恒生銀行
HANG SENG BANK

Banking Disclosure Statement

31 December 2019

(Unaudited)

BANKING DISCLOSURE STATEMENT *(unaudited)*

Contents

Tables

Prefixes contained in the table names, where applicable, represent the reference codes of the standard disclosure templates and tables issued by the HKMA.

Introduction

Purpose

The information contained in this document is for Hang Seng Bank Limited ("the Bank") and its subsidiaries (together "the Group"). It should be read in conjunction with the Group's 2019 Annual Report. The Group's Annual Report and the Banking Disclosure Statement, 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").

These banking disclosures are governed by the Group's disclosure policy, which has been approved by the Board. The disclosure policy sets out the governance, control and assurance requirements for publication of the document. While the Banking 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 2019 which will be delivered to the Registrar of Companies and the Hong Kong Monetary Authority ("HKMA"). The Auditors expressed an unqualified opinion on those statutory accounts in their report dated 18 February 2020. 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 2019 Annual Report, which include the statutory accounts, can be viewed on our website, www.hangseng.com.

The Banking Disclosure Statement

The Group's Banking Disclosure Statement at 31 December 2019 comprises 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 Disclosures section of our website, www.hangseng.com.

The Banking Disclosure Statement includes the majority of the information required under the BDR and the LAC Rules. The remainder of the disclosure requirements are covered in the Group's 2019 Annual Report which can be found in the "About Hang Seng – Investor Relations – Financial Statements" section of our website, www.hangseng.com.

Disclosure requirements covered in the Group's 2019 Annual Report:

– BDR Section 16FJ - LIQA : Liquidity risk management on pages 78 to 83
– BDR Section 16J - The Group's definition of "Impaired" and "Renegotiated" and the methods adopted for determining impairments in note 2(j) on pages 175 to 180
– BDR Sections 16ZS, 16ZT, 16ZU, 16ZV - Remuneration on pages 119 to 120, 122 to 124
– BDR Section 44 - Assets used as security in note 29 on pages 203 to 204
– BDR Section 46 - The general disclosure of the major business activities and product lines in note 4 on pages 186 to 187 and note 20 on pages 193 to 196 respectively
– BDR Section 52 - Corporate governance on pages 110 to 139

Loss-absorbing capacity disclosures

The LAC Rules in Hong Kong were implemented in December 2018. Following classification under these rules by the HKMA, entities in Hong Kong are required to issue loss-absorbing capacity ("LAC") instruments that can be written down or converted in the event of failure.

On 1 April 2019, the Group was classified as a material subsidiary by the HKMA. Following this classification, the Group is required to publish LAC disclosures in accordance with the LAC Rules from 30 September 2019, subsequent to conformance with the LAC requirements from 1 July 2019. The basis of calculating the Group's LAC and risk-weighted asset ("RWA") is in accordance with the LAC Rules. The disclosures are made in accordance with the standard disclosure templates as issued by the HKMA.

Table 1: KM1 – Key prudential ratios

		Footnotes	a	b	c	d	e
			At				
			31 Dec 2019	30 Sep 2019	30 Jun 2019	31 Mar 2019	31 Dec 2018
	Regulatory capital (HK$m)	*1*					
1	Common Equity Tier 1 ("CET1")		**111,560**	107,781	105,945	102,947	101,724
2	Tier 1		**123,304**	119,525	117,689	109,928	108,705
3	Total capital		**137,249**	133,610	131,747	123,574	123,307
	Risk-weighted asset ("RWA") (HK$m)	*1*					
4	Total RWA		**658,856**	651,970	647,067	627,076	611,885
	Risk-based regulatory capital ratios (as a percentage of RWA)	*1*					
5	CET1 ratio (%)		**16.9**	16.5	16.4	16.4	16.6
6	Tier 1 ratio (%)		**18.7**	18.3	18.2	17.5	17.8
7	Total capital ratio (%)		**20.8**	20.5	20.4	19.7	20.2
	Additional CET1 buffer requirements (as a percentage of RWA)	*1*					
8	Capital conservation buffer requirement (%)		**2.500**	2.500	2.500	2.500	1.875
9	Countercyclical capital buffer ("CCyB") requirement (%)	*2*	**1.645**	2.067	2.085	2.053	1.550
10	Higher loss absorbency requirements (%) (applicable only to Global systemically important authorised institutions ("G-SIBs") or Domestic systemically important authorised institutions ("D-SIBs"))	*3*	**1.500**	1.500	1.500	1.500	1.125
11	Total AI-specific CET1 buffer requirements (%)		**5.645**	6.067	6.085	6.053	4.550
12	CET1 available after meeting the AI's minimum capital requirements (%)		**12.4**	12.0	11.9	11.5	11.8
	Basel III leverage ratio	*4*					
13	Total leverage ratio ("LR") exposure measure (HK$m)		**1,572,114**	1,537,718	1,559,690	1,486,257	1,477,001
14	LR (%)		**7.8**	7.8	7.5	7.4	7.4
	Liquidity Coverage Ratio ("LCR")	*5*					
15	Total high quality liquid assets ("HQLA") (HK$m)		**324,034**	331,860	318,938	321,198	293,081
16	Total net cash outflows (HK$m)		**161,484**	158,122	161,027	153,066	140,330
17	LCR (%)		**201.8**	210.5	198.5	210.8	209.1
	Net Stable Funding Ratio ("NSFR")	*6*					
18	Total available stable funding (HK$m)		**1,137,453**	1,115,891	1,127,803	1,076,544	1,076,646
19	Total required stable funding (HK$m)		**762,817**	751,178	739,544	716,178	699,089
20	NSFR (%)		**149.1**	148.6	152.5	150.3	154.0

1 *The regulatory capital, RWA, 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 - (MA(BS)3)" return submitted to the HKMA on a consolidated basis under the requirements of section 3C(1) of the Banking (Capital) Rules ("BCR").*

2 *At 4Q 2019, the jurisdictional CCyB of Hong Kong used in the calculation of the CCyB requirement was 2.0%, which was reduced from 2.5% at 3Q 2019 in accordance with the announcement made by the HKMA on 14 October 2019. The jurisdictional CCyB of other countries used in the calculation of the CCyB requirement ranged from 0% to 2.5%.*

3 *On 24 December 2019, the HKMA announced a reduction in the higher loss absorbency requirement for the Bank from 1.5% to 1.0% effective from 1 January 2020.*

4 *The Basel III leverage ratios are disclosed in accordance with the information contained in the "Leverage Ratio - (MA(BS)27)" return submitted to the HKMA under the requirements specified in Part 1C of the BCR.*

5 *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 - (MA(BS)1E)" return submitted to the HKMA under rule 11(1) of the Banking (Liquidity) Rules ("BLR").*

6 *The NSFR disclosures are made in accordance with the information contained in the "Stable Funding Position - (MA(BS)26)" return submitted to the HKMA under the requirements specified in rule 11(1) of the BLR.*

Overview of Risk Management

Our risk management framework

We use an enterprise-wide, risk management framework across the organisation and across all risk types. It is underpinned by our risk culture.

The framework fosters continuous monitoring of the risk environment, and promotes risk awareness and sound operational and strategic decision making. It also ensures we have a consistent approach to monitoring, managing and mitigating the risks we accept and incur in our activities. Further information on our risk management framework is set out on page 42 of the Group's 2019 Annual Report. The measurement and management of principal risks facing the Group is described on pages 47 to 49 of the Group's 2019 Annual Report.

Risk culture

We have long recognised the importance of a strong risk culture. Our risk culture is reinforced by HSBC Values. 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 risk culture is a key responsibility of our senior executives.

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

Risk governance

The Board has ultimate responsibility for the effective management of risk and approves the risk appetite. It is advised by the 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, supported by the 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 the Group's business and functional structures.

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

Risk appetite

Risk appetite is a key component of our management of risk. It sets out the aggregate level and types of risk that we are willing to accept in achieving our medium to long-term strategic goals. Within the Group, risk appetite is managed through a global risk appetite framework and articulated in a Risk Appetite Statement ("RAS"), which is approved by the Board on the advice of the Group's Risk Committee.

The RMM regularly reviews the Group's actual risk appetite profile against the limits set out in the RAS on monthly basis to enable senior management to monitor the risk profile and guide business activities in order to balance risk and return. The actual risk appetite profile is also reported to the Risk Committee and Board from Chief Risk Officer including material deviation and related management mitigating actions.

The Group's 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 the top and emerging risks report and stress testing, to ensure consistency in risk management. Information on our risk management tools is set out on pages 44 to 45 of the Group's 2019 Annual Report. Details on the Group's overarching risk appetite are set out in the global risk appetite framework.

Stress testing

The Group 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. Our stress testing is supported by dedicated teams and infrastructure.

Our testing programme assesses our capital strength through a rigorous examination of our resilience to external shocks. It also helps us understand and mitigate risks, and informs our decision about capital levels. As well as taking part in regulatory driven stress tests, we conduct our own internal stress tests.

Stress test results are reported, where appropriate, to the RMM and the Group’s Risk Committee which oversees the Group’s stress testing programme.

The Group's Risk functions

The Group's Risk function, headed by the Group's Chief Risk Officer, is responsible for enterprise-wide risk oversight. This includes establishing policy, monitoring risk profiles and forward-looking risk identification and management. The Group's Risk function is made up of sub-functions covering all risks to our operations. They are independent from business functions in order to provide challenge, appropriate oversight and balance in risk/return decisions.

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

The Directors, through the Group's Risk Committee and the Group's Audit Committee, conduct an annual review of the effectiveness of our system of risk management and internal control. The Group's Risk Committee and the Group's Audit Committee received confirmation that executive management has taken or is taking the necessary actions to remedy any failings or weaknesses identified through the operation of our framework of controls.

Risk measurement and reporting systems

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

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

We continue to invest significant resources in IT systems and processes in order to maintain and improve our risk management capabilities. Group policy promotes the deployment of preferred technology where practicable. 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 and country level risk functions in respect of such matters as risk governance and oversight, compliance risks, approval authorities and lending guidelines, global and local scorecards, management information and reporting, and relations with third parties, including regulators, rating agencies and auditors.

Risk analytics and model governance

The Group's Risk functions manage a number of analytics disciplines supporting the development and management of models, including those for risk rating, scoring, economic capital and stress testing models 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, supports the development of the HSBC Group's global risk model, develop local risk model and oversee the use around the Group toward our implementation targets for IRB approaches.

The HSBC Group Model Oversight Committee ("MOC") is the primary committee responsible for the oversight of Model Risk globally within HSBC Group. It serves an important role in providing strategic direction on the management of models and their associated risks to HSBC's businesses globally and is an essential element of the governance structure for model risk management. MOC is supported by Functional MOCs at the global, regional and site levels which are responsible for model risk management within their function areas, including wholesale credit risk, market risk, retail risk, and finance.

Models are also subject to an independent validation process and governance oversight by the Model Risk Management team within the HSBC Global Risk. The Independent Model Review within Model Risk Management team provides robust challenge to the modelling approaches used across the HSBC Group, including the Bank, and ensures that the performance of those models is transparent and that their limitations are visible to key stakeholders. Information on key developments of model risk governance for the Group during the year can be found on page 95 of the Group's 2019 Annual Report.

Linkage to the 2019 Annual Report

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 consolidated financial statements in the Group's 2019 Annual Report.

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 ("AI") under the BCR and the Banking Ordinance. The capital invested by the Group in these subsidiaries is deducted from the capital base subject to certain thresholds, as determined in accordance with Part 3 of the BCR.

For insurance entities, the present value of in-force long-term insurance business (“PVIF”) asset of HK$20,469m and the related deferred tax liability of HK$3,377m 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.

As at 31 December 2019, there are no subsidiaries which are included within both the accounting scope of consolidation and the regulatory scope of consolidation but the method of consolidation differs.

There are also no subsidiaries which are included within the regulatory scope of consolidation but not included within the accounting scope of consolidation as at 31 December 2019.

The Group operates subsidiaries in different 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 Group.

The Group maintains a regulatory reserve to satisfy the provisions of the Banking Ordinance and local regulatory requirements for prudential supervision purposes. As at 31 December 2019, the effect of this requirement is to restrict the amount of reserves which can be distributed to shareholders by HK$3,509m.

There are no relevant capital shortfalls in any of the Group's subsidiaries which are not included in its consolidation group for regulatory purposes as at 31 December 2019.

A list of subsidiaries not included in consolidation for regulatory purposes is shown below:

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

		As at 31 Dec 2019	
	Principal activities	**Total assets***	**Total equity***
		HK$m	**HK$m**
Hang Seng Investment Management Ltd	Fund management	**1,194**	**1,140**
Hang Seng Investment Services Ltd	Provision of investment commentaries	**9**	**9**
Hang Seng Securities Ltd	Stockbroking	**3,030**	**899**
Hang Seng Insurance Co. Ltd and its subsidiaries	Retirement benefits and life assurance	**148,870**	**12,332**
Hang Seng Qianhai Fund Management Co. Ltd	Fund raising, fund sales and asset management	**370**	**357**

** Prepared in accordance with HKFRS*

The approaches used in calculating the Group's regulatory capital and RWA are in accordance with the BCR. The Group uses the advanced internal ratings-based ("IRB") approach to calculate its credit risk for the majority of its non-securitisation exposures. For counterparty credit risk, the Group uses the current exposure method to calculate its default risk exposures. For market risk, the Group uses an internal models approach to calculate its general market risk for the risk categories of interest rate and foreign exchange (including gold) exposures and the standardised (market risk) approach for calculating other market risk positions. For operational risk, the Group uses the standardised (operational risk) 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" 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
	Balance sheet as in published financial statements As at 31 Dec 2019	**Under regulatory scope of consolidation As at 31 Dec 2019**	**Cross-referenced to Definition of Capital Components**
	HK$m	**HK$m**	
Assets			
Cash and balances at central banks	**13,038**	**13,038**	
Trading assets	**47,357**	**47,357**	
Derivative financial instruments	**7,338**	**7,330**	
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss	**18,771**	**223**	
Reverse repurchase agreements - non-trading	**6,659**	**6,659**	
Placings with and advances to banks	**65,807**	**62,293**	
Loans and advances to customers	**942,930**	**944,296**	
of which: Impairment allowances eligible for inclusion in Tier 2 capital		***1,417***	*(1)*
Financial investments	**461,704**	**355,188**	
Investment in subsidiaries	-	**7,344**	
Subordinated loans to subsidiaries	-	**915**	*(2)*
Interest in associates	**2,520**	-	
Investment properties	**10,121**	**7,158**	
Premises, plant and equipment	**32,362**	**30,551**	
Intangible assets	**21,954**	**1,151**	*(3)*
Other assets	**46,430**	**29,245**	
of which: Deferred tax assets ("DTAs")		***110***	*(4)*
Defined benefit pension fund net assets		***26***	*(5)*
Total assets	**1,676,991**	**1,512,748**	
Liabilities			
Deposits from banks	**2,491**	**2,491**	
Current, savings and other deposit accounts	**1,203,458**	**1,206,153**	
Repurchase agreements – non-trading	**1,878**	**1,878**	
Trading liabilities	**37,976**	**37,976**	
Derivative financial instruments	**7,462**	**7,435**	
of which: Gains and losses due to changes in own credit risk on fair valued liabilities		***9***	*(6)*
Financial liabilities designated at fair value	**29,580**	**29,151**	
of which: Gains and losses due to changes in own credit risk on fair valued liabilities		***(4)***	*(7)*
Certificates of deposit and other debt securities in issue	**17,190**	**17,190**	
Other liabilities	**35,183**	**28,419**	
Liabilities under insurance contracts	**132,120**	-	
Current tax liabilities	**4,159**	**4,089**	
Deferred tax liabilities	**7,083**	**3,702**	
of which: Deferred tax liabilities related to intangible assets		***124***	*(8)*
Deferred tax liabilities related to defined benefit pension fund		***4***	*(9)*
Subordinated liabilities	**19,494**	**19,494**	
Total liabilities	**1,498,074**	**1,357,978**	
Equity			
Share capital	**9,658**	**9,658**	*(10)*
Retained profits	**133,734**	**109,718**	*(11)*
of which: Revaluation gains of investment properties		***6,776***	*(12)*
Regulatory reserve for general banking risks		***3,509***	*(13)*
Regulatory reserve eligible for inclusion in Tier 2 capital		***1,459***	*(14)*
Valuation adjustments		***108***	*(15)*
Other equity instruments	**11,744**	**11,744**	*(16)*
Other reserves	**23,674**	**23,650**	*(17)*
of which: Cash flow hedge reserve		***7***	*(18)*
Valuation adjustments		***47***	*(19)*
Revaluation reserve of properties		***19,855***	*(20)*
Total shareholders' equity	**178,810**	**154,770**	
Non-controlling interests	**107**	-	
Total equity	**178,917**	**154,770**	
Total equity and liabilities	**1,676,991**	**1,512,748**	

