
10	Regulatory retail exposures	53,705	447,763	51,878	204	39,061	75
11	Residential mortgage loans	117,089	9,292	116,825	719	47,698	41
12	Other exposures which are not past due exposures	23,737	18,193	10,919	157	11,076	100
13	Past due exposures	2,053	77	2,053	24	2,838	137
15	**Total at 31 Dec 2022**	493,747	692,522	454,973	13,535	249,634	53

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
						Number of obligors[2,3]				
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]	Beginning of the year	End of the year	Defaulted obligors in the year	*of which: new defaulted obligors in the year*	Average historical annual default rate %
Sovereigns										
0.00 to <0.15	AAA to BBB	Aaa to Baa2	AAA to BBB	0.02	0.03	40	40	–	–	–
0.15 to <0.25	BBB-	Baa3	BBB-	0.22	0.22	3	3	–	–	–
0.25 to <0.50	BBB-	Baa3	BBB-	0.37	0.37	2	2	–	–	–
0.50 to <0.75	BB+ to BB	Ba1 to Ba2	BB+ to BB	0.63	0.63	2	2	–	–	–
0.75 to <2.50	BB- to B+	Ba3 to B2	BB- to B-	1.20	1.20	1	–	–	–	–
2.5 to <10.00	B to B-	B2 to Caa1	CCC+ to CCC	4.04	3.82	3	3	1	–	6.67
10.00 to <100.00	B- to C	Caa1 to C	CCC to C	10.00	10.00	1	1	1	–	20.00
Banks										
0.00 to <0.15	AAA to A-	Aaa to Baa1	AAA to BBB+	0.05	0.08	222	325	–	–	–
0.15 to <0.25	BBB+	Baa2	BBB	0.22	0.22	70	66	–	–	–
0.25 to <0.50	BBB	Baa3	BBB-	0.37	0.37	22	44	–	–	–
0.50 to <0.75	BBB-	Baa3	BBB-	0.63	0.63	30	36	–	–	–
0.75 to <2.50	BB+ to BB-	Ba1 to B1	BB+ to B+	1.28	1.27	43	31	–	–	–
2.5 to <10.00	B+ to B-	B2 to Caa1	B to CCC+	3.85	4.19	13	6	–	–	1.43
10.00 to <100.00	CCC+ to C	Caa1 to C	CCC to C	13.70	10.00	3	6	–	–	–
Corporate – small-and-medium sized corporates										
0.00 to <0.15	AAA to A-	Aaa to Baa1	AAA to BBB+	0.10	0.11	512	615	–	–	0.03
0.15 to <0.25	BBB+	Baa2	BBB	0.22	0.22	698	724	–	–	0.07
0.25 to <0.50	BBB	Baa3	BBB-	0.37	0.37	983	1,033	–	–	0.23
0.50 to <0.75	BBB-	Baa3	BBB-	0.63	0.63	1,143	1,034	–	–	0.05
0.75 to <2.50	BB+ to BB-	Ba1 to B1	BB+ to B+	1.44	1.51	4,243	3,742	12	–	0.50
2.5 to <10.00	B+ to B-	B2 to Caa1	B to CCC+	3.92	4.10	1,237	1,097	25	–	1.81
10.00 to <100.00	CCC+ to C	Caa1 to C	CCC to C	16.69	13.38	56	124	7	–	15.76
Corporate – other[4]										
0.00 to <0.15	AAA to A-	Aaa to Baa1	AAA to BBB+	0.08	0.10	4,070	5,390	1	–	0.02
0.15 to <0.25	BBB+	Baa2	BBB	0.22	0.22	2,146	2,272	3	–	0.08
0.25 to <0.50	BBB	Baa3	BBB-	0.37	0.37	2,136	2,134	3	–	0.22
0.50 to <0.75	BBB-	Baa3	BBB-	0.63	0.63	2,055	1,956	6	–	0.20
0.75 to <2.50	BB+ to BB-	Ba1 to B1	BB+ to B+	1.36	1.44	5,166	4,891	48	–	0.63
2.5 to <10.00	B+ to B-	B2 to Caa1	B to CCC+	4.06	4.11	1,629	1,508	14	*1*	1.79
10.00 to <100.00	CCC+ to C	Caa1 to C	CCC to C	14.91	15.20	143	214	20	–	12.14

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
			Number of obligors[2]				
PD range	Weighted average PD %[1]	Arithmetic average PD % by obligors[1]	Beginning of the year	End of the year	Defaulted obligors in the year	*Of which: new defaulted obligors in the year*	Average historical annual default rate %
Retail – QRRE							
0.00 to < 0.15	0.06	0.06	4,770,620	4,757,312	2,262	*13*	0.04
0.15 to < 0.25	0.22	0.22	248,593	266,581	346	*7*	0.13
0.25 to < 0.50	0.39	0.40	388,524	399,270	993	*32*	0.26
0.50 to < 0.75	0.58	0.59	96,018	98,517	407	*20*	0.43
0.75 to < 2.50	1.35	1.31	468,012	483,227	2,939	*121*	0.65
2.50 to < 10.00	4.51	4.40	140,904	142,252	3,588	*32*	2.77
10.00 to < 100.00	22.56	25.33	43,458	41,792	5,571	*8*	11.52
Retail – Residential mortgage exposures							
0.00 to < 0.15	0.09	0.09	173,002	172,153	66	*5*	0.04
0.15 to < 0.25	0.19	0.18	125,347	128,342	197	*6*	0.17
0.25 to < 0.50	0.36	0.37	66,334	61,655	113	*4*	0.16
0.50 to < 0.75	0.59	0.61	38,657	40,603	141	–	0.31
0.75 to < 2.50	1.16	1.19	54,853	55,430	230	*1*	0.33
2.50 to < 10.00	4.40	4.75	17,220	19,876	330	*10*	1.79
10.00 to < 100.00	15.53	16.60	5,760	5,064	403	–	8.33
Retail – small business retail exposures							
0.00 to < 0.15	0.08	0.07	1,484	1,589	–	–	–
0.15 to < 0.25	0.19	0.19	150	145	–	–	–
0.25 to < 0.50	0.36	0.36	89	148	–	–	–
0.50 to < 0.75	0.56	0.56	263	203	–	–	–
0.75 to < 2.50	1.25	1.26	103	146	1	–	0.19
2.50 to < 10.00	5.04	4.94	200	180	1	–	0.37
10.00 to < 100.00	–	–	–	33	–	–	–
Other retail exposures to individuals							
0.00 to < 0.15	0.08	0.09	42,001	40,360	35	–	0.05
0.15 to < 0.25	0.21	0.21	26,724	26,305	27	–	0.07
0.25 to < 0.50	0.34	0.33	68,595	68,102	128	*7*	0.13
0.50 to < 0.75	0.67	0.64	15,962	15,476	77	*5*	0.34
0.75 to < 2.50	1.48	1.53	35,138	34,958	353	*40*	0.91
2.50 to < 10.00	3.48	4.27	20,132	18,923	493	*50*	2.30
10.00 to < 100.00	18.36	18.90	5,050	4,697	448	*9*	9.81