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 con-solidation**	**subject to credit risk framework**	**subject to counterparty credit risk framework**	**subject to the securi-tisation framework**	**subject to market risk framework**	**not subject to capital require-ments or subject to deduction from capital**
As at 31 Dec 2019	*Footnotes*	**HK$m**	**HK$m**	**HK$m**	**HK$m**	**HK$m**	**HK$m**	**HK$m**
Assets								
Cash and balances at central banks		**13,038**	**13,038**	**13,038**	-	-	-	-
Trading assets		**47,357**	**47,357**	-	-	-	**47,357**	-
Derivative financial instruments	*1*	**7,338**	**7,330**	-	**7,020**	-	**7,330**	**310**
Financial assets designated and otherwise mandatorily measured at fair value through profit or loss		**18,771**	**223**	**46**	**177**	-	-	-
Reverse repurchase agreements - non-trading		**6,659**	**6,659**	-	**6,659**	-	-	-
Placings with and advances to banks		**65,807**	**62,293**	**62,293**	-	-	-	-
Loans and advances to customers		**942,930**	**944,296**	**944,296**	-	-	-	-
Financial investments		**461,704**	**355,188**	**355,188**	-	-	-	-
Investment in subsidiaries		-	**7,344**	**7,344**	-	-	-	-
Subordinated loans to subsidiaries		-	**915**	-	-	-	-	**915**
Interest in associates		**2,520**	-	-	-	-	-	-
Investment properties		**10,121**	**7,158**	**7,158**	-	-	-	-
Premises, plant and equipment		**32,362**	**30,551**	**30,551**	-	-	-	-
Intangible assets	*2*	**21,954**	**1,151**	-	-	-	-	**1,027**
Other assets	*2, 3*	**46,430**	**29,245**	**28,525**	**584**	-	-	**132**
Total assets		**1,676,991**	**1,512,748**	**1,448,439**	**14,440**	-	**54,687**	**2,384**
Liabilities								
Deposits from banks		**2,491**	**2,491**	-	-	-	-	**2,491**
Current, savings and other deposit accounts		**1,203,458**	**1,206,153**	-	-	-	-	**1,206,153**
Repurchase agreements – non-trading		**1,878**	**1,878**	-	**1,878**	-	-	-
Trading liabilities		**37,976**	**37,976**	-	-	-	**37,976**	-
Derivative financial instruments	*1*	**7,462**	**7,435**	-	**7,435**	-	**7,435**	-
Financial liabilities designated at fair value		**29,580**	**29,151**	-	-	-	**27**	**29,124**
Certificates of deposit and other debt securities in issue		**17,190**	**17,190**	-	-	-	-	**17,190**
Other liabilities	*3*	**35,183**	**28,419**	-	**370**	-	-	**28,049**
Liabilities under insurance contracts		**132,120**	-	-	-	-	-	-
Current tax liabilities		**4,159**	**4,089**	-	-	-	-	**4,089**
Deferred tax liabilities		**7,083**	**3,702**	-	-	-	-	**3,702**
Subordinated liabilities		**19,494**	**19,494**	-	-	-	-	**19,494**
Total liabilities		**1,498,074**	**1,357,978**	-	**9,683**	-	**45,438**	**1,310,292**

1 *Assets/liabilities arising from derivative contracts held in the regulatory trading book are subject to both market risk and counterparty credit risk because derivative contracts are mark to market and there is a risk that the counterparty may not be able to fulfil the contractual obligations. As a result, the amounts shown in column (b) do not equal the sum of columns (c) to (g).*

2 *The assets disclosed in column (g) are net of any associated deferred tax liability in accordance with HKMA requirement.*

3 *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) the 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
As at 31 Dec 2019		Footnotes	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*	**1,510,364**	**1,448,439**	**-**	**14,440**	**54,687**
2	Liabilities carrying value amount under regulatory scope of consolidation (as per template LI1)	*2*	**47,686**	**-**	**-**	**9,683**	**45,438**
3	Total net amount under regulatory scope of consolidation		**1,462,678**	**1,448,439**	**-**	**4,757**	**9,249**
4	Off-balance sheet amounts and potential future exposures for counterparty risk		**520,433**	**166,053**	**-**	**8,449**	**-**
5	Differences due to impairments		**3,410**	**3,410**	**-**	**-**	**-**
6	Differences due to recognised collateral		**(9,054)**	**(9,054)**	**-**	**-**	**-**
7	Differences arising from off-balance sheet amounts recognised in regulatory exposures		**(354,380)**	**-**	**-**	**-**	**-**
8	Differences due to credit risk mitigation		**(1,504)**	**-**	**-**	**(1,504)**	**-**
9	Differences arising from capital deductions		**(128)**	**-**	**-**	**-**	**-**
10	Exposure amounts considered for regulatory purposes		**1,621,455**	**1,608,848**	**-**	**11,702**	**9,249**

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

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

Explanations of differences between accounting and regulatory exposure amounts

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

Off-balance sheet amounts subject to credit risk regulatory framework includes undrawn portion of committed facilities, various trade finance commitments and guarantees, by applying credit conversion factor ("CCF") to these items and consideration of potential future exposures ("PFE") for counterparty credit risk.

Differences due to impairments

The carrying value of assets is net of impairments. From the regulatory perspective, only exposure value under the IRB approach and non-defaulted exposure under the standardised approach are before deducting impairments.

Differences due to recognised collateral

Exposure value under the standardised approach is calculated after deducting credit risk mitigation whereas accounting value is before such deductions.

Differences due to credit risk mitigation

In counterparty credit risk, differences arise between accounting carrying values and regulatory exposure as a result of the application of credit risk mitigation.

Explanations 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, model uncertainty and concentration adjustments.

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 the Group'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 50 presents further information on the prudent valuation adjustment.

Capital and RWA

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
	As at 31 Dec 2019	**Component of regulatory capital HK$m**	**Cross-referenced to Table 3 Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation**
	CET1 capital: instruments and reserves		
1	Directly issued qualifying CET1 capital instruments plus any related share premium	**9,658**	(10)
2	Retained earnings	**109,718**	(11)
3	Disclosed reserves	**23,650**	(17)
4	Directly issued capital subject to phase-out arrangements from CET1 (only applicable to non-joint stock companies)	**Not applicable**	Not applicable
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)	**-**	
6	**CET1 capital before regulatory deductions**	**143,026**	
	CET1 capital: regulatory deductions		
7	Valuation adjustments	**155**	(15) + (19)
8	Goodwill (net of associated deferred tax liability)	**-**	
9	Other intangible assets (net of associated deferred tax liabilities)	**1,027**	(3) - (8)
10	Deferred tax assets (net of associated deferred tax liabilities)	**110**	(4)
11	Cash flow hedge reserve	**7**	(18)
12	Excess of total EL amount over total eligible provisions under the IRB approach	**-**	
13	Credit-enhancing interest-only strip, and any gain-on-sale and other increase in the CET1 capital arising from securitisation transactions	**-**	
14	Gains and losses due to changes in own credit risk on fair valued liabilities	**5**	(6) + (7)
15	Defined benefit pension fund net assets (net of associated deferred tax liabilities)	**22**	(5) - (9)
16	Investments in own CET1 capital instruments (if not already netted off paid-in capital on reported balance sheet)	**-**	
17	Reciprocal cross-holdings in CET1 capital instruments	**-**	
18	Insignificant LAC investments in CET1 capital instruments issued by financial sector entities that are outside the scope of regulatory consolidation (amount above 10% threshold)	**-**	
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)	**-**	
20	Mortgage servicing rights (net of associated deferred tax liabilities)	**Not applicable**	Not applicable
21	Deferred tax assets arising from temporary differences (net of associated deferred tax liabilities)	**Not applicable**	Not applicable
22	Amount exceeding the 15% threshold	**Not applicable**	Not applicable
23	*of which: significant investments in the ordinary share of financial sector entities*	***Not applicable***	*Not applicable*
24	*of which: mortgage servicing rights*	***Not applicable***	*Not applicable*
25	*of which: deferred tax assets arising from temporary differences*	***Not applicable***	*Not applicable*
26	National specific regulatory adjustments applied to CET1 capital	**30,140**	
26a	Cumulative fair value gains arising from the revaluation of land and buildings (own-use and investment properties)	**26,631**	(12) + (20)
26b	Regulatory reserve for general banking risks	**3,509**	(13)
26c	Securitisation exposures specified in a notice given by the Monetary Authority	**-**	
26d	Cumulative losses below depreciated cost arising from the institution's holdings of land and buildings	**-**	
26e	Capital shortfall of regulated non-bank subsidiaries	**-**	
26f	Capital investment in a connected company which is a commercial entity (amount above 15% of the reporting institution's capital base)	**-**	
27	Regulatory deductions applied to CET1 capital due to insufficient additional tier 1 ("AT1") capital and Tier 2 capital to cover deductions	**-**	
28	**Total regulatory deductions to CET1 capital**	**31,466**	
29	**CET1 capital**	**111,560**	

BANKING DISCLOSURE STATEMENT *(unaudited) (continued)*

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

		a	b
		Component of regulatory capital HK$m	**Cross-referenced to Table 3** **Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation**
	AT1 capital: instruments		
30	Qualifying AT1 capital instruments plus any related share premium	**11,744**	
31	*of which: classified as equity under applicable accounting standards*	***11,744***	(16)
32	*of which: classified as liabilities under applicable accounting standards*	-	
33	Capital instruments subject to phase-out arrangements from AT1 capital	-	
34	AT1 capital instruments issued by consolidated bank subsidiaries and held by third parties (amount allowed in AT1 capital of the consolidation group)	-	
35	*of which: AT1 capital instruments issued by subsidiaries subject to phase-out arrangements*	-	
36	**AT1 capital before regulatory deductions**	**11,744**	
	AT1 capital: regulatory deductions	-	
37	Investments in own AT1 capital instruments	-	
38	Reciprocal cross-holdings in AT1 capital instruments	-	
39	Insignificant LAC investments in AT1 capital instruments issued by financial sector entities that are outside the scope of regulatory consolidation (amount above 10% threshold)	-	
40	Significant LAC investments in AT1 capital instruments issued by financial sector entities that are outside the scope of regulatory consolidation	-	
41	National specific regulatory adjustments applied to AT1 capital	-	
42	Regulatory deductions applied to AT1 capital due to insufficient Tier 2 capital to cover deductions	-	
43	**Total regulatory deductions to AT1 capital**	-	
44	**AT1 capital**	**11,744**	
45	**Tier 1 capital (T1 = CET1 + AT1)**	**123,304**	
	Tier 2 capital: instruments and provisions		
46	Qualifying Tier 2 capital instruments plus any related share premium	-	
47	Capital instruments subject to phase-out arrangements from Tier 2 capital	-	
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)	-	
49	*of which: capital instruments issued by subsidiaries subject to phase-out arrangements*	-	
50	Collective provisions and regulatory reserve for general banking risks eligible for inclusion in Tier 2 capital	**2,876**	(1) + (14)
51	**Tier 2 capital before regulatory deductions**	**2,876**	
	Tier 2 capital: regulatory deductions		
52	Investments in own Tier 2 capital instruments	-	
53	Reciprocal cross-holdings in Tier 2 capital instruments and non-capital LAC liabilities	-	
54	Insignificant LAC investments in Tier 2 capital instruments issued by, and non-capital LAC liabilities of, financial sector entities that are outside the scope of regulatory consolidation (amount above 10% threshold and, where applicable, 5% threshold)	-	
54a	Insignificant LAC investments in non-capital LAC liabilities of financial sector entities that are outside the scope of regulatory consolidation (amount formerly designated for the 5% threshold but no longer meets the conditions) (for institutions defined as "section 2 institution" under §2(1) of Schedule 4F to BCR only)	-	
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)	**915**	(2)
55a	Significant LAC investments in non-capital LAC liabilities of financial sector entities that are outside the scope of regulatory consolidation (net of eligible short positions)	-	
56	National specific regulatory adjustments applied to Tier 2 capital	**(11,984)**	
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	**(11,984)**	((12)+(20))*45%
56b	Regulatory deductions applied to Tier 2 capital to cover the required deductions falling within §48(1)(g) of BCR	-	
57	**Total regulatory adjustments to Tier 2 capital**	**(11,069)**	
58	**Tier 2 capital (T2)**	**13,945**	
59	**Total regulatory capital (TC = T1 + T2)**	**137,249**	
60	**Total RWA**	**658,856**	

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

		a	b
		Component of regulatory capital HK$m	**Cross-referenced to Table 3** **Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation**
	Capital ratios (as a percentage of RWA)		
61	**CET1 capital ratio**	**16.9%**	
62	**Tier 1 capital ratio**	**18.7%**	
63	**Total capital ratio**	**20.8%**	
64	**Institution-specific buffer requirement (capital conservation buffer plus countercyclical capital buffer plus higher loss absorbency requirements)**	**5.645%**	
65	*of which: capital conservation buffer requirement*	***2.500%***	
66	*of which: bank specific countercyclical capital buffer requirement*	***1.645%***	
67	*of which: higher loss absorbency requirement*	***1.500%***	
68	CET1 (as a percentage of RWA) available after meeting minimum capital requirements	**12.4%**	
	National minima (if different from Basel 3 minimum)		
69	National CET1 minimum ratio	**Not applicable**	Not applicable
70	National Tier 1 minimum ratio	**Not applicable**	Not applicable
71	National Total capital minimum ratio	**Not applicable**	Not applicable
	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	**5,539**	
73	Significant LAC investments in CET1 capital instruments issued by financial sector entities that are outside the scope of regulatory consolidation	**7,686**	
74	Mortgage servicing rights (net of associated deferred tax liabilities)	**Not applicable**	Not applicable
75	Deferred tax assets arising from temporary differences (net of associated deferred tax liabilities)	**Not applicable**	Not applicable
	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 BSC approach, or the STC approach and SEC-ERBA, SEC-SA and SEC-FBA (prior to application of cap)	**661**	
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	**814**	
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)	**2,215**	
79	Cap for inclusion of provisions in Tier 2 under the IRB approach and SEC-IRBA	**3,191**	
	Capital instruments subject to phase-out arrangements (only applicable between 1 Jan 2018 and 1 Jan 2022)		
80	Current cap on CET1 capital instruments subject to phase-out arrangements	**Not applicable**	Not applicable
81	Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities)	**Not applicable**	Not applicable
82	Current cap on AT1 capital instruments subject to phase-out arrangements	**-**	
83	Amount excluded from AT1 capital due to cap (excess over cap after redemptions and maturities)	**-**	
84	Current cap on Tier 2 capital instruments subject to phase-out arrangements	**-**	
85	Amount excluded from Tier 2 capital due to cap (excess over cap after redemptions and maturities)	**-**	

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

Notes to the template:

Elements where a more conservative definition has been applied in the BCR relative to that set out in Basel III capital standards:

		Hong Kong basis	Basel III basis
	As at 31 Dec 2019	HK$m	HK$m
10	Deferred tax assets (net of associated deferred tax liabilities)	**110**	**36**

Explanation

As set out in paragraphs 69 and 87 of the Basel III text issued by the Basel Committee (December 2010), 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 and other credit exposures to connected companies) under Basel III.

Remarks:

The amount of the 10% threshold mentioned above 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.

Countercyclical capital buffer ratio

The countercyclical capital buffer ("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 7: CCyB1 – Geographical distribution of credit exposures used in countercyclical capital buffer

	As at 31 Dec 2019		a	c	d	e
	Geographical breakdown by Jurisdiction ("J")	*Footnotes*	**Applicable JCCyB ratio in effect %**	**RWA used in computation of CCyB ratio HK$m**	**AI-specific CCyB ratio %**	**CCyB amount HK$m**
1	Hong Kong SAR	*1*	**2.000**	**456,386**		
2	France		**0.250**	**4**		
3	Ireland		**1.000**	**1**		
4	Norway		**2.500**	**1**		
5	Sweden		**2.500**	**119**		
6	United Kingdom		**1.000**	**1,406**		
7	**Sum**	*2*		**457,917**		
8	**Total**	*3*		**556,014**	**1.645**	**10,838**

1 *At 4Q 2019, the jurisdictional CCyB of Hong Kong used in the calculation of CCyB requirement was 2.0%, which was reduced from 2.5% at 3Q 2019 in accordance with the announcement made by the HKMA on 14 October 2019.*

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

3 *The total RWA used in the computation of the CCyB ratio in column (c) represents the total RWA for the private sector credit exposures in all jurisdictions to which the bank 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 RWA multiplied by the AI-specific CCyB ratio in column (d).*

Leverage ratio

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

Table 8: LR2 – Leverage ratio

		a	b
		31 Dec 2019	30 Sep 2019
		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)	**1,500,126**	1,461,694
2	Less: Asset amounts deducted in determining Tier 1 capital	**(31,462)**	(31,891)
3	**Total on-balance sheet exposures (excluding derivative contracts and SFTs)**	**1,468,664**	1,429,803
	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)	**2,867**	4,519
5	Add-on amounts for PFE associated with all derivative contracts	**9,490**	12,234
6	Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the applicable accounting framework	**-**	-
7	Less: Deductions of receivables assets for cash variation margin provided under derivative contracts	**-**	-
8	Less: Exempted central counterparty ("CCP") leg of client-cleared trade exposures	**-**	-
9	Adjusted effective notional amount of written credit derivative contracts	**-**	-
10	Less: Adjusted effective notional offsets and add-on deductions for written credit derivative contracts	**-**	-
11	**Total exposures arising from derivative contracts**	**12,357**	16,753
	Exposures arising from SFTs		
12	Gross SFT assets (with no recognition of netting), after adjusting for sale accounting transactions	**8,817**	7,327
13	Less: Netted amounts of cash payables and cash receivables of gross SFT assets	**-**	-
14	Counterparty credit risk ("CCR") exposure for SFT assets	**215**	388
15	Agent transaction exposures	**-**	-
16	**Total exposures arising from SFTs**	**9,032**	7,715
	Other off-balance sheet exposures		
17	Off-balance sheet exposure at gross notional amount	**520,433**	520,682
18	Less: Adjustments for conversion to credit equivalent amounts	**(434,683)**	(433,683)
19	**Off-balance sheet items**	**85,750**	86,999
	Capital and total exposures		
20	Tier 1 capital	**123,304**	119,525
20a	Total exposures before adjustments for specific and collective provisions	**1,575,803**	1,541,270
20b	Adjustments for specific and collective provisions	**(3,689)**	(3,552)
21	**Total exposures after adjustments for specific and collective provisions**	**1,572,114**	1,537,718
	Leverage ratio		
22	Leverage ratio	**7.8%**	7.8%

Table 9: LR1 – Summary comparison of accounting assets against leverage ratio exposure measure

	As at 31 Dec 2019	a
	Item	**Value under the LR framework HK$m**
1	Total consolidated assets as per published financial statements	**1,676,991**
2	Adjustment for investments in banking, financial, insurance or commercial entities that are consolidated for accounting purposes but outside the scope of regulatory consolidation	**(155,914)**
3	Adjustment for fiduciary assets recognised on the balance sheet pursuant to the applicable accounting standard but excluded from the LR exposure measure	**-**
4	Adjustments for derivative contracts	**5,027**
5	Adjustment for SFTs (i.e. repos and similar secured lending)	**215**
6	Adjustment for off-balance sheet ("OBS") items (i.e. conversion to credit equivalent amounts of OBS exposures)	**85,750**
6a	Adjustment for specific and collective provisions that are allowed to be excluded from exposure measure	**(3,689)**
7	Other adjustments	**(36,266)**
8	**Leverage ratio exposure measure**	**1,572,114**

Other adjustments mainly represent the regulatory deductions of property revaluation reserves and regulatory reserve to Tier 1 capital under the leverage ratio framework.

Overview of RWA and the minimum capital requirements

Table 10: OV1 – Overview of RWA

		a	b	c
		RWA[1]		**Minimum capital requirements[2]**
		31 Dec 2019 HK$m	30 Sep 2019 HK$m	**31 Dec 2019 HK$m**
1	Credit risk for non-securitisation exposures	**522,893**	517,038	**44,031**
2	*Of which: Standardised credit risk ("STC") approach*	***64,940***	*61,306*	***5,195***
2a	*Of which: Basic ("BSC") approach*	-	-	-
3	*Of which: Foundation internal ratings-based ("IRB") approach*	-	-	-
4	*Of which: Supervisory slotting criteria approach*	***14,272***	*12,989*	***1,210***
5	*Of which: Advanced IRB approach*	***443,681***	*442,743*	***37,626***
6	Counterparty default risk and default fund contributions	**2,514**	2,668	**212**
7	*Of which: Standardised approach for counterparty credit risk ("SA-CCR")**	***Not applicable***	*Not applicable*	***Not applicable***
7a	*Of which: Current exposure method ("CEM")*	***2,439***	*2,582*	***206***
8	*Of which: Internal models (counterparty credit risk) ("IMM(CCR)") approach*	-	-	-
9	*Of which: Others*	***75***	*86*	***6***
10	Credit valuation adjustment ("CVA") risk	**2,256**	2,273	**180**
11	Equity positions in banking book under the simple risk-weight method and the internal models method	**22,293**	18,852	**1,890**
12	Collective investment scheme ("CIS") exposures – Look-through approach ("LTA")*	**Not applicable**	Not applicable	**Not applicable**
13	CIS exposures – Mandate-based approach ("MBA")*	**Not applicable**	Not applicable	**Not applicable**
14	CIS exposures – Fall-back approach ("FBA")*	**Not applicable**	Not applicable	**Not applicable**
14a	CIS exposures – combination of approaches*	**Not applicable**	Not applicable	**Not applicable**
15	Settlement risk	-	-	-
16	Securitisation exposures in banking book	-	-	-
17	*Of which: Securitisation internal ratings-based ("SEC-IRBA") approach*	-	-	-
18	*Of which: Securitisation external ratings-based ("SEC-ERBA") approach (including internal assessment approach ("IAA"))*	-	-	-
19	*Of which: Securitisation standardised ("SEC-SA") approach*	-	-	-
19a	*Of which: Securitisation fall-back ("SEC-FBA") approach*	-	-	-
20	Market risk	**8,357**	12,412	**668**
21	*Of which: Standardised market risk ("STM") approach*	***101***	*112*	***8***
22	*Of which: Internal models ("IMM") approach*	***8,256***	*12,300*	***660***
23	Capital charge for switch between exposures in trading book and banking book (not applicable before the revised market risk framework takes effect)*	**Not applicable**	Not applicable	**Not applicable**
24	Operational risk	**65,868**	64,644	**5,270**
24a	Sovereign concentration risk	-	-	-
25	Amounts below the thresholds for deduction (subject to 250% Risk-weight ("RW"))	**19,215**	19,132	**1,629**
26	Capital floor adjustment	-	-	-
26a	Deduction to RWA	**(14,647)**	(14,816)	**(1,172)**
26b	*Of which: Portion of regulatory reserve for general banking risks and collective provisions which is not included in Tier 2 Capital*	-	-	-
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*	***(14,647)***	*(14,816)*	***(1,172)***
27	**Total**	**628,749**	622,203	**52,708**

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

2 Minimum capital requirement represents the Pillar 1 capital charge at 8% of the RWA after application of the 1.06 scaling factor, where applicable.

3 Items marked with an asterisk (*) will be applicable only after their respective policy frameworks take effect. Until then, "Not applicable" is reported in the rows.

Total RWA increased by HK$6.5bn since last quarter. Credit risk RWA for non-securitisation exposures was the key contributor which increased by HK$5.9bn mainly driven by loan growth. RWA on equity positions in banking book under the simple risk-weight method increased by HK$3.4bn due to value appreciation on holding. Operational risk RWA increased by HK$1.2bn due to growth in gross income. The movement was partly offset by a drop in market risk RWA by HK$4.1bn mainly driven by changes in Offshore Chinese Yuan ("CNH") interest rate trading positions.

RWA flow statements

RWA flow statement for credit risk

Table 11: CR8 – RWA flow statement of credit risk[1] exposures under IRB approach

		a
		Amount HK$m
1	RWA as at end of previous reporting period (30 Sep 2019)	**455,732**
2	Asset size	**5,542**
3	Asset quality	**(3,611)**
4	Model updates	**-**
5	Methodology and policy	**-**
6	Acquisitions and disposals	**-**
7	Foreign exchange movements	**794**
8	Other	**(504)**
9	**RWA as at end of reporting period (31 Dec 2019)**	**457,953**

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

RWA increased by HK$2.2bn during the fourth quarter of 2019. It was mainly due to an increase of HK$5.5bn from asset size driven by loan growth and partly offset by a decrease of HK$3.6bn from the change in asset quality.

RWA flow statement for market risk

Table 12: MR2 – RWA flow statement of market risk exposures under IMM approach

		a	b	c	d	e	f
		Value at risk ("VaR") HK$m	**Stressed VaR HK$m**	**Incremental risk charge ("IRC") HK$m**	**Comprehensive risk charge ("CRC") HK$m**	**Other HK$m**	**Total RWA HK$m**
1	RWA as at end of previous reporting period (30 Sep 2019)	**3,649**	**8,651**	**-**	**-**	**-**	**12,300**
2	Movement in risk levels	**250**	**(4,216)**	**-**	**-**	**-**	**(3,966)**
3	Model updates/changes	**-**	**-**	**-**	**-**	**-**	**-**
4	Methodology and policy	**-**	**-**	**-**	**-**	**-**	**-**
5	Acquisitions and disposals	**-**	**-**	**-**	**-**	**-**	**-**
6	Foreign exchange movements	**(23)**	**(55)**	**-**	**-**	**-**	**(78)**
7	Other	**-**	**-**	**-**	**-**	**-**	**-**
8	**RWA as at end of reporting period (31 Dec 2019)**	**3,876**	**4,380**	**-**	**-**	**-**	**8,256**

The decrease in market risk RWA was mainly driven by changes in CNH interest rate trading positions.

Loss-absorbing capacity

Table 13: KM2(A) – Key metrics – LAC requirements

			a	b	c	d	e
			At[1]				
		Footnotes	**31 Dec 2019**	30 Sep 2019	30 Jun 2019	31 Mar 2019	31 Dec 2018
	Of the material entity at LAC consolidation group level						
1	Internal loss-absorbing capacity available (HK$m)		**156,743**	153,126	N/A	N/A	N/A
2	Risk-weighted amount under the LAC Rules (HK$m)		**658,856**	651,970	N/A	N/A	N/A
3	Internal LAC risk-weighted ratio (%)		**23.8**	23.5	N/A	N/A	N/A
4	Exposure measure under the LAC Rules (HK$m)		**1,571,199**	1,536,803	N/A	N/A	N/A
5	Internal LAC leverage ratio (%)		**10.0**	10.0	N/A	N/A	N/A
6a	Does the subordination exemption in the antepenultimate paragraph of Section 11 of the FSB TLAC Term Sheet apply?	*2*	**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?	*2*	**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	*2*	**Not applicable**	Not applicable	Not applicable	Not applicable	Not applicable

1 The LAC disclosures for the Group commences on 30 September 2019 in accordance with the LAC Rules, accordingly the prior periods' ratios are not available.

2 The subordination exemptions under Section 11 of the Financial Stability Board ("FSB") Total Loss-absorbing Capacity Term Sheet ("TLAC Term Sheet") do not apply in Hong Kong under the LAC Rules.