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

Counterparty credit risk ('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. CCR arises primarily from our wholesale global businesses.

The bank is permitted to apply the following methods to determine exposure values for CCR: the Internal Models (Counterparty Credit Risk) ('IMM-CCR'); the Standardised (Counterparty Credit Risk) (SA-CCR) approach – for derivatives including long settlement transactions; and the comprehensive approach to recognition of collateral for SFTs.

Under the SA-CCR approach, the EAD is calculated as the sum of Replacement Cost ('RC') and Potential Future Exposures ('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, is currently set at 1.45 and accounts for several portfolio features that increase Expected Loss ('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 model is subject to ongoing model validation including monthly model performance monitoring.

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

Limits for CCR exposures, including to central counterparties ('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

Credit valuation adjustments ('CVA') represent the risk of mark-to-market losses on the expected counterparty risk to over-the-counter ('OTC') derivatives. Where we have both specific risk VaR approval and IMM approval for a product, the CVA VaR approach has been used to calculate the CVA capital charge.

Where we do not hold approvals, the standardised approach has been applied. 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. Approximately 93.5% 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 121 of the group's Annual Report and Accounts 2022.

Central counterparties

While exchange traded derivatives have been cleared through central counterparties ('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:

1. General wrong-way risk occurs when the probability of counterparty default is positively correlated with general risk factors, for example, 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
2. 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 2022, 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 both a one-notch and a two-notch downgrade of our rating was HK$10m.

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	Effective expected positive exposures ('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)	28,949	72,480		1.4	142,001	43,136
2	IMM (CCR) approach			55,278	1.45	80,152	28,548
4	Comprehensive approach (for SFTs)					158,534	17,774
6	**Total at 31 Dec 2022**						89,458

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	80,152	15,682
1	(i) VaR (after application of multiplication factor if applicable)		2,949
2	(ii) Stressed VaR (after application of multiplication factor if applicable)		12,733
3	Netting sets for which CVA capital charge is calculated by the standardised CVA method	140,119	22,485
4	**Total at 31 Dec 2022**	220,271	38,167

Table 45: CCR6 – Credit-related derivatives contracts

	a	b
	Protection bought	Protection sold
At 31 Dec 2022	HK$m	HK$m
Notional amounts		
Single-name credit default swaps	130,855	127,660
Index credit default swaps	102,042	95,836
Total return swaps	9,648	6,809
Total notional amounts	242,545	230,305
Fair values		
Positive fair value (asset)	698	1,838
Negative fair value (liability)	(1,936)	(409)

The increase in the notional amount of credit default swaps by HK$30.2bn in the second half of 2022 was due to higher client demand for both bought and sold protection.

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		
	HK$m	HK$m	HK$m	HK$m	HK$m	HK$m
Cash – domestic currency	–	8,069	–	9,663	31,191	19,354
Cash – other currencies	–	93,748	–	102,222	459,620	1,135,936
Domestic sovereign debt	–	–	–	21	8,672	36,631
Other sovereign debt	50	14,801	7,072	22,115	852,631	560,213
Government agency debt	–	170	–	221	–	–
Corporate bonds	8,036	10,561	7,451	–	304,125	67,249
Equity securities	–	1,721	–	–	105,192	69,318
Other collateral	–	8,082	–	–	–	–
Total at 31 Dec 2022	8,086	137,152	14,523	134,242	1,761,431	1,888,701

The received and posted collateral for SFTs increased by HK$190.7bn and HK$143.6bn respectively in the second half of 2022, due to higher demand for reverse repo and repo trades from sovereign counterparties.

Table 47: CCR8 – Exposures to CCPs

		a	b
		Exposure after CRM	RWAs
		HK$m	HK$m
At 31 Dec 2022			
1	**Exposures of the AI as clearing member or clearing client to qualifying CCPs (total)**		**767**
2	Default risk exposures to qualifying CCPs (excluding items disclosed in rows 7 to 10)	**14,060**	**335**
3	*of which: (i) OTC derivative transactions*	***5,035***	***154***
4	*of which: (ii) exchange-traded derivative contracts*	***9,025***	***181***
7	Segregated initial margin	**9,901**	
8	Unsegregated initial margin	**8,366**	**171**
9	Funded default fund contributions	**1,469**	**261**
11	**Exposures of the AI as clearing member or clearing client to non-qualifying CCPs (total)**		**269**
18	Unsegregated initial margin	**269**	**269**
19	Funded default fund contributions		