Table 14: TLAC1(A) – TLAC composition

	As at 31 Dec 2019	a Amount HK$m
	Regulatory capital elements of internal loss-absorbing capacity and adjustments	
1	Common Equity Tier 1 ("CET1") capital	**111,560**
2	Additional Tier 1 ("AT1") capital before LAC adjustments	**11,744**
3	AT1 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	**-**
4	Other adjustments	**-**
5	AT1 capital eligible under the LAC Rules	**11,744**
6	Tier 2 ("T2") capital before LAC adjustments	**13,945**
7	Amortised portion of T2 capital instruments that are internal LAC debt instruments 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	**-**
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	**-**
9	Other adjustments	**-**
10	T2 capital eligible under the LAC Rules	**13,945**
11	**Internal loss-absorbing capacity arising from regulatory capital**	**137,249**
	Non-regulatory capital elements of internal loss-absorbing capacity	
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	**19,494**
17	**Internal loss-absorbing capacity arising from non-capital LAC debt instruments before adjustments**	**19,494**
	Non-regulatory capital elements of internal loss-absorbing capacity: adjustments	
18	**Internal loss-absorbing capacity before deductions**	**156,743**
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	**-**
20	Deduction of holdings of its own non-capital LAC liabilities	**-**
21	Other adjustments to internal loss-absorbing capacity	**-**
22	**Internal loss-absorbing capacity after deductions**	**156,743**
	Risk-weighted amount and exposure measure under the LAC Rules for internal loss-absorbing capacity purposes	
23	Risk-weighted amount under the LAC Rules	**658,856**
24	Exposure measure under the LAC Rules	**1,571,199**
	Internal LAC ratios and buffers (%)	
25	Internal LAC risk-weighted ratio	**23.8**
26	Internal LAC leverage ratio	**10.0**
27	CET1 capital (as a percentage of RWA under the BCR) available after meeting the LAC consolidation group's minimum capital and LAC requirements	**11.8**
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)	**5.645**
29	*Of which: capital conservation buffer requirement*	***2.500***
30	*Of which: institution-specific countercyclical capital buffer requirement*	***1.645***
31	*Of which: higher loss absorbency requirement*	***1.500***

Table 15: TLAC2 – Hang Seng Bank Limited creditor ranking

		Creditor ranking (HK$m)				Sum of values in columns 1 to 3
		1 (most junior)	1 (most junior)	2	3 (most senior)	
1	Is the resolution entity or a non-HK resolution entity the creditor/investor? (yes or no)[1]	No	Yes	Yes	Yes	
2	Description of creditor ranking	Ordinary shares[2]	Ordinary shares[2]	AT1 instruments	LAC loans	
3	Total capital and liabilities net of credit risk mitigation	**3,657**	**6,001**	**11,744**	**19,494**	**40,896**
4	Subset of row 3 that is excluded liabilities	**-**	**-**	**-**	**-**	**-**
5	Total capital and liabilities less excluded liabilities	**3,657**	**6,001**	**11,744**	**19,494**	**40,896**
6	Subset of row 5 that are eligible as internal loss-absorbing capacity	**3,657**	**6,001**	**11,744**	**19,494**	**40,896**
7	Subset of row 6 with 1 year ≤ residual maturity < 2 years	**-**	**-**	**-**	**-**	**-**
8	Subset of row 6 with 2 years ≤ residual maturity < 5 years	**-**	**-**	**-**	**-**	**-**
9	Subset of row 6 with 5 years ≤ residual maturity < 10 years	**-**	**-**	**-**	**16,380**	**16,380**
10	Subset of row 6 with residual maturity ≥ 10 years, but excluding perpetual securities	**-**	**-**	**-**	**3,114**	**3,114**
11	Subset of row 6 that is perpetual securities	**3,657**	**6,001**	**11,744**	**-**	**21,402**

1 *Any direct/indirect holdings by the resolution entity is reported as "yes".*
2 *Excludes the value of reserves attributable to ordinary shareholders.*

Main features of regulatory capital instruments and non-capital LAC debt instruments

The following is a summary of CET1 capital, AT1 capital and non-capital LAC debt instruments that meet both regulatory capital and LAC requirements, or only LAC (but not regulatory capital) requirements.

Table 16: CCA(A) – Main features of regulatory capital instruments and non-capital LAC debt instruments

(i) Instruments that meet both regulatory capital and LAC requirements

As at 31 Dec 2019

		a
		Quantitative / qualitative information
		Ordinary shares
1	Issuer	Hang Seng Bank Limited
2	Unique identifier (e.g. CUSIP, ISIN or Bloomberg identifier for private placement)	HK0011000095
3	Governing law(s) of the instrument	Laws of Hong Kong
3a	Means by which enforceability requirement of Section 13 of the TLAC Term Sheet is achieved (for non-capital LAC debt instruments governed by non-Hong Kong law)	N/A
	Regulatory treatment	
4	Transitional Basel III rules[1]	N/A
5	Post-transitional Basel III rules[2]	CET1
6	Eligible at solo / group / solo and group (for regulatory capital purposes)	Solo and Group
6a	Eligible at solo / LAC consolidation group / solo and LAC consolidation group (for LAC purposes)	Solo and LAC consolidation group
7	Instrument type (types to be specified by each jurisdiction)	Ordinary shares
8	Amount recognised in regulatory capital (currency in millions, as of most recent reporting date)	HK$ 9,658 million
8a	Amount recognised in loss-absorbing capacity (currency in millions, as of most recent reporting date)	HK$ 9,658 million
9	Par value of instrument	No par value (Total amount HK$ 9,658 million)
10	Accounting classification	Shareholders' equity
11	Original date of issuance	Various
12	Perpetual or dated	Perpetual
13	Original maturity date	No maturity
14	Issuer call subject to prior supervisory approval	N/A
15	Optional call date, contingent call dates and redemption price	N/A
16	Subsequent call dates, if applicable	N/A
	Coupons / dividends	
17	Fixed or floating dividend/coupon	N/A
18	Coupon rate and any related index	N/A
19	Existence of a dividend stopper	N/A
20	Fully discretionary, partially discretionary or mandatory	Fully discretionary
21	Existence of step up or other incentive to redeem	N/A
22	Non-cumulative or cumulative	Non-cumulative
23	Convertible or non-convertible	Non-convertible
24	If convertible, conversion trigger(s)	N/A
25	If convertible, fully or partially	N/A
26	If convertible, conversion rate	N/A
27	If convertible, mandatory or optional conversion	N/A
28	If convertible, specify instrument type convertible into	N/A
29	If convertible, specify issuer of instrument it converts into	N/A
30	Write-down feature	No
31	If write-down, write-down trigger(s)	N/A
32	If write-down, full or partial	N/A
33	If write-down, permanent or temporary	N/A
34	If temporary write-down, description of write-up mechanism	N/A
34a	Type of subordination	Contractual
35	Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument in the insolvency creditor hierarchy of the legal entity concerned)	Immediately subordinate to AT1 instruments (columns b and c)
36	Non-compliant transitioned features	No
37	If yes, specify non-compliant features	N/A
	Terms and conditions	Terms and conditions - Ordinary shares

Footnote:

[1] *Regulatory treatment of capital instruments subject to transitional arrangements provided for in Schedule 4H to the BCR.*

[2] *Regulatory treatment of capital instruments not subject to transitional arrangements provided for in Schedule 4H to the BCR.*

[3] *Subject to FIRO*

[4] *Terms and conditions to be read in conjunction with the Master terms and conditions (the "Master terms and conditions")*
Master terms and conditions

BANKING DISCLOSURE STATEMENT *(unaudited) (continued)*

Table 16: CCA(A) – Main features of regulatory capital instruments and non-capital LAC debt instruments *(continued)*

As at 31 Dec 2019

		b	c
		Quantitative / qualitative information	
		Perpetual subordinated loan (US$ 900 million)	Perpetual subordinated loan (US$ 600 million)
1	Issuer	Hang Seng Bank Limited	Hang Seng Bank Limited
2	Unique identifier	N/A	N/A
3	Governing law(s) of the instrument	Laws of Hong Kong	Laws of Hong Kong
3a	Means by which enforceability requirement of Section 13 of the TLAC Term Sheet is achieved	N/A	N/A
	Regulatory treatment		
4	Transitional Basel III rules[1]	N/A	N/A
5	Post-transitional Basel III rules[2]	AT1	AT1
6	Eligible at solo / group / solo and group	Solo and Group	Solo and Group
6a	Eligible at solo / LAC consolidation group / solo and LAC consolidation group	Solo and LAC consolidation group	Solo and LAC consolidation group
7	Instrument type (types to be specified by each jurisdiction)	Perpetual debt instrument	Perpetual debt instrument
8	Amount recognised in regulatory capital	HK$ 7,044 million	HK$ 4,700 million
8a	Amount recognised in loss-absorbing capacity	HK$ 7,044 million	HK$ 4,700 million
9	Par value of instrument	US$ 900 million	US$ 600 million
10	Accounting classification	Shareholders' equity	Shareholders' equity
11	Original date of issuance	14 June 2019	18 June 2019
12	Perpetual or dated	Perpetual	Perpetual
13	Original maturity date	No maturity	No maturity
14	Issuer call subject to prior supervisory approval	Yes	Yes
15	Optional call date, contingent call dates and redemption price	17 September 2024 at par value	18 June 2024 at par value
16	Subsequent call dates, if applicable	Callable on any interest payment date after first call date	Callable on any interest payment date after first call date
	Coupons / dividends		
17	Fixed or floating dividend/coupon	Fixed until 17 September 2024 and thereafter floating	Fixed until 18 June 2024 and thereafter floating
18	Coupon rate and any related index	6.030% until 17 September 2024, and thereafter 3-month US$ LIBOR + 4.020%	6.000% until 18 June 2024, and thereafter 3-month US$ LIBOR + 4.060%
19	Existence of a dividend stopper	No	No
20	Fully discretionary, partially discretionary or mandatory	Fully discretionary	Fully discretionary
21	Existence of step up or other incentive to redeem	No	No
22	Non-cumulative or cumulative	Non-cumulative	Non-cumulative
23	Convertible or non-convertible	Non-convertible[3]	Non-convertible[3]
24	If convertible, conversion trigger(s)	N/A	N/A
25	If convertible, fully or partially	N/A	N/A
26	If convertible, conversion rate	N/A	N/A
27	If convertible, mandatory or optional conversion	N/A	N/A
28	If convertible, specify instrument type convertible into	N/A	N/A
29	If convertible, specify issuer of instrument it converts into	N/A	N/A
30	Write-down feature	Yes	Yes
31	If write-down, write-down trigger(s)	Contractual write-down at point of non-viability of borrower. Contractual recognition of HKMA statutory powers under FIRO	Contractual write-down at point of non-viability of borrower. Contractual recognition of HKMA statutory powers under FIRO
32	If write-down, full or partial	May be written down partially	May be written down partially
33	If write-down, permanent or temporary	Permanent	Permanent
34	If temporary write-down, description of write-up mechanism	N/A	N/A
34a	Type of subordination	Contractual	Contractual
35	Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument in the insolvency creditor hierarchy of the legal entity concerned)	Immediately subordinate to non-capital LAC debt instruments (columns a to d under ii)	Immediately subordinate to non-capital LAC debt instruments (columns a to d under ii)
36	Non-compliant transitioned features	No	No
37	If yes, specify non-compliant features	N/A	N/A
	Terms and conditions	Individual loan agreement[4]	Individual loan agreement[4]

Table 16: CCA(A) – Main features of regulatory capital instruments and non-capital LAC debt instruments *(continued)*

(ii) Instruments that meet only LAC (but not regulatory capital) requirements

As at 31 Dec 2019

		a	b
		Quantitative / qualitative information	
		Subordinated loan (HK$ 5,460 million)	Subordinated loan (HK$ 4,680 million)
1	Issuer	Hang Seng Bank Limited	Hang Seng Bank Limited
2	Unique identifier	N/A	N/A
3	Governing law(s) of the instrument	Laws of Hong Kong	Laws of Hong Kong
3a	Means by which enforceability requirement of Section 13 of the TLAC Term Sheet is achieved	N/A	N/A
	Regulatory treatment		
4	Transitional Basel III rules[1]	N/A	N/A
5	Post-transitional Basel III rules[2]	Ineligible	Ineligible
6	Eligible at solo / group / solo and group	Ineligible	Ineligible
6a	Eligible at solo / LAC consolidation group / solo and LAC consolidation group	Solo and LAC consolidation group	Solo and LAC consolidation group
7	Instrument type (types to be specified by each jurisdiction)	Non-capital LAC debt instrument	Non-capital LAC debt instrument
8	Amount recognised in regulatory capital	N/A	N/A
8a	Amount recognised in loss-absorbing capacity	HK$ 5,460 million	HK$ 4,680 million
9	Par value of instrument	HK$ 5,460 million	HK$ 4,680 million
10	Accounting classification	Liability – amortised cost	Liability – amortised cost
11	Original date of issuance	30 May 2019	10 June 2019
12	Perpetual or dated	Dated	Dated
13	Original maturity date	Interest payment date falling in May 2028	Interest payment date falling in June 2029
14	Issuer call subject to prior supervisory approval	Yes	Yes
15	Optional call date, contingent call dates and redemption price	Interest payment date falling in May 2027 at par value	Interest payment date falling in June 2028 at par value
16	Subsequent call dates, if applicable	Callable on any interest payment date after first call date	Callable on any interest payment date after first call date
	Coupons / dividends		
17	Fixed or floating dividend/coupon	Floating	Floating
18	Coupon rate and any related index	3-month HK$ HIBOR + 1.425%	3-month HK$ HIBOR + 1.564%
19	Existence of a dividend stopper	No	No
20	Fully discretionary, partially discretionary or mandatory	Mandatory	Mandatory
21	Existence of step up or other incentive to redeem	No	No
22	Non-cumulative or cumulative	Non-cumulative	Non-cumulative
23	Convertible or non-convertible	Non-convertible[3]	Non-convertible[3]
24	If convertible, conversion trigger(s)	N/A	N/A
25	If convertible, fully or partially	N/A	N/A
26	If convertible, conversion rate	N/A	N/A
27	If convertible, mandatory or optional conversion	N/A	N/A
28	If convertible, specify instrument type convertible into	N/A	N/A
29	If convertible, specify issuer of instrument it converts into	N/A	N/A
30	Write-down feature	Yes	Yes
31	If write-down, write-down trigger(s)	Contractual write-down at point of non-viability of borrower. Contractual recognition of HKMA statutory powers under FIRO	Contractual write-down at point of non-viability of borrower. Contractual recognition of HKMA statutory powers under FIRO
32	If write-down, full or partial	May be written down partially	May be written down partially
33	If write-down, permanent or temporary	Permanent	Permanent
34	If temporary write-down, description of write-up mechanism	N/A	N/A
34a	Type of subordination	Contractual	Contractual
35	Position in subordination hierarchy in liquidation	Immediately subordinate to the claims of all unsubordinated creditors	Immediately subordinate to the claims of all unsubordinated creditors
36	Non-compliant transitioned features	No	No
37	If yes, specify non-compliant features	N/A	N/A
	Terms and conditions	Individual loan agreement[4]	Individual loan agreement[4]

Table 16: CCA(A) – Main features of regulatory capital instruments and non-capital LAC debt instruments *(continued)*

		c	d
As at 31 Dec 2019		**Quantitative / qualitative information**	
		Subordinated loan (US$ 400 million)	Subordinated loan (HK$ 6,240 million)
1	Issuer	Hang Seng Bank Limited	Hang Seng Bank Limited
2	Unique identifier	N/A	N/A
3	Governing law(s) of the instrument	Laws of Hong Kong	Laws of Hong Kong
3a	Means by which enforceability requirement of Section 13 of the TLAC Term Sheet is achieved	N/A	N/A
	Regulatory treatment		
4	Transitional Basel III rules[1]	N/A	N/A
5	Post-transitional Basel III rules[2]	Ineligible	Ineligible
6	Eligible at solo / group / solo and group	Ineligible	Ineligible
6a	Eligible at solo / LAC consolidation group / solo and LAC consolidation group	Solo and LAC consolidation group	Solo and LAC consolidation group
7	Instrument type (types to be specified by each jurisdiction)	Non-capital LAC debt instrument	Non-capital LAC debt instrument
8	Amount recognised in regulatory capital	N/A	N/A
8a	Amount recognised in loss-absorbing capacity	HK$ 3,114 million	HK$ 6,240 million
9	Par value of instrument	US$ 400 million	HK$ 6,240 million
10	Accounting classification	Liability – amortised cost	Liability – amortised cost
11	Original date of issuance	10 June 2019	13 June 2019
12	Perpetual or dated	Dated	Dated
13	Original maturity date	Interest payment date falling in June 2030	Interest payment date falling in June 2026
14	Issuer call subject to prior supervisory approval	Yes	Yes
15	Optional call date, contingent call dates and redemption price	Interest payment date falling in June 2029 at par value	Interest payment date falling in June 2025 at par value
16	Subsequent call dates, if applicable	Callable on any interest payment date after first call date	Callable on any interest payment date after first call date
	Coupons / dividends		
17	Fixed or floating dividend/coupon	Floating	Floating
18	Coupon rate and any related index	3-month US$ LIBOR + 1.789%	3-month HK$ HIBOR + 1.342%
19	Existence of a dividend stopper	No	No
20	Fully discretionary, partially discretionary or mandatory	Mandatory	Mandatory
21	Existence of step up or other incentive to redeem	No	No
22	Non-cumulative or cumulative	Non-cumulative	Non-cumulative
23	Convertible or non-convertible	Non-convertible[3]	Non-convertible[3]
24	If convertible, conversion trigger(s)	N/A	N/A
25	If convertible, fully or partially	N/A	N/A
26	If convertible, conversion rate	N/A	N/A
27	If convertible, mandatory or optional conversion	N/A	N/A
28	If convertible, specify instrument type convertible into	N/A	N/A
29	If convertible, specify issuer of instrument it converts into	N/A	N/A
30	Write-down feature	Yes	Yes
31	If write-down, write-down trigger(s)	Contractual write-down at point of non-viability of borrower. Contractual recognition of HKMA statutory powers under FIRO	Contractual write-down at point of non-viability of borrower. Contractual recognition of HKMA statutory powers under FIRO
32	If write-down, full or partial	May be written down partially	May be written down partially
33	If write-down, permanent or temporary	Permanent	Permanent
34	If temporary write-down, description of write-up mechanism	N/A	N/A
34a	Type of subordination	Contractual	Contractual
35	Position in subordination hierarchy in liquidation	Immediately subordinate to the claims of all unsubordinated creditors	Immediately subordinate to the claims of all unsubordinated creditors
36	Non-compliant transitioned features	No	No
37	If yes, specify non-compliant features	N/A	N/A
	Terms and conditions	Individual loan agreement[4]	Individual loan agreement[4]

Credit risk

Credit risk management

Credit risk is the risk that financial loss arises from the failure of a customer or counterparty to meet its obligations under a contract. It arises principally from lending, trade finance, and treasury businesses. The Group has dedicated standards, policies and procedures in place to control and monitor risk from all such activities.

The principal objectives of our credit risk management function are:

- to maintain across the Group a strong culture of responsible lending and a robust credit risk policy and control framework;
- to both partner and challenge our 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 functions within Wholesale Credit and Market Risk and Retail Banking and Wealth Management ("RBWM") Risk are the constituent parts of the Group's Risk functions that support the Group's Chief Risk Officer 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, owning our credit policy and credit system programmes, overseeing portfolio management and reporting on risk matters to senior executive management and to regulators.

These credit risk functions work closely with other functions of the Group.

Credit risk operates through a hierarchy of individual credit approval authority limits. With delegation from the Board, Executive Committee delegates the credit approval authority limits to Chief Executive and empowers the Chief Executive to further delegate to Chief Risk Officer and senior management teams on individual basis. Chief Risk Officer is empowered by Chief Executive to further delegate the credit approval authority limits.

Business model/strategy will be reviewed regularly by different business units taking into consideration of current market condition and the Group's risk appetite. Credit risk policies and limits will also be reviewed to align with the direction of defined risk appetite and business strategy.

Credit Risk Management

The Group's exposure to credit risk arises from a wide range of customers and product types. To measure and manage the risk in these exposures, both to distinct customer types or product categories, the Group employs diverse risk rating systems and methodologies: judgmental, analytical, and hybrids of the two.

A fundamental principle of the Group's policy and approach is that analytical risk rating systems and scorecards are decision tools facilitating management, serving ultimately judgemental decisions for which individual approvers are accountable.

For individually assessed customers, the credit process provides for at least annual review of the facility granted. Review may be more frequent, as required by circumstances.

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

Analytical risk rating systems are not static and are subject to review and modification in light of the changing environment and the greater availability and quality of data. Processes are established to capture the relevant data for continuous model improvement.

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.

Credit quality of assets

Tables 17 to 21 analyse credit exposures between defaulted and non-defaulted, changes in defaulted loans and debt securities, exposures by geographical locations, by industries and residual maturity on a regulatory consolidation basis. The exposures covered in these tables include loans, debt securities and off-balance sheet exposures. Loans 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 17: 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**			
		Defaulted exposures	**Non-defaulted exposures**	**Allowances/ impairments**	**Allocated in regulatory category of specific provisions**	**Allocated in regulatory category of collective provisions**	**Of which ECL accounting provisions for credit losses on IRB approach exposures**	**Net values (a + b - c)**
	As at 31 Dec 2019	**HK$m**	**HK$m**	**HK$m**	**HK$m**	**HK$m**	**HK$m**	**HK$m**
1	Loans	**2,073**	**1,017,062**	**3,513**	**103**	**273**	**3,137**	**1,015,622**
2	Debt securities	**-**	**350,535**	**11**	**-**	**-**	**11**	**350,524**
3	Off-balance sheet exposures	**-**	**520,433**	**165**	**-**	**6**	**159**	**520,268**
4	**Total**	**2,073**	**1,888,030**	**3,689**	**103**	**279**	**3,307**	**1,886,414**

1 *The categorisation of ECL accounting provisions into regulatory category of specific and collective provisions follows the treatment specified in the completion instruction of the HKMA "Capital Adequacy Ratio – (MA(BS)3)" return. According to the completion instruction, 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 and loss account as an impairment gain or loss, are treated as specific provisions.*

Table 18: CR2 – Changes in defaulted loans and debt securities

			a
			Amount
		Footnote	**HK$m**
1	Defaulted loans and debt securities at end of the previous reporting period (30 Jun 2019)		**2,023**
2	Loans and debt securities that have defaulted since the last reporting period		**733**
3	Returned to non-defaulted status		**(22)**
4	Amounts written off		**(625)**
5	Other changes	*1*	**(36)**
6	**Defaulted loans and debt securities at end of the current reporting period (31 Dec 2019)**		**2,073**

1 *Other changes included repayment and foreign exchange movements.*

Table 19: CRB1 – Exposures by geographical location

	Footnote	**Gross carrying amounts at 31 Dec 2019 HK$m**
Hong Kong SAR		**1,714,017**
Others	*1*	**176,086**
Total		**1,890,103**

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

Table 20: CRB2 – Exposures by industry

	Gross carrying amounts at 31 Dec 2019
	HK$m
Industrial, commercial and financial	
- Property development and investment	**352,196**
- Financial concerns	**338,856**
- Stockbrokers	**3,655**
- Wholesale and retail trade	**106,602**
- Manufacturing	**86,144**
- Transport and transport equipment	**17,948**
- Recreational activities	**1,132**
- Information technology	**24,968**
- Others	**318,140**
Individuals	**571,034**
Trade finance	**69,428**
Total	**1,890,103**

Table 21: CRB3 – Exposures by residual maturity

	Gross carrying amounts at 31 Dec 2019
	HK$m
Less than 1 year	**801,897**
Between 1 and 5 years	**508,657**
More than 5 years	**577,408**
Undated	**2,141**
Total	**1,890,103**

Impaired exposures, past due unimpaired exposures and renegotiated exposures

Tables 22 to 25 analyse impaired exposures, impairment allowances, past due unimpaired exposures and renegotiated exposures on a regulatory consolidation basis.

Our approach for determining impairment allowances, definitions for accounting purposes of "credit-impaired" and "renegotiated" are explained in note 2(j) of the Group's 2019 Annual Report. The accounting definition of credit impaired and the regulatory definition of default are generally aligned.

The analysis of gross impaired loans and advances and impairment allowances by major industry sectors based on categories and definitions used by the Group is as follows:

Table 22: CRB4 – Impaired exposures and related allowances and write-offs by industry

		Gross loans and advances to customers[1]	Gross impaired loans and advances	Overdue loans and advances[2]	Specific provisions[3]	Collective provisions[3]	Impairment provisions (charged to) / released from profit and loss	Advances written off during the year
As at 31 Dec 2019	*Footnote*	HK$m	HK$m	HK$m	HK$m	HK$m	HK$m	HK$m
Residential mortgages		**271,108**	**275**	**105**	**(11)**	**(3)**	**6**	**-**
Real estate		**267,898**	**111**	**76**	**(3)**	**(399)**	**(181)**	**-**
Others	*4*	**408,803**	**1,687**	**997**	**(800)**	**(2,297)**	**(1,510)**	**939**
Total		**947,809**	**2,073**	**1,178**	**(814)**	**(2,699)**	**(1,685)**	**939**

1 *The amounts shown in column "Gross loans and advances to customers" represent loans and advances to customers gross of provisions in the financial statements under the regulatory consolidation scope and therefore is different from the "Gross loans and advances to customers" shown in table 26 which is prepared on accounting consolidation basis. The difference of total gross loans of HK$1,366m represents the Bank's loans and advances to the Group's subsidiaries which are outside the regulatory scope of consolidation.*

2 *The amounts shown in column "Overdue loans and advances" represent gross loans and advances to customers that were overdue for more than 3 months as at 31 December 2019.*

3 *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 17 of this document.*

4 *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".*

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 23: CRB5 – Impaired exposures and related allowances and write-offs by geographical location

		Gross loans and advances to customers[1]	Gross impaired loans and advances	Overdue loans and advances[2]	Specific provisions[3]	Collective provisions[3]	Impairment provisions (charged to) / released from profit and loss	Advances written off during the year
As at 31 Dec 2019	*Footnote*	HK$m	HK$m	HK$m	HK$m	HK$m	HK$m	HK$m
Hong Kong SAR		**858,051**	**1,716**	**844**	**(551)**	**(2,300)**	**(1,533)**	**837**
China		**72,081**	**291**	**268**	**(204)**	**(390)**	**(152)**	**102**
Others	*4*	**17,677**	**66**	**66**	**(59)**	**(9)**	**-**	**-**
Total		**947,809**	**2,073**	**1,178**	**(814)**	**(2,699)**	**(1,685)**	**939**

1 *The amounts shown in column "Gross loans and advances to customers" represent loans and advances to customers gross of provisions in the financial statements under the regulatory consolidation scope and therefore is different from the "Gross loans and advances to customers" shown in table 26 which is prepared on accounting consolidation basis. The difference of total gross loans of HK$1,366m represents the Bank's loans and advances to the Group's subsidiaries which are outside the regulatory scope of consolidation.*

2 *The amounts shown in column "Overdue loans and advances" represent gross loans and advances to customers that were overdue for more than 3 months as at 31 December 2019.*

3 *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 17 of this document.*

4 *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 impaired.

Table 24: CRB6 – Aging analysis of accounting past due unimpaired exposures

As at 31 Dec 2019	**Up to 29 days HK$m**	**30-59 days HK$m**	**60-89 days HK$m**	**Total HK$m**
Loans and advances to customers held at amortised cost:				
- Personal	**3,904**	**387**	**108**	**4,399**
- Corporate and commercial	**3,071**	**25**	**51**	**3,147**
- Non-bank financial institutions	**-**	**-**	**-**	**-**
Total	**6,975**	**412**	**159**	**7,546**

Table 25: CRB7 – Breakdown of renegotiated loans between impaired and unimpaired

	31 Dec 2019 HK$m
Impaired	**336**
Unimpaired	**-**
Total	**336**

Loans and advances to customers

Tables 26 to 28 analyse the 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 26: Loans and advances to customers by geographical location

As at 31 Dec 2019	*Footnote*	**Hong Kong SAR HK$m**	**China HK$m**	**Others HK$m**	**Total HK$m**
Gross loans and advances to customers	*1*	**813,157**	**108,289**	**24,997**	**946,443**

1 *The amounts shown in column "Gross loans and advances to customers" represent the loans and advances to customers gross of provisions in the financial statements on the accounting consolidation basis and therefore is different from the "Gross loans and advances to customers" shown in tables 22 and 23 which are prepared under the regulatory consolidation scope. The difference of total gross loans of HK$1,366m represents the Bank's loans and advances to the Group's subsidiaries which are outside the regulatory scope of consolidation.*

The analysis of gross loans and advances to customers by industry sector based on categories and definitions contained in the "Quarterly Analysis of Loans and Advances and Provisions - (MA(BS)2A)" return submitted to the HKMA is as follows:

Table 27: Gross loans and advances to customers by industry sector

	Gross loans and advances	% of gross advances covered by collateral
As at 31 Dec 2019	HK$m	%
Industrial, commercial and financial sectors		
- property development	72,692	42.5%
- property investment	157,472	87.2%
- financial concerns	7,764	50.4%
- stockbrokers	185	8.1%
- wholesale and retail trade	29,591	56.2%
- manufacturing	23,274	47.1%
- transport and transport equipment	13,891	61.9%
- recreational activities	867	49.7%
- information technology	9,043	7.3%
- other	89,898	74.5%
Individuals		
- loans and advances for the purchase of flats under the Government Home Ownership Scheme, Private Sector Participation Scheme and Tenants Purchase Scheme	30,007	100.0%
- loans and advances for the purchase of other residential properties	216,131	100.0%
- credit card loans and advances	29,137	0.0%
- other	30,814	51.5%
Gross loans and advances for use in Hong Kong	710,766	75.7%
Trade finance	33,431	29.9%
Gross loans and advances for use outside Hong Kong	202,246	34.8%
Gross loans and advances to customers	946,443	65.4%

Collateral includes any tangible security that carries a 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 loans and advances to customers, only the amount of collateral up to the gross loans and advances is included.

Loans and advances to customers that are more than three months overdue and their expression as a percentage of gross loans and advances to customers are as follows:

Table 28: Overdue loans and advances to customers

As at 31 Dec 2019	HK$m	%
Gross loans and advances which have been overdue with respect to either principal or interest for periods of:		
- more than three months but not more than six months	**228**	**0.02%**
- more than six months but not more than one year	**54**	**0.01%**
- more than one year	**896**	**0.09%**
Total	**1,178**	**0.12%**
of which:		
- specific provisions	**(650)**	
- covered portion of overdue loans and advances	**356**	
- uncovered portion of overdue loans and advances	**822**	
- current market value of collateral held against the covered portion of overdue loans and advances	**759**	
Rescheduled loans and advances to customers	**117**	**0.01%**

Collateral held with respect to overdue loans and advances is mainly residential properties and commercial properties. The current market value of residential properties and commercial properties were HK$567m and HK$175m respectively.

Loans and advances with a specific repayment date are classified as overdue when the principal or interest is overdue and remains unpaid at period-end. Loans and advances repayable by regular instalments are treated as overdue when an instalment payment is overdue and remains unpaid at period-end. Loans and advances repayable on demand are classified as overdue either when a demand for repayment has been served on the borrower but repayment has not been made in accordance with the demand notice, or when the loans and advances have remained continuously outside the approved limit advised to the borrower for more than the overdue period in question.

Rescheduled loans and advances to customers are those loans and advances that have been rescheduled or renegotiated for reasons related to the borrower's financial difficulties. This will normally involve the granting of concessionary terms and resetting the overdue account to non-overdue status. Rescheduled loans and advances to customers are stated net of any advances which have subsequently become overdue for more than three months and which are included in "Overdue loans and advances to customers".

The amount of repossessed assets as at 31 December 2019 was HK$19m.

Overdue and rescheduled amounts relating to placings with and advances to banks and other assets

There were no impaired, overdue or rescheduled placings with and advances to banks, nor rescheduled other assets as at 31 December 2019.