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	Average PD	Number of obligors	Average LGD	Average maturity	RWAs	RWA density
PD scale	HK$m	%		%	years	HK$m	%
Portfolio (i) – Sovereign							
0.00 to < 0.15	**54,470**	**0.04**	**55**	**44.8**	**0.26**	**3,305**	**6**
0.15 to < 0.25	**149**	**0.22**	**1**	**45.0**	**1.22**	**51**	**34**
0.25 to < 0.50	**–**	**0.37**	**2**	**20.7**	**1.00**	**–**	**58**
0.50 to < 0.75	**–**	**0.63**	**1**	**48.0**	**5.00**	**–**	**114**
0.75 to < 2.50	**–**	**–**	**–**	**–**	**–**	**–**	**–**
2.50 to < 10.00	**–**	**–**	**–**	**–**	**–**	**–**	**–**
10.00 to < 100.00	**–**	**36.00**	**1**	**45.0**	**1.00**	**–**	**234**
100.00 (Default)	**–**	**–**	**–**	**–**	**–**	**–**	**–**
Sub-total at 31 Dec 2022	**54,619**	**0.04**	**60**	**44.8**	**0.26**	**3,356**	**6**
Portfolio (ii) – Bank							
0.00 to < 0.15	**215,409**	**0.06**	**1,855**	**36.3**	**0.94**	**27,467**	**13**
0.15 to < 0.25	**11,209**	**0.22**	**153**	**48.0**	**0.66**	**4,547**	**41**
0.25 to < 0.50	**3,209**	**0.37**	**185**	**50.4**	**0.59**	**1,719**	**54**
0.50 to < 0.75	**2,688**	**0.63**	**37**	**45.7**	**1.09**	**2,106**	**78**
0.75 to < 2.50	**912**	**1.14**	**23**	**46.4**	**0.84**	**889**	**97**
2.50 to < 10.00	**25**	**3.05**	**3**	**47.1**	**1.00**	**35**	**141**
10.00 to < 100.00	**–**	**–**	**–**	**–**	**–**	**–**	**–**
100.00 (Default)	**–**	**–**	**–**	**–**	**–**	**–**	**–**
Sub-total at 31 Dec 2022	**233,452**	**0.08**	**2,256**	**37.2**	**0.92**	**36,763**	**16**
Portfolio (iii) – Corporate							
0.00 to < 0.15	**38,701**	**0.08**	**1,893**	**47.5**	**1.90**	**9,855**	**25**
0.15 to < 0.25	**5,949**	**0.22**	**591**	**51.0**	**1.04**	**2,517**	**42**
0.25 to < 0.50	**13,017**	**0.37**	**432**	**48.5**	**2.05**	**9,716**	**75**
0.50 to < 0.75	**2,569**	**0.63**	**301**	**52.5**	**1.26**	**2,066**	**80**
0.75 to < 2.50	**9,283**	**1.24**	**770**	**49.8**	**1.19**	**9,083**	**98**
2.50 to < 10.00	**2,031**	**4.92**	**214**	**47.6**	**3.30**	**3,397**	**167**
10.00 to < 100.00	**165**	**31.14**	**11**	**39.3**	**1.91**	**263**	**159**
100.00 (Default)	**512**	**100.00**	**7**	**48.2**	**0.06**	**–**	**–**
Sub-total at 31 Dec 2022	**72,227**	**1.23**	**4,219**	**48.4**	**1.77**	**36,897**	**51**
Total (sum of all portfolios) at 31 Dec 2022	**360,298**	**0.31**	**6,535**	**40.6**	**0.99**	**77,016**	**21**

The increase in average RW% from 18% at 30 June 2022 to 21% at 31 December 2022 was mainly due to an increase in the average PD for counterparty credit risk exposures within the corporate portfolio.

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

		a	c	d	e	f	g	i
	Risk Weight	**0%**	**20%**	**50%**	**75%**	**100%**	**150%**	**Total default risk exposure after CRM**
	Exposure class	**HK$m**	**HK$m**	**HK$m**	**HK$m**	**HK$m**	**HK$m**	**HK$m**
1	Sovereign exposures	**–**	**1,003**	**–**	**–**	**–**	**–**	**1,003**
2	PSE exposures	**1,540**	**2,268**	**225**	**–**	**–**	**–**	**4,033**
2a	*of which: domestic PSEs*	**–**	***697***	**–**	**–**	**–**	**–**	***697***
2b	*of which: foreign PSEs*	***1,540***	***1,571***	***225***	**–**	**–**	**–**	***3,336***
4	Bank exposures	**–**	**3,472**	**1,511**	**–**	**7**	**–**	**4,990**
6	Corporate exposures	**–**	**–**	**1**	**–**	**9,852**	**4**	**9,857**
8	Regulatory retail exposures	**–**	**–**	**–**	**326**	**–**	**–**	**326**
12	**Total at 31 Dec 2022**	**1,540**	**6,743**	**1,737**	**326**	**9,859**	**4**	**20,209**

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 57 to 58 of the group's *Annual Report and Accounts 2022.*

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 credit risk mitigation 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 35 on the group's Financial Statements in the Annual Report and Accounts 2022.

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 securitisation internal ratings-based approach, securitisation external ratings-based approach, securitisation standardised approach or securitisation fall-back approach 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 Standard & Poor's Rating Services, Moody's Investors Service and Fitch Ratings as the ECAIs 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$10,060m.

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 2022							
1	**Retail (total) – *of which:***	**44,521**	**–**	**44,521**	**21,557**	**–**	**21,557**
2	*residential mortgage*	***44,521***	**–**	***44,521***	***6,605***	**–**	***6,605***
3	*credit card*	**–**	**–**	**–**	***1,755***	**–**	***1,755***
4	*other retail exposures*	**–**	**–**	**–**	***13,197***	**–**	***13,197***

Table 51: SEC2 – Securitisation exposures in trading book

		g	i
		Acting as investor	
		Traditional HK$m	Sub-total HK$m
At 31 Dec 2022			
1	**Retail (total) – *of which:***	**7,872**	**7,872**
2	*residential mortgage*	***1,411***	***1,411***
4	*other retail exposures*	***6,461***	***6,461***

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 HK$m	>20% to 50% RW HK$m	>50% to 100% RW HK$m	>100% to <1250% RW HK$m	SEC-ERBA (including IAA) HK$m	SEC-SA HK$m	SEC-ERBA (including IAA) HK$m	SEC-SA HK$m	SEC-ERBA (including IAA) HK$m	SEC-SA HK$m
At 31 Dec 2022											
1	**Total exposures**	**18,522**	**1,720**	**1,184**	**131**	**8,831**	**12,725**	**1,598**	**2,602**	**128**	**208**
2	**Traditional securitisation**	**18,522**	**1,720**	**1,184**	**131**	**8,831**	**12,725**	**1,598**	**2,602**	**128**	**208**
3	*of which: securitisation*	***18,522***	***1,720***	***1,184***	***131***	***8,831***	***12,725***	***1,598***	***2,602***	***128***	***208***
4	*of which: retail*	***18,522***	***1,720***	***1,184***	***131***	***8,831***	***12,725***	***1,598***	***2,602***	***128***	***208***

Market risk

Overview of market risk

Market risk is the risk that movements in market factors, such as foreign exchange 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 two portfolio types:

- 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 foreign exchange ('FX') rates. NTBFX exposures originate primarily from structural foreign exchange exposures, transactional foreign exchange exposures and limited residual foreign exchange 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 59 of the group's Annual Report and Accounts 2022.