Off-balance sheet exposures other than derivative transactions

The following table gives the nominal contract amounts and RWA of contingent liabilities and commitments. The information is consistent with that in the "Capital Adequacy Ratio" return required to be submitted to the HKMA by the Group. The return is prepared on a consolidated basis as specified by the HKMA under the requirement 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 29: Off-balance sheet exposures other than derivative transactions

	31 Dec 2019
	HK$m
Contract amounts	
Direct credit substitutes	**3,961**
Transaction-related contingencies	**8,944**
Trade-related contingencies	**15,784**
Commitments that are unconditionally cancellable without prior notice	**425,053**
Commitments which have an original maturity of not more than one year	**5,636**
Commitments which have an original maturity of more than one year	**61,055**
Total	**520,433**
RWA	**50,170**

Credit risk under internal ratings-based approach

Qualitative disclosures related to internal models for measuring credit risk under IRB approach

(i) Nature of exposures within each IRB class

The Group uses 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 large corporates, local large corporates, middle market corporates and small and medium-sized enterprises ("SME"), non-bank financial institutions and specialised lending.

– 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, other retail exposures and retail SME exposures.

– Equity exposures.

– Other exposures, including cash items and other assets.

At 31 December 2019, the portion of exposure at default ("EAD") and RWA within the Group covered by IRB approach are summarised in the following table. The remaining portions not covered by IRB approach are under STC approach.

Table 30: CRE1 – Percentage of total EAD and RWA covered by IRB approach

Portfolio	Percentage of total EAD under IRB approach	Percentage of total RWA under IRB approach
Corporate exposures (includes SME and other corporates and specialised lending)	**93%**	**87%**
Sovereign exposures	**100%**	**100%**
Bank exposures (including securities firms)	**100%**	**100%**
Residential mortgage loans	**90%**	**83%**
Other retail exposures	**94%**	**80%**
Equity exposures	**100%**	**100%**
Other exposures	**100%**	**100%**

The above table covers credit risk for non-securitisation exposures excluding counterparty credit risk. For counterparty credit risk, the percentage of total RWA covered by IRB approach is 83% for corporate exposures and 100% for bank exposures.

(ii) The internal rating system

Exposure to credit risk arises from a very wide range of customers and product types, and the risk rating systems in place to measure and monitor these risks are correspondingly diverse.

Credit risk exposures are generally measured and managed in portfolios of either distinct customer types or product categories. Risk rating systems for the former are designed to assess the default propensity of, and loss severity associated with, customers who are typically managed as individual relationships; these rating systems tend to have a higher subjective content. Risk rating systems for the latter are generally more analytical, applying techniques such as behavioural analysis across product portfolios comprising large numbers of homogeneous transactions.

A fundamental principle of the Group's policy and approach is that analytical risk rating systems and scorecards are decision tools facilitating management, serving ultimately judgmental decisions for which individual approvers are accountable. In the case of automated decision-making processes, accountability rests with those responsible for the parameters built into those processes/systems and the controls surrounding their use. For distinct customers, the credit process requires at least annual review of facility limits granted. Review may be more frequent, as required by circumstances.

Group standards govern the process through which risk rating systems are initially developed, judged fit for purpose, approved and implemented; the conditions under which individual approvers can override analytical risk model outcomes; and the process of model performance monitoring and reporting. There is emphasis on an effective dialogue between business lines and risk management, appropriate independence of decision takers, and a good understanding and robust reflection on the part of senior management.

(iii) 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.

Table 31: 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
Central governments and central 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 unsecured LGD, a floor of 45% is applied.	8	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.	8	EAD must be at least equal to the current utilisation of the balance at account level
Bank / Securities firm	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 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	12	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 combines quantitative analysis on financial information with expert inputs.	>=10	0.03%
	LGD	1	Regional statistical models covering all corporates, developed using historical loss/recovery data and various data inputs, including collateral information, facility seniority and customer geography.	>10	No
	EAD	1	Regional statistical models 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 exempted for the People's Republic of China and Hong Kong Special Administrative Region
2 LGD floor exempted for intra-group entities
3 Excludes specialised lending exposures subject to supervisory slotting approach.

(iii) Application of IRB parameters *(continued)*

Table 32: CRE3 – Material retail IRB credit risk models

Regulatory asset classes measured	Component	Number of significant models	Model description and methodology	Number of years loss data	Regulatory Floors
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	1 component based model and 2 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	LGD floor of 10% at portfolio level
	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 utilization 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 (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	PD floor of 0.03%
	LGD	1	Statistical model based on forecasting the amount of expected future losses with downturn adjustment.	> 10	
	EAD	1	EAD derived by different product types. Statistical model which derives a credit conversion factor to determine the proportion of undrawn limit to be added to the balance at observation for revolving nature while rule based calculation based on current balance for non-revolving nature.	> 10	EAD must at least be equal to current balance

These measures are used to calculate expected loss and capital requirements. They are also used in conjunction with other inputs to form rating assessments for the purpose of credit approval and for risk management decisions.

PD models are developed using statistical estimation generally based on a minimum of five years of historical data. The modelling approach is typically hybrid. EAD models are also generally developed using at least five years of historical observations and typically adopt one of two approaches:
- Closed-end products without the facility for additional drawdowns, EAD is estimated as the outstanding balance of accounts at the time of observation with predicted interest and fees; 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. The LGD models for retail exposures are developed based on the Group's internal loss and default experiences including recovery values for different types of collaterals for secured retail exposures such as residential mortgages; for unsecured retail exposures such as qualifying revolving retail exposures, LGD models are developed based on past recovery experiences, account behaviours and repayment ability.

(iv) Model Governance

Model governance is under the oversight of HSBC Group or HSBC Regional Model Oversight Committee ("HSBC Group MOC" or "HSBC Regional MOC"). Wholesale Credit and Markets MOC and Retail Risk ("Local MOCs") are established respectively in the Bank with comparable terms of reference as HSBC Group MOC or HSBC Regional MOC.

Local MOCs meet regularly and report to RMM. They are chaired by the Risk function, and its membership is drawn from Risk, Finance and Businesses. Its primary responsibilities are to oversee the framework for the management of model risk, bring a strategic approach to model-related issues across the Bank, and to oversee the governance of our risk rating models, their consistency, within the regulatory framework. Also, 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 / HSBC Group MOC / HSBC Regional MOC on any material model-related issues.

All new or materially changed IRB capital models require the HKMA and the Prudential Regulation Authority's ("PRA") approval and such models fall directly under the remit of Local MOCs and HSBC Group MOC or HSBC Regional MOC.

The approval of models/model changes is the responsibility of individual approvers. Model Owner/Technical Expert ensures that the model is technically sound, has been developed robustly and follows the relevant modelling policies, standards, internal and regulatory requirements. Whereas the Model User/Steward for the function ensures that the model makes sense to the business or function where it will be used and that the model satisfies the requirements from the business, function and regulators.

Compliance with the HSBC Group and local standards for model development, credit risk models validation and implementation are subject to an independent model review process led by the HSBC Independent Model Review team which is separated from the Risk Analytics functions that are responsible for the development, usage and management of models. The Independent Model Review team provides robust challenge to the modelling approaches used and ensures that the performance of those models is transparent and that their limitations are visible to key stakeholders.

HSBC Group Audit, local Internal Audit, or a comparable independent model review unit also conducts regular reviews of the risk rating model application by credit and business groups.

Table 33.1: CR6 – Credit risk exposures by portfolio and PD ranges – for IRB approach (Wholesale)

	a	b	c	d	e	f	g	h	i	j	k	l
As at 31 Dec 2019	**Original on-balance sheet gross exposure**	**Off-balance sheet exposures pre-CCF**	**Average CCF**	**EAD post-credit risk mitigation ("CRM") and post-CCF**	**Average PD**	**Number of obligors**	**Average LGD**	**Average maturity**	**RWA**	**RWA density**	**EL**	**Provisions^**
PD scale	**HK$m**	**HK$m**	**%**	**HK$m**	**%**		**%**	**years**	**HK$m**	**%**	**HK$m**	**HK$m**
Sovereign												
0.00 to < 0.15	**309,645**	**-**	**-**	**309,645**	**0.01**	**40**	**25.8**	**1.33**	**10,602**	**3**	**11**	
0.15 to < 0.25	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	
0.25 to < 0.50	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	
0.50 to < 0.75	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	
0.75 to < 2.50	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	
2.50 to < 10.00	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	
10.00 to < 100.00	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	
100.00 (Default)	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	
Sub-total	**309,645**	**-**	**-**	**309,645**	**0.01**	**40**	**25.8**	**1.33**	**10,602**	**3**	**11**	**6**
Bank												
0.00 to < 0.15	**83,998**	**38**	**53.9**	**84,019**	**0.04**	**865**	**36.4**	**1.21**	**9,484**	**11**	**12**	
0.15 to < 0.25	**316**	**115**	**51.0**	**375**	**0.22**	**80**	**44.6**	**0.60**	**134**	**36**	**-**	
0.25 to < 0.50	**153**	**-**	**-**	**153**	**0.37**	**46**	**45.0**	**0.55**	**79**	**52**	**-**	
0.50 to < 0.75	**101**	**-**	**-**	**101**	**0.63**	**19**	**42.7**	**0.65**	**68**	**67**	**-**	
0.75 to < 2.50	**93**	**431**	**45.0**	**286**	**0.89**	**13**	**47.8**	**0.92**	**262**	**92**	**1**	
2.50 to < 10.00	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	
10.00 to < 100.00	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	
100.00 (Default)	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	
Sub-total	**84,661**	**584**	**46.7**	**84,934**	**0.05**	**1,023**	**36.5**	**1.21**	**10,027**	**12**	**13**	**4**
Corporate – small-and-medium sized corporates												
0.00 to < 0.15	**7,227**	**5,058**	**31.9**	**8,842**	**0.09**	**136**	**30.4**	**3.31**	**1,449**	**16**	**2**	
0.15 to < 0.25	**4,007**	**2,998**	**31.7**	**4,956**	**0.22**	**208**	**28.2**	**2.48**	**1,195**	**24**	**3**	
0.25 to < 0.50	**28,943**	**8,022**	**34.1**	**31,682**	**0.37**	**338**	**23.9**	**2.44**	**8,448**	**27**	**28**	
0.50 to < 0.75	**30,187**	**9,536**	**34.0**	**33,434**	**0.63**	**492**	**29.0**	**2.46**	**13,273**	**40**	**61**	
0.75 to < 2.50	**49,437**	**17,885**	**28.5**	**54,536**	**1.31**	**1,338**	**26.3**	**2.26**	**24,939**	**46**	**188**	
2.50 to < 10.00	**8,541**	**3,798**	**37.0**	**9,945**	**3.94**	**220**	**31.5**	**2.14**	**7,245**	**73**	**119**	
10.00 to < 100.00	**555**	**53**	**22.2**	**566**	**12.64**	**12**	**21.7**	**1.63**	**456**	**81**	**16**	
100.00 (Default)	**222**	**-**	**-**	**222**	**100.00**	**12**	**44.8**	**2.75**	**387**	**174**	**82**	
Sub-total	**129,119**	**47,350**	**31.8**	**144,183**	**1.21**	**2,756**	**27.1**	**2.41**	**57,392**	**40**	**499**	**1,061**
Corporate – others												
0.00 to < 0.15	**136,216**	**65,037**	**36.5**	**159,935**	**0.09**	**469**	**44.8**	**2.38**	**41,100**	**26**	**63**	
0.15 to < 0.25	**55,833**	**27,823**	**33.9**	**65,264**	**0.22**	**321**	**41.2**	**2.05**	**25,106**	**38**	**59**	
0.25 to < 0.50	**49,768**	**26,384**	**30.8**	**57,903**	**0.37**	**420**	**36.3**	**2.12**	**25,745**	**44**	**78**	
0.50 to < 0.75	**42,268**	**23,418**	**24.7**	**48,052**	**0.63**	**385**	**36.5**	**2.04**	**27,375**	**57**	**111**	
0.75 to < 2.50	**106,898**	**55,262**	**22.0**	**119,047**	**1.45**	**1,239**	**36.9**	**1.89**	**89,289**	**75**	**623**	
2.50 to < 10.00	**14,354**	**9,073**	**20.0**	**16,166**	**3.93**	**254**	**40.0**	**1.52**	**18,003**	**111**	**255**	
10.00 to < 100.00	**522**	**115**	**18.0**	**543**	**10.38**	**16**	**40.0**	**2.68**	**933**	**172**	**22**	
100.00 (Default)	**1,117**	**-**	**-**	**1,117**	**100.00**	**73**	**36.4**	**1.07**	**1,609**	**144**	**562**	
Sub-total	**406,976**	**207,112**	**29.5**	**468,027**	**0.93**	**3,177**	**40.2**	**2.11**	**229,160**	**49**	**1,773**	**2,581**

Table 33.2: CR6 – Credit risk exposures by portfolio and PD ranges – for IRB approach (Retail)

	a	b	c	d	e	f	g	h	i	j	k	l
As at 31 Dec 2019	**Original on-balance sheet gross exposure**	**Off-balance sheet exposures pre-CCF**	**Average CCF**	**EAD post CRM and post-CCF**	**Average PD**	**Number of obligors**	**Average LGD**	**Average maturity**	**RWA**	**RWA density**	**EL**	**Provisions^**
PD scale	**HK$m**	**HK$m**	**%**	**HK$m**	**%**		**%**	**years**	**HK$m**	**%**	**HK$m**	**HK$m**
Retail – qualifying revolving retail exposures ("QRRE")												
0.00 to < 0.15	10,731	156,362	39.2	72,033	0.07	1,727,700	104.9		3,290	5	52	
0.15 to < 0.25	1,962	11,840	45.8	7,390	0.22	174,845	104.5		900	12	17	
0.25 to < 0.50	4,651	18,983	33.5	11,008	0.40	206,399	100.7		2,060	19	44	
0.50 to < 0.75	2,142	4,028	51.6	4,220	0.60	59,528	101.8		1,103	26	26	
0.75 to < 2.50	7,066	11,560	35.3	11,144	1.44	110,168	98.9		5,470	49	159	
2.50 to < 10.00	4,485	3,100	66.2	6,537	4.75	61,352	99.1		7,489	115	308	
10.00 to < 100.00	1,671	427	154.1	2,329	28.65	20,776	99.2		4,688	201	644	
100.00 (Default)	64	-	-	64	100.00	807	93.9		98	153	53	
Sub-total	32,772	206,300	39.7	114,725	1.17	2,361,575	103.3		25,098	22	1,303	2,281
Retail – residential mortgage exposures												
0.00 to < 0.15	169,285	1,353	100.0	170,638	0.09	52,694	18.0		35,805	21	26	
0.15 to < 0.25	32,789	261	100.0	33,050	0.18	27,676	16.7		6,329	19	10	
0.25 to < 0.50	558	5	100.0	563	0.34	156	13.8		91	16	-	
0.50 to < 0.75	20,073	160	100.0	20,233	0.53	8,958	17.0		3,838	19	18	
0.75 to < 2.50	14,869	117	100.0	14,986	0.94	14,651	16.3		3,155	21	23	
2.50 to < 10.00	4,592	35	100.0	4,627	4.74	3,327	15.7		2,322	50	35	
10.00 to < 100.00	4,018	30	100.0	4,048	16.80	2,927	15.3		3,344	83	104	
100.00 (Default)	218	-	-	218	100.00	113	14.5		371	170	2	
Sub-total	246,402	1,961	100.0	248,363	0.63	110,502	17.5		55,255	22	218	1
Retail – small business retail exposures												
0.00 to < 0.15	2,287	7	100.0	2,294	0.08	957	7.2		34	1	-	
0.15 to < 0.25	517	2	100.0	519	0.19	146	15.9		32	6	-	
0.25 to < 0.50	135	1	100.0	136	0.49	36	17.9		17	13	-	
0.50 to < 0.75	553	-	-	553	0.59	172	10.6		50	9	-	
0.75 to < 2.50	218	2	100.0	220	1.32	51	18.0		45	20	1	
2.50 to < 10.00	486	1	100.0	487	5.60	180	5.6		41	8	2	
10.00 to < 100.00	-	-	-	-	-	-	-		-	-	-	
100.00 (Default)	-	-	-	-	-	-	-		-	-	-	
Sub-total	4,196	13	100.0	4,209	0.88	1,542	9.4		219	5	3	-
Other retail exposures to individuals												
0.00 to < 0.15	3,052	2,713	9.9	3,320	0.08	26,603	14.6		113	3	-	
0.15 to < 0.25	1,764	3,030	16.4	2,260	0.21	23,448	14.5		133	6	1	
0.25 to < 0.50	364	1,333	13.7	546	0.45	12,807	75.4		274	50	2	
0.50 to < 0.75	4,826	9	36.9	4,829	0.56	21,024	63.1		2,277	47	17	
0.75 to < 2.50	4,451	1,460	27.6	4,853	1.55	28,104	50.2		2,940	61	41	
2.50 to < 10.00	3,703	196	30.4	3,763	4.68	24,826	65.5		3,612	96	118	
10.00 to < 100.00	864	32	39.9	877	16.08	7,092	70.2		1,202	137	98	
100.00 (Default)	42	-	-	42	100.00	396	67.8		73	174	25	
Sub-total	19,066	8,773	16.2	20,490	2.30	144,300	47.9		10,624	52	302	378

Table 33.3: CR6 – Credit risk exposures by portfolio and PD ranges – for IRB approach (Total)

	a	b	c	d	e	f	g	h	i	j	k	l
As at 31 Dec 2019	**Original on-balance sheet gross exposure**	**Off-balance sheet exposures pre-CCF**	**Average CCF**	**EAD post CRM and post-CCF**	**Average PD**	**Number of obligors**	**Average LGD**	**Average maturity***	**RWA**	**RWA density**	**EL**	**Provisions^**
	HK$m	**HK$m**	**%**	**HK$m**	**%**		**%**	**years**	**HK$m**	**%**	**HK$m**	**HK$m**
Total (all portfolios)	1,232,837	472,093	34.3	1,394,576	0.69	2,624,915	36.6	1.84	398,377	29	4,122	6,312

* The average maturity is relevant to wholesale portfolios only.

^ 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.

Table 34: CR10 – Specialised lending under supervisory slotting criteria approach – other than high-volatility commercial real estate ("HVCRE")

As at 31 Dec 2019		a	b	c	d(i)	d(ii)	d(iii)	d(iv)	d(v)	e	f
					EAD amount						
Supervisory Rating Grade	**Remaining Maturity**	**On-balance sheet exposure amount HK$m**	**Off-balance sheet exposure amount HK$m**	**Supervi-sory risk-weight ("SRW") %**	**Project finance ("PF") HK$m**	**Object finance ("OF") HK$m**	**Commo-dities finance ("CF") HK$m**	**Income-producing real estate ("IPRE") HK$m**	**Total HK$m**	**RWA HK$m**	**Expected loss amount HK$m**
Strong^	Less than 2.5 years	**4,051**	**246**	**50%**	**-**	**-**	**-**	**4,150**	**4,150**	**2,075**	**-**
Strong	Less than 2.5 years	**2,492**	**1,052**	**70%**	**-**	**-**	**-**	**3,019**	**3,019**	**2,114**	**12**
Strong	Equal to or more than 2.5 years	**5,705**	**430**	**70%**	**-**	**-**	**-**	**5,878**	**5,878**	**4,114**	**24**
Good^	Less than 2.5 years	**1,148**	**48**	**70%**	**-**	**-**	**-**	**1,168**	**1,168**	**818**	**5**
Good	Less than 2.5 years	**3,114**	**466**	**90%**	**-**	**-**	**-**	**3,283**	**3,283**	**2,954**	**26**
Good	Equal to or more than 2.5 years	**1,711**	**1,346**	**90%**	**-**	**-**	**-**	**2,182**	**2,182**	**1,964**	**17**
Satisfactory		**151**	**147**	**115%**	**-**	**-**	**-**	**203**	**203**	**233**	**6**
Weak		**-**	**-**	**250%**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Default		**-**	**-**	**0%**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total		**18,372**	**3,735**		**-**	**-**	**-**	**19,883**	**19,883**	**14,272**	**90**

^ Use of preferential risk-weights.

Table 35: CR10 – Equity exposures under the simple risk-weight method

As at 31 Dec 2019	a	b	c	d	e
Categories	**On-balance sheet exposure amount HK$m**	**Off-balance sheet exposure amount HK$m**	**SRW %**	**EAD amount HK$m**	**RWA HK$m**
Publicly traded equity exposures	**46**	**-**	**300%**	**46**	**137**
All other equity exposures	**5,539**	**-**	**400%**	**5,539**	**22,156**
Total	**5,585**	**-**		**5,585**	**22,293**

Credit risk under standardised approach

The standardised 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 standardised approach requires banks to use risk assessments prepared by External Credit Assessment Institutions ("ECAI") to determine the risk weightings applied to rated counterparties.

The Group uses the following ECAIs to calculate its capital adequacy requirements under the STC approach prescribed in the BCR:

– Fitch Ratings
– Moody's Investors Service
– Standard & Poor's Ratings Services

Where exposures have been rated by the above-mentioned ECAIs, they are categorised under the following class of exposures:

– Sovereign exposures
– Public sector entity ("PSE") exposures
– Bank exposures
– Securities firm exposures
– Corporate exposures
– Collective investment scheme ("CIS") exposures

The process used to map ECAIs issuer ratings or ECAIs issue specific ratings in the Group's banking book is consistent with those prescribed in the Part 4 of the BCR.

Table 36: CR5 – Credit risk exposures by asset classes and by risk weights – for STC approach

		a	b	c	d	e	f	g	h	ha	i	j
As at 31 Dec 2019												
	Risk weight	**0%**	**10%**	**20%**	**35%**	**50%**	**75%**	**100%**	**150%**	**250%**	**Others**	**Total credit risk exposures amount (post CCF and post CRM)**
		HK\$m	**HK\$m**	**HK\$m**	**HK\$m**	**HK\$m**	**HK\$m**	**HK\$m**	**HK\$m**	**HK\$m**	**HK\$m**	**HK\$m**
	Exposure class											
1	Sovereign exposures	**146**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**146**
2	PSE exposures	**23,062**	**-**	**4,852**	**-**	**5**	**-**	**-**	**-**	**-**	**-**	**27,919**
2a	*Of which: Domestic PSEs*	***-***	***-***	***697***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***697***
2b	*Of which: Foreign PSEs*	***23,062***	***-***	***4,155***	***-***	***5***	***-***	***-***	***-***	***-***	***-***	***27,222***
3	Multilateral development bank exposures	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
4	Bank exposures	**-**	**-**	**35**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**35**
5	Securities firm exposures	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
6	Corporate exposures	**-**	**-**	**447**	**-**	**-**	**-**	**43,812**	**-**	**-**	**-**	**44,259**
7	CIS exposures	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
8	Cash items	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
9	Exposures in respect of failed delivery on transactions entered into on a basis other than a delivery-versus-payment basis	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
10	Regulatory retail exposures	**-**	**-**	**-**	**-**	**-**	**4,365**	**-**	**-**	**-**	**-**	**4,365**
11	Residential mortgage loans	**-**	**-**	**-**	**25,307**	**-**	**660**	**1,925**	**-**	**-**	**-**	**27,892**
12	Other exposures which are not past due exposures	**-**	**-**	**-**	**-**	**-**	**-**	**5,064**	**-**	**-**	**-**	**5,064**
13	Past due exposures	**1**	**-**	**-**	**-**	**-**	**-**	**28**	**278**	**-**	**-**	**307**
14	Significant exposures to commercial entities	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
15	**Total**	**23,209**	**-**	**5,334**	**25,307**	**5**	**5,025**	**50,829**	**278**	**-**	**-**	**109,987**

Credit risk mitigation

The Group's approach when granting credit facilities is on the basis of capacity to repay, rather than primarily rely on credit risk mitigation. Depending on a customer's standing and the type of product, facilities may be provided on unsecured basis. Nevertheless, mitigation of credit risk is an important aspect of effective management and takes in many forms.

The Group's general policy is to promote the use of credit risk mitigation, justified by commercial prudence and good practice as well as capital efficiency. Policies covering the acceptability, structuring, terms, control and valuation with regard to different types of collateral security are established to ensure that they are supported by empirical evidence and continue to fulfil their intended purpose.

Concentration of credit risk exists when changes in geographic, economic or industry factors similarly affect groups of counterparties whose aggregate credit exposure is material in relation to the Group's total exposures. The Group's portfolio of financial instrument is diversified along geographic, industry and product sectors.

<u>Collateral</u>

The Group has implemented guidelines on the acceptability of specific classes of collateral or credit risk mitigation, and determined the valuation parameters. Such parameters are established prudently and are reviewed regularly in light of changing market environment and empirical evidence. Security structures and legal covenants are subject to regular review to ensure that they continue to fulfil their intended purpose and remain in line with local market practice.

While collateral is an important mitigant to credit risk, it is the Group's policy to establish that loans are within the customer's capacity to repay rather than to rely excessively on security. Facilities may be granted on unsecured basis depending on the customer's standing and the type of product. The principal collateral types are as follows:

– in the personal sector, charges over the properties, securities, investment funds and deposits;
– in the commercial and industrial sector, charges over business assets such as properties, stock, debtors, investment funds, deposits and machinery; and
– in the commercial real estate sector, charges over the properties being financed.

Repossessed assets are non-financial assets acquired in exchange for loans in order to achieve an orderly realisation, and are reported in the balance sheet within "Other assets" at the lower of fair value (less costs to sell) and the carrying amount of the loan (net of any impairment allowance). If excess funds arise after the debt has been repaid, they are made available either to repay other secured lenders with lower priority or are returned to the customer. The Group does not generally occupy repossessed properties for its business use.

Collateral held as security for financial assets other than loans and advances is determined by the nature of the instrument. Debt securities, treasury and other eligible bills are generally unsecured.

<u>Credit Risk Mitigation under IRB Approach</u>

The main types of recognised collateral taken by the Group are those as stated in section 80 of the BCR, including (but not limited to) cash on deposit, gold bullion, equities listed in a main index and/or a recognised exchange, collective investment schemes, various recognised debt securities, residential, industrial and commercial property, etc.

The Group's policy provides that netting is only to be applied where it has the legal right to do so. Consistent with the BCR, only bilateral netting arrangements are included for capital adequacy credit risk mitigation calculation.

In terms of the application within IRB approach, credit risk mitigants are considered in two broad categories: first, those which reduce the intrinsic PD of an obligor and therefore operate as adjustments to PD estimation, and second, those which affect estimated recoverability of obligations and require adjustment of LGD. The first includes, for example, full parental or group company guarantees; the second, collateral security of various kinds such as cash, equity, properties, fixed assets such as motor vehicles, plant and machinery, stock and debtors, bank and sovereign guarantees, etc.

<u>Credit Risk Mitigation under STC Approach</u>

As stated in sections 98 and 99 of the BCR, certain guarantees and credit derivative contracts are recognised for credit risk mitigation purposes. The main types of guarantees are from sovereigns, corporate and banks. With corporate guarantees, in order for it to be recognised as a credit risk mitigants, it must have a credit rating of A- or better by Standard & Poor's Ratings Services, Fitch Ratings or a credit rating of A3 or better by Moody's Investors Service.

Table 37: CR3 – Overview of recognised credit risk mitigation

		a	b1	b	d	f
As at 31 Dec 2019		**Exposures unsecured: carrying amount** **HK$m**	**Exposures to be secured** **HK$m**	**Exposures secured by recognised collateral** **HK$m**	**Exposures secured by recognised guarantees** **HK$m**	**Exposures secured by recognised credit derivative contracts** **HK$m**
1	Loans	**313,472**	**702,150**	**564,918**	**137,232**	**-**
2	Debt securities	**348,361**	**2,163**	**-**	**2,163**	**-**
3	**Total**	**661,833**	**704,313**	**564,918**	**139,395**	**-**
4	*of which: Defaulted*	***633***	***626***	***530***	***96***	***-***

Table 38: CR7 – Effects on RWA of recognised credit derivative contracts used as recognised credit risk mitigation – for IRB approach

		a	b
As at 31 Dec 2019		**Pre-credit derivatives RWA** **HK$m**	**Actual RWA** **HK$m**
1	Corporate – Specialised lending under supervisory slotting criteria approach (project finance)	**-**	**-**
2	Corporate – Specialised lending under supervisory slotting criteria approach (object finance)	**-**	**-**
3	Corporate – Specialised lending under supervisory slotting criteria approach (commodities finance)	**-**	**-**
4	Corporate – Specialised lending under supervisory slotting criteria approach (income-producing real estate)	**14,272**	**14,272**
5	Corporate – Specialised lending (high-volatility commercial real estate)	**-**	**-**
6	Corporate – Small-and-medium sized corporates	**57,392**	**57,392**
7	Corporate – Other corporates	**229,160**	**229,160**
8	Sovereigns	**8,395**	**8,395**
9	Sovereign foreign public sector entities	**-**	**-**
10	Multilateral development banks	**2,207**	**2,207**
11	Bank exposures – Banks	**9,704**	**9,704**
12	Bank exposures – Securities firms	**323**	**323**
13	Bank exposures – Public sector entities (excluding sovereign foreign public sector entities)	**-**	**-**
14	Retail – Small business retail exposures	**219**	**219**
15	Retail – Residential mortgages to individuals	**54,028**	**54,028**
16	Retail – Residential mortgages to property-holding shell companies	**1,227**	**1,227**
17	Retail – Qualifying revolving retail exposures	**25,098**	**25,098**
18	Retail – Other retail exposures to individuals	**10,624**	**10,624**
19	Equity – Equity exposures under market-based approach (simple risk-weight method)	**22,293**	**22,293**
20	Equity – Equity exposures under market-based approach (internal models method)	**-**	**-**
21	Equity – Equity exposures under PD/LGD approach (publicly traded equity exposures held for long-term investment)	**-**	**-**
22	Equity – Equity exposures under PD/LGD approach (privately owned equity exposures held for long-term investment)	**-**	**-**
23	Equity – Equity exposures under PD/LGD approach (other publicly traded equity exposures)	**-**	**-**
24	Equity – Equity exposures under PD/LGD approach (other equity exposures)	**-**	**-**
25	Equity – Equity exposures associated with equity investments in funds (CIS exposures)	**-**	**-**
26	Other – Cash items	**3,954**	**3,954**
27	Other – Other items	**41,350**	**41,350**
28	**Total (under the IRB calculation approaches)**	**480,246**	**480,246**

There is no effect in RWA, as the Group does not have credit derivative contracts used as recognised credit risk mitigation.