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

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 foreign exchange rates.

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

Risk factor	Description
Foreign exchange	Risk arising from changes in foreign exchange 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 foreign exchange 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;
- 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; and
- 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, stressed VaR also captures risk factors considered in the VaR-based RNIV approach through a corresponding stressed VaR 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.

Stressed VaR 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)	**364**
4	Commodity exposures	**3**
8	**Securitisation exposures**	**621**
9	**Total at 31 Dec 2022**	**988**

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.

A financial instrument is defined as any contract that gives rise to both a financial asset to one party and a financial liability or equity instrument to another party.

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.
Stressed VaR	99%	10 day	Stressed VaR 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

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

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

- potential market movements employed for stressed VaR 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.

Incremental risk charge

The IRC measures the default and migration risk of issuers of traded debt instruments.

IRC risk factors include credit migration, default, product basis, concentration, hedge mismatch, recovery rate and liquidity. The PDs derived from historical data on defaults and a period of stress is used to calibrate the spread changes for rating migration events. The IRC model is validated quarterly by stressing key model parameters and reviewing the response of the model.

The IRC is a stand-alone charge generating no diversification benefit with other charges. Positions in scope of IRC are assigned liquidity horizons from three months to one year. A wide range of criteria can indicate the liquidity of a position. The liquidity horizon for the IRC measure depends on a set of factors, such as issuer features, including rating, sector, geography, and size of positions, including product, maturity and concentration.

The IRC transition matrices are calibrated using transition and default data published by three rating agencies (S&P, Moody's and Fitch) as the starting point, in combination with internal estimates used for flooring PDs.

The IRC correlation matrix is derived quarterly from historical CDS spreads data, covering the latest two-year VaR period. The correlations are calibrated separately for positions with different liquidity. The IRC correlation model utilizes factors related to sector and rating of issuers.

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 2022		
VaR (10 day – one-tailed 99% confidence interval)[1]		
1	Maximum Value	**933**
2	Average Value	**482**
3	Minimum Value	**280**
4	Period End	**459**
Stressed VaR (10 day – one-tailed 99% confidence interval)[1]		
5	Maximum Value	**1,953**
6	Average Value	**1,490**
7	Minimum Value	**969**
8	Period End	**1,072**
IRC (99.9% confidence interval)		
9	Maximum Value	**3,138**
10	Average Value	**2,132**
11	Minimum Value	**1,548**
12	Period End	**2,100**

1 The total VaR excludes Risks not in VaR ('RNIV').

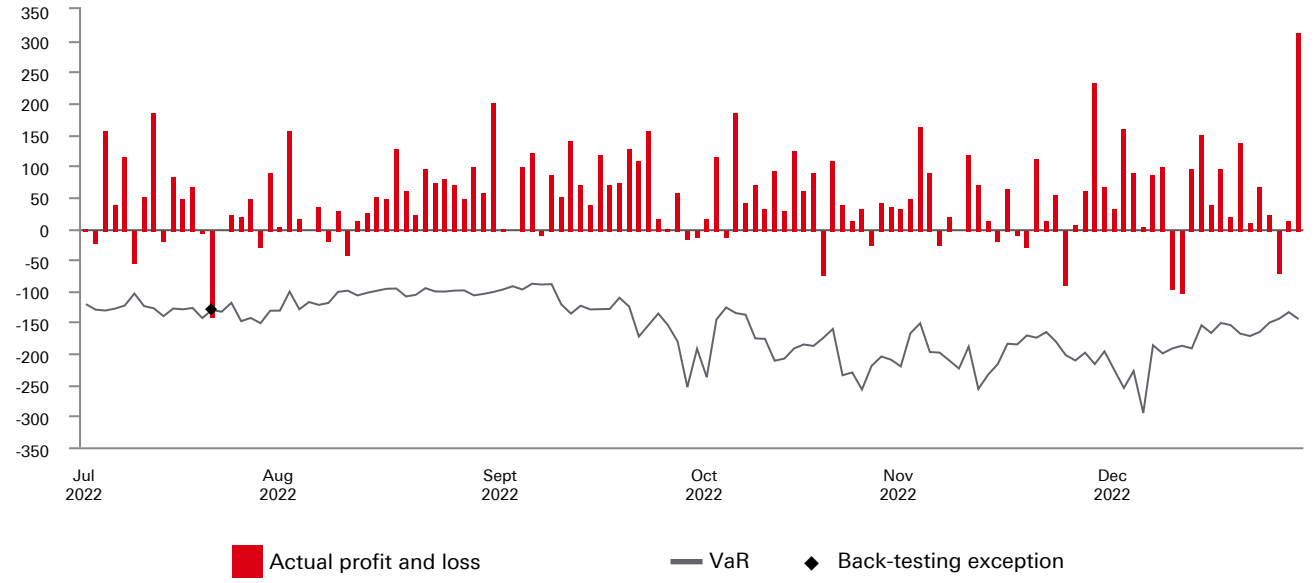
The group's trading VaR at 31 December 2022 was higher than 30 June 2022 due to the increase in the interest rate trading VaR, which was mainly driven by the rising USD interest rate during the year, resulting in higher interest rate market volatility.

The reduction of trading Stressed VaR at 31 December 2022 compared to 30 June 2022 was mainly driven by the reduction in interest rate basis risk exposure.

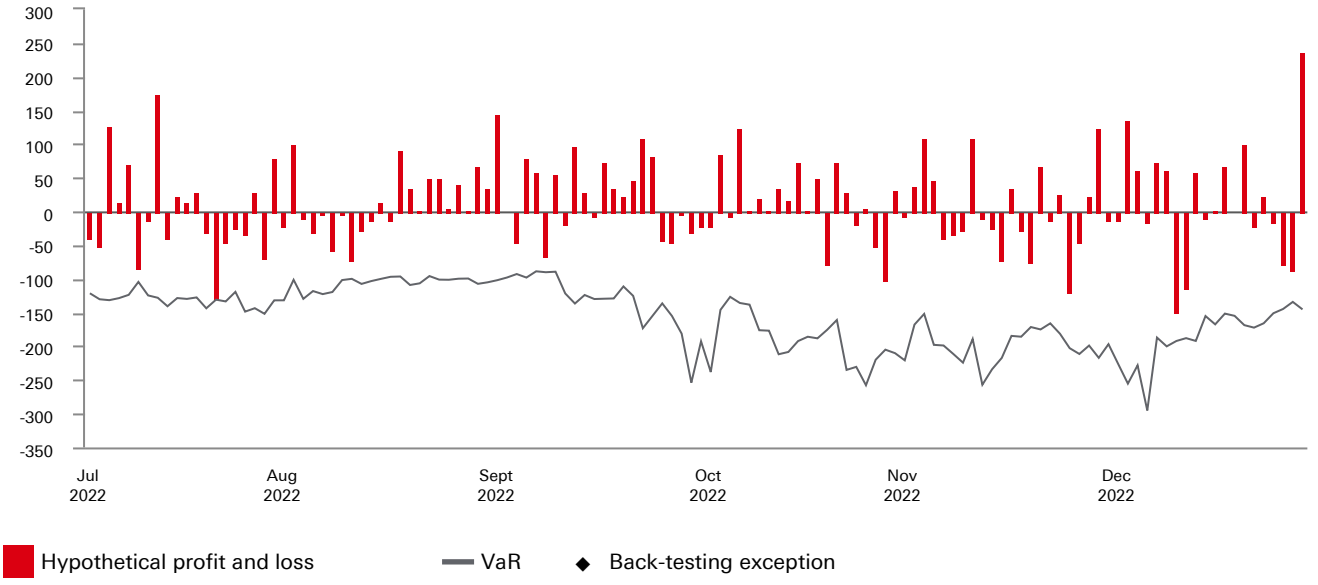
Trading IRC at 31 December 2022 was higher than 30 June 2022 due to an increase in bond market volatility.

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)



In the second half of 2022, the group experienced one loss exception against actual profit and loss. The loss back-testing exception occurred in late July driven mainly by the impact of unanticipated USD interest rate market movement on USD denominated trading instruments.

Prudent valuation adjustment

The group has documented policies and maintains systems and controls for the calculation of Prudent Valuation Adjustment ('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	f	g	h
		Equity	**Interest rates**	**Foreign exchange ('FX')**	**Credit**	**Total**	***of which: In the trading book***	***of which: In the banking book***
		HK$m	**HK$m**	**HK$m**	**HK$m**	**HK$m**	***HK$m***	***HK$m***
1	Close-out uncertainty	**296**	**864**	**181**	**202**	**1,543**	***1,080***	***463***
2	– *of which:* *Mid-market value*	**192**	**367**	**19**	**83**	**661**	***461***	***200***
3	*Close-out costs*	**40**	**153**	**19**	**19**	**231**	***184***	***47***
4	*Concentration*	**64**	**344**	**143**	**100**	**651**	***435***	***216***
5	Early termination	**–**	**–**	**–**	**–**	**–**	**–**	**–**
6	Model risk	**36**	**140**	**–**	**–**	**176**	***177***	***(1)***
7	Operational risks	**22**	**78**	**11**	**12**	**123**	***102***	***21***
8	Investing and funding costs	**–**	**7**	**–**	**15**	**22**	***22***	**–**
9	Unearned credit spreads	**1**	**438**	**73**	**–**	**512**	***498***	***14***
12	**Total adjustments at 31 Dec 2022**	**355**	**1,527**	**265**	**229**	**2,376**	***1,879***	***497***

Liquidity information

The liquidity coverage ratio ('LCR') aims to ensure that a bank has sufficient unencumbered high quality liquid assets ('HQLA') to meet its liquidity needs in a 30 calendar day liquidity stress scenario. The group also uses the net stable funding ratio ('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 2022	
	LCR	NSFR
	%	%
Hong Kong Office	**167.9**	**133.8**
Unconsolidated	**164.0**	**136.5**
Consolidated	**146.6**	**152.3**

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 57 to 58 on the Risk Report of the group's Annual Report and Accounts 2022. *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 2022.

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 2022 was 74.	**Quarter ended 31 Dec 2022**	
	Basis of disclosure: consolidated	**Unweighted value (average) HK$m**	**Weighted value (average) HK$m**
A	**HQLA**		
1	Total HQLA		**1,886,003**
B	**Cash outflows**		
2	Retail deposits and small business funding, *of which:*	**3,509,154**	**331,086**
3	*Stable retail deposits and stable small business funding*	***283,472***	***8,518***
4	*Less stable retail deposits and less stable small business funding*	***3,225,682***	***322,568***
5	Unsecured wholesale funding (other than small business funding) and debt securities and prescribed instruments issued by the AI, *of which:*	**2,577,567**	**1,193,266**
6	*Operational deposits*	***786,190***	***192,484***
7	*Unsecured wholesale funding (other than small business funding) not covered in row 6*	***1,778,446***	***987,851***
8	*Debt securities and prescribed instruments issued by the AI and redeemable within the LCR period*	***12,931***	***12,931***
9	Secured funding transactions (including securities swap transactions)		**91,199**
10	Additional requirements, *of which:*	**1,048,302**	**375,905**
11	*Cash outflows arising from derivative contracts and other transactions, and additional liquidity needs arising from related collateral requirements*	***274,188***	***274,172***
12	*Cash outflows arising from obligations under structured financing transactions and repayment of funding obtained from such transactions*	***3,494***	***3,494***
13	*Potential drawdown of undrawn committed facilities (including committed credit facilities and committed liquidity facilities)*	***770,620***	***98,239***
14	Contractual lending obligations (not otherwise covered in Section B) and other contractual cash outflows	**181,561**	**181,561**
15	Other contingent funding obligations (whether contractual or non-contractual)	**2,706,632**	**23,275**
16	**Total cash outflows**		**2,196,292**
C	**Cash inflows**		
17	Secured lending transactions (including securities swap transactions)	**923,591**	**105,060**
18	Secured and unsecured loans (other than secured lending transactions covered in row 17) and operational deposits placed at other financial institutions	**955,819**	**550,733**
19	Other cash inflows	**344,850**	**344,062**
20	**Total cash inflows**	**2,224,260**	**999,855**
D	**Liquidity coverage ratio (adjusted value)**		
21	Total HQLA		**1,886,003**
22	Total net cash outflows		**1,196,437**
23	LCR (%)		**157.8**

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

		a	b	c	d	e
		Quarter ended 31 Dec 2022				
		Unweighted value by residual maturity				
	Basis of disclosure: consolidated	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	Weighted amount HK$m
A	**Available stable funding ('ASF') item**					
1	Capital:	**826,189**	**—**	**—**	**25,478**	**851,667**
2	*Regulatory capital*	***826,189***	**—**	**—**	***21,032***	***847,221***
3	*Other capital instruments*	**—**	**—**	**—**	***4,446***	***4,446***
4	Retail deposits and small business funding:		**3,604,854**	**—**	**—**	**3,258,298**
5	*Stable deposits*		***278,587***	**—**	**—**	***264,658***
6	*Less stable deposits*		***3,326,267***	**—**	**—**	***2,993,640***
7	Wholesale funding:	**—**	**3,293,568**	**52,582**	**22,631**	**1,180,561**
8	*Operational deposits*		***780,002***	**—**	**—**	***390,001***
9	*Other wholesale funding*	**—**	***2,513,566***	***52,582***	***22,631***	***790,560***
10	Liabilities with matching interdependent assets	**341,354**	**—**	**—**	**—**	**—**
11	Other liabilities:	**330,298**	**176,098**	**56,357**	**223,887**	**252,066**
12	*All other funding and liabilities not included in the above categories*	***296,852***	***176,098***	***56,357***	***223,887***	***252,066***
13	*Net derivative liabilities*	***33,446***	**—**	**—**	**—**	**—**
14	**Total ASF**					**5,542,592**
B	**Required stable funding ('RSF') item**					
15	Total HQLA for NSFR purposes[1]			**1,954,365**		**84,663**
17	Performing loans and securities:	**400,195**	**2,737,002**	**333,889**	**2,478,443**	**3,051,769**
18	*Performing loans to financial institutions secured by Level 1 HQLA*	**—**	***1,014,245***	***8,490***	***6,383***	***112,053***
19	*Performing loans to financial institutions secured by non-Level 1 HQLA and unsecured performing loans to financial institutions*	***11,844***	***327,395***	***50,378***	***189,262***	***275,404***
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:*	***159,347***	***1,070,692***	***232,671***	***1,160,498***	***1,667,943***
21	*With a risk-weight of less than or equal to 35% under the STC approach*	***212***	***3,817***	***1,288***	***30,783***	***27,508***
22	*Performing residential mortgages, of which:*	**—**	***25,847***	***19,720***	***1,032,476***	***717,392***
23	*With a risk-weight of less than or equal to 35% under the STC approach*	**—**	***23,996***	***17,771***	***939,703***	***631,808***
24	*Securities that are not in default and do not qualify as HQLA, including exchange-traded equities*	***229,004***	***298,823***	***22,630***	***89,824***	***278,977***
25	Assets with matching interdependent liabilities	**341,354**	**—**	**—**	**—**	**—**
26	Other assets:	**946,217**	**62,109**	**—**	**1,994**	**463,308**
27	*Physical traded commodities, including gold*	***16,407***				***13,946***
28	*Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs*	***41,989***				***35,691***
29	*Net derivative assets*	**—**				
30	*Total derivative liabilities before adjustments for deduction of variation margin posted*	***413,898***				***20,695***
31	*All other assets not included in the above categories*	***473,923***	***62,109***		***1,994***	***392,976***
32	Off-balance sheet items[1]			**3,579,391**		**39,778**
33	**Total RSF**					**3,639,518**
34	**Net Stable Funding Ratio (%)**					**152.3**

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

		a	b	c	d	e
		Quarter ended 30 Sep 2022				
		Unweighted value by residual maturity				
	Basis of disclosure: consolidated	No specified term to maturity	<6 months or repayable on demand	6 months to < 12 months	12 months or more	Weighted amount
		HK$m	HK$m	HK$m	HK$m	HK$m
A	Available stable funding ('ASF') item					
1	Capital:	798,811	—	—	25,045	823,856
2	*Regulatory capital*	*798,811*	—	—	*20,331*	*819,142*
3	*Other capital instruments*	—	—	—	*4,714*	*4,714*
4	Retail deposits and small business funding:		3,504,900	—	—	3,168,670
5	*Stable deposits*		*285,173*	—	—	*270,914*
6	*Less stable deposits*		*3,219,727*	—	—	*2,897,756*
7	Wholesale funding:	—	3,304,652	49,537	19,756	1,134,667
8	*Operational deposits*		*773,489*	—	—	*386,744*
9	*Other wholesale funding*	—	*2,531,163*	*49,537*	*19,756*	*747,923*
10	Liabilities with matching interdependent assets	339,294	—	—	—	—
11	Other liabilities:	314,822	239,097	80,905	214,127	254,579
13	*All other funding and liabilities not included in the above categories*	*314,822*	*239,097*	*80,905*	*214,127*	*254,579*
14	Total ASF					5,381,772
B	Required stable funding ('RSF') item					
15	Total HQLA for NSFR purposes[1]		1,937,099			79,060
17	Performing loans and securities:	346,766	2,589,039	385,226	2,489,012	3,062,151
18	*Performing loans to financial institutions secured by Level 1 HQLA*	—	*947,758*	*17,417*	*6,615*	*110,100*
19	*Performing loans to financial institutions secured by non-Level 1 HQLA and unsecured performing loans to financial institutions*	*12,415*	*359,026*	*67,339*	*206,839*	*306,777*
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:*	*151,764*	*1,042,601*	*258,142*	*1,176,223*	*1,710,235*
21	*With a risk-weight of less than or equal to 35% under the STC approach*	*173*	*4,371*	*770*	*31,971*	*28,246*
22	*Performing residential mortgages, of which:*	—	*20,450*	*19,468*	*1,022,135*	*702,741*
23	*With a risk-weight of less than or equal to 35% under the STC approach*	—	*18,825*	*18,346*	*930,614*	*623,575*
24	*Securities that are not in default and do not qualify as HQLA, including exchange-traded equities*	*182,587*	*219,204*	*22,860*	*77,200*	*232,298*
25	Assets with matching interdependent liabilities	339,294	—	—	—	—
26	Other assets:	937,159	152,635	13	1,974	469,708
27	*Physical traded commodities, including gold*	*18,063*				*15,354*
28	*Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs*	*39,447*				*33,530*
29	*Net derivative assets*	*6,768*				*6,768*
30	*Total derivative liabilities before adjustments for deduction of variation margin posted*	*423,506*				*21,175*
31	*All other assets not included in the above categories*	*449,375*	*152,635*	*13*	*1,974*	*392,881*
32	Off-balance sheet items[1]			3,456,291		38,305
33	Total RSF					3,649,224
34	Net Stable Funding Ratio (%)					147.5

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 against the cost of hedging. The monitoring of the projected net interest income ('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 interest rate risk in the banking book. 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 behaviouralisation 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. Interest rate behaviouralisation policies are formulated in line with the Group's behaviouralisation policies and approved at least annually by local ALCOs. 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 off-balance sheet 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 net interest income under varying interest rate scenarios, where all other economic variables are held constant. The sensitivity of net interest income 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, 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:

a. for ΔEVE, commercial margins and other spread components have been excluded from the cash flows used in the computation and discount rate used;

b. all the positions captured are assumed to run to maturity and slotted into the appropriate time bands according to the earliest interest repricing date (as per MA(BS)12A) including for non-maturity deposits; and

c. no prepayment or early redemption risk is assumed as the bank does not have material long term fixed rate positions, the 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 economic value of equity sensitivity is small. This includes:

a. behaviouralisation of non-maturity products, the extent of which can be driven by:

   i. the amount of the current balance that can be assessed as stable under business-as-usual conditions; and

   ii. for managed rate balances the historic market interest rate re-pricing behaviour observed; or

   iii. 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.

b. 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);

c. 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

d. 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 average and the longest repricing maturity for non-maturity deposits ('NMDs') in 2022 was one day.

Quantitative information on interest rate risk in banking book

The worst scenario for change in the economic value of equity is 'Parallel up' scenario with specific size of interest rate shock for each currency. The major contributors to the change in economic value of equity are the lower net gap positions for HKD and CNY currencies mainly due to migration of overnight interest bearing current accounts to term deposits, partly offset by higher risk with the addition of longer term positions across USD, HKD and other currencies.

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 'Parallel up' scenario. The decrease in net interest income sensitivity year-on-year is mainly due to lower total liabilities in shorter term positions.

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

		a	b	c	d
		ΔEVE		ΔNII	
		31 Dec 2022	31 Dec 2021	**31 Dec 2022**	31 Dec 2021
		HK$m	HK$m	**HK$m**	HK$m
1	Parallel up	**29,759**	33,026	**19,217**	24,657
2	Parallel down	**–**	–	**(19,344)**	(24,477)
3	Steepener	**1,456**	1,350		
4	Flattener	**9,062**	12,896		
5	Short rate up	**19,912**	24,371		
6	Short rate down	**11**	–		
7	Maximum	**29,759**	33,026	**19,217**	24,657
	Period	**31 Dec 2022**		31 Dec 2021	
8	Tier 1 capital	**545,572**		530,701	

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 2022			
	Types of counterparties			
1	Central government, central government-owned entities and their subsidiaries and joint ventures ('JVs')	**219,497**	**30,373**	**249,870**
2	Local governments, local government-owned entities and their subsidiaries and JVs	**81,848**	**4,674**	**86,522**
3	People's Republic of China ('PRC') nationals residing in mainland China or other entities incorporated in mainland China and their subsidiaries and JVs	**430,372**	**74,544**	**504,916**
4	Other entities of central government not reported in item 1 above	**13,107**	**4,592**	**17,699**
5	Other entities of local governments not reported in item 2 above	**8,370**	**1,395**	**9,765**
6	PRC nationals residing outside mainland China or entities incorporated outside mainland China where the credit is granted for use in mainland China	**30,619**	**3,309**	**33,928**
7	Other counterparties where the exposures are considered by the reporting institution to be non-bank mainland China exposures	**45,839**	**2,557**	**48,396**
	Total	**829,652**	**121,444**	**951,096**
	Total assets after provision	**6,491,975**		
	On-balance sheet exposures as percentage of total assets	**12.78%**		

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. 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 2022					
Developed countries	**517,173**	**636,621**	**392,573**	**575,866**	**2,122,233**
of which: United States	***44,317***	***424,721***	***116,694***	***228,031***	***813,763***
of which: Japan	***147,208***	***106,721***	***34,583***	***135,961***	***424,473***
Offshore centres	**95,240**	**65,524**	**161,225**	**489,934**	**811,923**
of which: Hong Kong	***58,561***	***3,419***	***92,422***	***332,005***	***486,407***
Developing Asia and Pacific	**543,016**	**134,548**	**105,377**	**410,795**	**1,193,736**
of which: Mainland China	***397,528***	***87,189***	***68,549***	***243,979***	***797,245***

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 2022:

Table 63: Non-structural foreign currency positions

HK$m equivalent	United States Dollars HK$m	Chinese Renminbi HK$m
At 31 Dec 2022		
Spot assets	**2,494,535**	**839,003**
Spot liabilities	**(3,221,377)**	**(789,986)**
Forward purchases	**12,193,794**	**2,358,272**
Forward sales	**(11,446,758)**	**(2,412,204)**
Net options positions	**(17,453)**	**11,876**
Net long (net short) position[1]	**2,741**	**6,961**

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, aims to competitively reward long-term sustainable performance. Our goal is to attract, motivate and retain the very best people, regardless of gender, ethnicity, age, disability or any other factor unrelated to performance or experience. This supports the long-term interests of our stakeholders, which includes the customers and the communities we serve, our shareholders and our regulators.

Our approach to performance and pay in 2022 for the broader workforce was underpinned by the below principles designed to support a fair and appropriate pay and performance approach, whilst recognizing the need for flexibility in a hybrid workplace. These include:

- Ensuring that the decisions made are fair, appropriate and free from bias towards an individual's ethnicity, gender, age, or any other characteristic and making sure employees are fairly rewarded and recognized. Managers are encouraged to challenge their assessment by questioning whether they were objective and based on facts;
- Rewarding and recognizing our people for sustainable performance and values aligned behaviour. As such, subject to local law, employees receive a behaviour rating as well as a performance rating. Analytical reviews were also completed to ensure there is a clear differentiation across both performance and behaviour ratings;
- Supporting a culture of continuous feedback through manager and employee empowerment. Focusing to obtain feedback from colleagues to learn what was going well, learn and improve from experience and discover the skills and behaviour colleagues need to grow; and
- Delivering a balanced, simple and transparent total reward package that supports employee well-being.

Based on these principles and promoting sound and effective risk management whilst supporting business objectives, our approach to determining remuneration is based on the following objectives:

- Offering a competitive total reward package. This includes market competitive fixed pay levels for the role, skills and experience required by the businesses or functions, whilst ensuring our employees are able to meet their basic day-to-day needs;
- Maintaining an appropriate balance between fixed pay, variable pay and employee benefits, taking into consideration an employee's seniority, role, individual performance and the market. We are informed, but not driven by, market position and practice;
- Ensuring variable pay is determined against a balanced scorecard of relevant financial and non-financial objectives including appropriate risk and compliance objectives, differentiated by performance and adherence to the HSBC values;
- Ability to adjust variable pay upwards for positive conduct and downwards for negative conduct;
- Offering employee benefits that support the mental, physical and financial health of a diverse workforce, are appropriate at the local market level and support HSBC's commitment to employee well-being;
- Promoting employee share ownership through variable pay deferral or voluntary enrolment in an all employee share plan;
- Providing career planning tools to help employees thinking about future roles and the capabilities they require, and empowering managers to make appropriate decisions at key stages during the pay review process by providing them with clear guidance materials to help their decision making.

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 any potential updates on the Remuneration Strategy and principles in 2023.

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 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 2022, 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 2022/2023.

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 Executive Officers, Alternative Chief Executives, Head of Control Functions (Audit, Risk, Finance, Legal and Compliance) and Managers as registered with the HKMA. There were 31 members of senior management during 2022.

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 applicable criteria, the group identified 306 MRTs, and therefore in turn key personnel, in 2022.

Table 64: REM1 – Remuneration awarded during financial year

		a	b
		2022	
	Remuneration amount and quantitative information	Senior Management	Key personnel
	Fixed remuneration[1]		
1	Number of employees	**31**	**306**
2	Total fixed remuneration (HK$m)	**276**	**1,269**
3	*of which: cash-based*	***276***	***1,269***
	Variable remuneration[2]		
9	Number of employees[3]	**31**	**306**
10	Total variable remuneration (HK$m)	**301**	**1,127**
11	*of which: cash-based*	***144***	***545***
12	*of which: deferred*	***84***	***267***
13	*of which: shares or other share-linked instruments*	***157***	***582***
14	*of which: deferred*	***97***	***304***
17	**Total remuneration (HK$m)**	**577**	**2,396**

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.

Table 65: REM2 – Special payments

		e	f
		2022	
		Severance payments	
	Special payments	Number of employees	Total amount HK$m
2	Key personnel	**13**	**32**

Table 66: REM3 – Deferred remuneration

		a	b	d	e
		2022			
	Deferred and retained remuneration	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**	**342**	***342***	**11**	**117**
2	Cash	**161**	***161***	**–**	**51**
3	Shares	**181**	***181***	**11**	**66**
6	**Key personnel**	**1,075**	***1,075***	**41**	**502**
7	Cash	**482**	***482***	**–**	**169**
8	Shares	**593**	***593***	**41**	**333**
11	**Total**	**1,417**	***1,417***	**52**	**619**

Amount of outstanding deferred remuneration and amount paid out in the financial year has increased compared to prior year. This is a reflection of the higher variable remuneration awards made for year 2021 and the higher number, as well as changes in the composition, of both senior management and key personnel.

Other information

Abbreviations

The following abbreviated terms are used throughout this document.

Currencies	
HK$m	Millions of Hong Kong dollars
HK$bn	Billions (thousands of millions) of Hong Kong dollars
US$m	Millions of United States dollars
A	
AI	Authorised institution
ALCO	Asset and Liability Management Committee
ASF	Available stable funding
AT1	Additional tier 1
AVA	Additional valuation adjustments
B	
BCBS	Basel Committee on Banking Supervision
BCR	Banking (Capital) Rules
BDR	Banking (Disclosure) Rules
BLR	Banking (Liquidity) Rules
BSC	Basic 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 Agency
ECAI	External Credit Assessment Institution
ECL[1]	Expected credit loss
EL	Expected loss
EEPE	Effective expected positive exposures
EVE	Economic value of equity
F	
FIRO	Financial Institutions (Resolution) Ordinance
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	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
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
IRRBB	Interest rate risk in the banking book
IRC	Incremental risk charge
J	
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	Leverage ratio
LTA	Look-through approach
M	
MBA	Mandate-based approach
MOF	Model Oversight Forum
MRC	Regional Model Risk Committee
MRTs	Identified Staff and Material Risk Takers
MSRs	Mortgage servicing rights
N	
NBFI	Non-bank financial institution
NII	Net interest income
NSFR[1]	Net stable funding ratio
NMDs	Non-maturity and 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
PRA[1]	Prudential Regulation Authority
PRC	People's Republic of China
PSE	Public sector entities
PVA	Prudent valuation adjustments
Q	
QRRE	Qualifying revolving retail exposures
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
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	Stressed Value at risk
S&P	Standard and Poor's rating agency
T	
T1	Tier 1
T2	Tier 2
TC	Total regulatory capital
TLAC[1]	Total Loss-absorbing Capacity
TTC	Through-The-Cycle
V	
VaR[1]	Value at risk
W	
WPB	Wealth and Personal Banking
WMOF	Wholesale Model Oversight Forum

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

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