Table 39: 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**		**RWA and RWA density**	
As at 31 Dec 2019		**On-balance sheet amount HK$m**	**Off-balance sheet amount HK$m**	**On-balance sheet amount HK$m**	**Off-balance sheet amount HK$m**	**RWA HK$m**	**RWA density %**
	Exposure classes						
1	Sovereign exposures	**-**	**-**	**144**	**2**	**-**	**-**
2	PSE exposures	**27,725**	**439**	**27,725**	**194**	**973**	**3**
2a	*Of which: Domestic PSEs*	***503***	***439***	***503***	***194***	***140***	***20***
2b	*Of which: Foreign PSEs*	***27,222***	**-**	***27,222***	**-**	***833***	***3***
3	Multilateral development bank exposures	**-**	**-**	**-**	**-**	**-**	**-**
4	Bank exposures	**35**	**-**	**35**	**-**	**7**	**20**
5	Securities firm exposures	**-**	**-**	**-**	**-**	**-**	**-**
6	Corporate exposures	**44,807**	**22,664**	**42,208**	**2,051**	**43,900**	**99**
7	CIS exposures	**-**	**-**	**-**	**-**	**-**	**-**
8	Cash items	**-**	**-**	**-**	**-**	**-**	**-**
9	Exposures in respect of failed delivery on transactions entered into on a basis other than a delivery-versus-payment basis	**-**	**-**	**-**	**-**	**-**	**-**
10	Regulatory retail exposures	**5,037**	**10,253**	**4,359**	**6**	**3,273**	**75**
11	Residential mortgage loans	**27,959**	**2,101**	**27,814**	**78**	**11,278**	**40**
12	Other exposures which are not past due exposures	**10,368**	**9,148**	**4,928**	**136**	**5,064**	**100**
13	Past due exposures	**307**	**-**	**307**	**-**	**445**	**145**
14	Significant exposures to commercial entities	**-**	**-**	**-**	**-**	**-**	**-**
15	**Total**	**116,238**	**44,605**	**107,520**	**2,467**	**64,940**	**59**

Remark:

Exposure pre-CCF and pre-CRM is reported under obligor's corresponding exposure class. Where the exposure is covered by a guarantee, the credit protection covered portion of the exposure is reported under the exposure class of credit protection provider in columns (c) & (d).

Model performance

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

Table 40.1: CR9 – Back-testing of PD per portfolio – for IRB approach (Wholesale)

a	b	c			d	e	f		g	h	i
							Number of obligors [1,2]				
Portfolio	**PD Range**	**External rating equivalent (S&P)**	**External rating equivalent (Moody's)**	**External rating equivalent (Fitch)**	**Weighted average PD**	**Arithmetic average PD by obligors**	**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**
As at 31 Dec 2019					%	%					%
Sovereign	0.00 to < 0.15	AAA to BBB	Aaa to Baa2	AAA to BBB	**0.01**	**0.02**	**23**	**20**	-	-	-
	0.15 to < 0.25	BBB-	Baa3	BBB-	-	-	-	-	-	-	-
	0.25 to < 0.50	BBB-	Baa3	BBB-	-	-	-	-	-	-	-
	0.50 to < 0.75	BB+ to BB	Ba1 to Ba2	BB+ to BB	-	-	-	-	-	-	-
	0.75 to < 2.50	BB- to B+	Ba3 to B2	BB- to B-	-	-	-	-	-	-	-
	2.50 to < 10.00	B to B-	B2 to Caa1	CCC+ to CCC	-	-	-	-	-	-	-
	10.00 to < 100.00	B- to C	Caa1 to C	CCC to C	-	-	-	-	-	-	-
Bank	0.00 to < 0.15	AAA to A-	Aaa to Baa1	AAA to BBB+	**0.03**	**0.06**	**66**	**61**	-	-	-
	0.15 to < 0.25	BBB+	Baa2	BBB	**0.22**	**0.22**	**5**	**8**	-	-	-
	0.25 to < 0.50	BBB	Baa3	BBB-	**0.37**	**0.37**	**7**	**4**	-	-	-
	0.50 to < 0.75	BBB-	Baa3	BBB-	**0.63**	**0.63**	**3**	**3**	-	-	-
	0.75 to < 2.50	BB+ to BB-	Ba1 to B1	BB+ to B+	**1.04**	**1.11**	**7**	**4**	-	-	-
	2.50 to < 10.00	B+ to B-	B2 to Caa1	B to CCC+	-	-	-	-	-	-	-
	10.00 to < 100.00	CCC+ to C	Caa1 to C	CCC to C	-	-	-	-	-	-	-
small-and-medium sized corporates	0.00 to < 0.15	AAA to A-	Aaa to Baa1	AAA to BBB+	**0.12**	**0.12**	**105**	**101**	-	-	-
	0.15 to < 0.25	BBB+	Baa2	BBB	**0.22**	**0.22**	**260**	**170**	-	-	**0.07**
	0.25 to < 0.50	BBB	Baa3	BBB-	**0.37**	**0.37**	**278**	**281**	-	-	**0.38**
	0.50 to < 0.75	BBB-	Baa3	BBB-	**0.63**	**0.63**	**374**	**402**	-	-	**0.10**
	0.75 to < 2.50	BB+ to BB-	Ba1 to B1	BB+ to B+	**1.39**	**1.48**	**1,129**	**1,161**	**4**	**1**	**0.36**
	2.50 to < 10.00	B+ to B-	B2 to Caa1	B to CCC+	**3.68**	**3.76**	**186**	**192**	**4**	-	**1.50**
	10.00 to < 100.00	CCC+ to C	Caa1 to C	CCC to C	**10.00**	**10.00**	**6**	**7**	-	-	**21.43**
Corporate – others[3]	0.00 to < 0.15	AAA to A-	Aaa to Baa1	AAA to BBB+	**0.09**	**0.10**	**243**	**218**	-	-	-
	0.15 to < 0.25	BBB+	Baa2	BBB	**0.22**	**0.22**	**190**	**228**	-	-	**0.14**
	0.25 to < 0.50	BBB	Baa3	BBB-	**0.37**	**0.37**	**269**	**276**	**1**	-	**0.16**
	0.50 to < 0.75	BBB-	Baa3	BBB-	**0.63**	**0.63**	**319**	**300**	-	-	**0.41**
	0.75 to < 2.50	BB+ to BB-	Ba1 to B1	BB+ to B+	**1.40**	**1.53**	**1,056**	**961**	**3**	-	**1.04**
	2.50 to < 10.00	B+ to B-	B2 to Caa1	B to CCC+	**3.79**	**4.05**	**168**	**194**	**1**	-	**1.99**
	10.00 to < 100.00	CCC+ to C	Caa1 to C	CCC to C	**12.12**	**11.00**	**3**	**8**	-	-	**12.22**

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

2 *The number of obligors on corporate counterparty is being reported at counterparty level, while the number of obligors on Multilateral Development Bank (grouped under Sovereign portfolio) and Bank are being reported at entity level. Sovereigns are reported at country level based on local currency and foreign currency ratings.*

3 *Specialised lending exposures are excluded.*

BANKING DISCLOSURE STATEMENT *(unaudited) (continued)*

Table 40.2: CR9 – Back-testing of PD per portfolio – for IRB approach (Retail)

a	b	c	d	e	f		g	h	i
					Number of obligors				
Portfolio	**PD Range**	**External rating equivalent****	**Weighted average PD**	**Arithmetic average PD by obligors**	**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**
As at 31 Dec 2019			%	%					%
Retail – QRRE	0.00 to < 0.15		**0.07**	**0.07**	**1,735,424**	**1,826,556**	**691**	**8**	**0.04**
	0.15 to < 0.25		**0.22**	**0.22**	**182,320**	**182,548**	**184**	**5**	**0.11**
	0.25 to < 0.50		**0.39**	**0.39**	**223,962**	**217,559**	**375**	**15**	**0.18**
	0.50 to < 0.75		**0.60**	**0.59**	**66,140**	**61,900**	**212**	**9**	**0.36**
	0.75 to < 2.50		**1.45**	**1.36**	**247,161**	**248,750**	**1,125**	**56**	**0.58**
	2.50 to < 10.00		**4.72**	**4.60**	**81,550**	**82,847**	**1,738**	**62**	**2.53**
	10.00 to < 100.00		**28.18**	**33.53**	**23,153**	**23,501**	**2,505**	**8**	**11.76**
Retail – residential mortgage exposures	0.00 to < 0.15		**0.09**	**0.10**	**47,802**	**53,736**	**10**	**-**	**0.02**
	0.15 to < 0.25		**0.18**	**0.17**	**31,174**	**28,272**	**18**	**-**	**0.03**
	0.25 to < 0.50		**0.34**	**0.34**	**226**	**171**	**-**	**-**	**0.09**
	0.50 to < 0.75		**0.52**	**0.52**	**8,306**	**9,141**	**8**	**-**	**0.21**
	0.75 to < 2.50		**0.95**	**0.97**	**15,347**	**15,140**	**13**	**-**	**0.23**
	2.50 to < 10.00		**4.75**	**4.72**	**3,356**	**3,461**	**17**	**-**	**1.14**
	10.00 to < 100.00		**14.94**	**14.94**	**3,048**	**3,049**	**58**	**-**	**7.89**
Retail – small business retail exposures	0.00 to < 0.15		**0.08**	**0.07**	**1,129**	**1,111**	**-**	**-**	**-**
	0.15 to < 0.25		**0.19**	**0.19**	**188**	**166**	**-**	**-**	**-**
	0.25 to < 0.50		**0.48**	**0.48**	**43**	**49**	**-**	**-**	**-**
	0.50 to < 0.75		**0.58**	**0.56**	**222**	**214**	**-**	**-**	**-**
	0.75 to < 2.50		**1.19**	**1.19**	**56**	**62**	**-**	**-**	**0.13**
	2.50 to < 10.00		**6.10**	**6.11**	**204**	**220**	**-**	**-**	**0.11**
	10.00 to < 100.00		-	-	**-**	**-**	**-**	**-**	**-**
Other retail exposures to individuals	0.00 to < 0.15		**0.07**	**0.08**	**14,384**	**14,284**	**3**	**-**	**0.01**
	0.15 to < 0.25		**0.20**	**0.20**	**12,085**	**11,956**	**8**	**-**	**0.08**
	0.25 to < 0.50		**0.41**	**0.39**	**7,974**	**8,341**	**12**	**-**	**0.21**
	0.50 to < 0.75		**0.55**	**0.52**	**22,698**	**22,414**	**59**	**4**	**0.36**
	0.75 to < 2.50		**1.57**	**1.61**	**26,138**	**25,660**	**198**	**24**	**0.95**
	2.50 to < 10.00		**4.67**	**4.90**	**26,491**	**26,122**	**700**	**81**	**2.97**
	10.00 to < 100.00		**15.82**	**16.60**	**7,347**	**7,463**	**693**	**21**	**11.14**

*** External rating equivalent is not applicable to retail exposures.*

Note:
The number of obligors is based on account level information for all retail IRB portfolios.

Counterparty credit risk exposures

Counterparty credit risk management

Counterparty credit risk ("CCR") arises for derivatives and SFTs. It is calculated in both the trading and non-trading books, and is the risk that a counterparty may default before settlement of the transaction. CCR is generated primarily in our wholesale global businesses.

The Bank uses current exposure method to calculate exposure value for CCR RWA. Under the approach, the EAD is calculated as current exposure plus regulatory add-ons.

The PFE measures used for CCR management are calibrated to the 95th percentile. The measures consider volatility, trade maturity and the counterparty legal documentation covering netting and collateral.

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

Credit valuation adjustment

CVA risk is the risk of adverse moves in the credit valuation adjustments taken for expected credit losses on derivative transactions. The Bank uses the standardised approach to calculate the CVA capital charge.

Collateral arrangements

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

Eligible 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.

Credit ratings downgrade

A credit rating downgrade clause in a Master Agreement or a credit rating downgrade threshold clause in a Credit Support Annex ("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 2019, the potential value of the additional collateral pertaining to International Swaps and Derivatives Association ("ISDA") CSA downgrade thresholds that we would need to post with counterparties in the event of a one-notch or two-notch downgrade of our rating was nil.

Wrong-way risk

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

There are two types of wrong-way risk.

– General wrong-way risk occurs when the probability of counterparty default is positively correlated with general risk factors, 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.

– 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 the Bank's perspective materially increases as the value of the counterparty's capital or financing instruments referenced in the contract decreases. It is the 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 Traded Risk functions are responsible for the control and monitoring process within an overarching HSBC framework and limit framework.

Central counterparties

While exchange traded derivatives have been cleared through Central counterparties ("CCP")'s for many years, recent regulatory initiatives designed to reduce systemic risk in the banking system are directing increasing volumes of over-the-counter ("OTC") derivatives to be cleared through CCPs.

A dedicated CCP risk team has been established by the HSBC to manage the interface with CCPs and undertake in-depth due diligence of the unique risks associated with these organisations. This is to address an implication of the regulations that the HSBC's risk will be transferred from being distributed among individual, bilateral counterparties to a significant level of risk concentration on CCPs. The HSBC has developed a risk appetite framework to manage risk accordingly, on an individual CCP and global basis. The Bank has adopted such risk appetite framework with limits allocated to individual CCP.

Table 41: 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 exposure ("EPE")**	**Alpha (α) used for computing default risk exposure**	**Default risk exposure after CRM**	**RWA**
As at 31 Dec 2019		**HK$m**	**HK$m**	**HK$m**		**HK$m**	**HK$m**
1	SA-CCR (for derivative contracts)	**-**	**-**		**1.4**	**-**	**-**
1a	CEM	**2,220**	**7,763**		**N/A**	**9,983**	**2,439**
2	IMM (CCR) approach			**-**	**-**	**-**	**-**
3	Simple Approach (for SFTs)					**-**	**-**
4	Comprehensive Approach (for SFTs)					**348**	**41**
5	VaR for SFTs					**-**	**-**
6	**Total**						**2,480**

Table 42: CCR2 – CVA capital charge

		a	b
		EAD post-CRM	**RWA**
As at 31 Dec 2019		**HK$m**	**HK$m**
	Netting sets for which CVA capital charge is calculated by the advanced CVA method	**-**	**-**
1	(i) VaR (after application of multiplication factor if applicable)		**-**
2	(ii) Stressed VaR (after application of multiplication factor if applicable)		**-**
3	Netting sets for which CVA capital charge is calculated by the standardised CVA method	**9,710**	**2,256**
4	**Total**	**9,710**	**2,256**

Table 43: CCR8 – Exposures to CCPs

		a	b
As at 31 Dec 2019		**Exposure after CRM HK$m**	**RWA HK$m**
1	**Exposures of the AI as clearing member or client to qualifying CCPs (total)**		**34**
2	Default risk exposures to qualifying CCPs (excluding items disclosed in rows 7 to 10), of which:	**1,024**	**21**
3	*(i) Over-the-counter ("OTC") derivative transactions*	***1,024***	***21***
4	*(ii) Exchange-traded derivative contracts*	-	-
5	*(iii) Securities financing transactions*	-	-
6	*(iv) Netting sets subject to valid cross-product netting agreements*	-	-
7	Segregated initial margin	-	
8	Unsegregated initial margin	**170**	**3**
9	Funded default fund contributions	**177**	**10**
10	Unfunded default fund contributions	-	-
11	**Exposures of the AI as clearing member or client to non-qualifying CCPs (total)**		-
12	Default risk exposures to non-qualifying CCPs (excluding items disclosed in rows 17 to 20), of which:	-	-
13	*(i) OTC derivative transactions*	-	-
14	*(ii) Exchange-traded derivative contracts*	-	-
15	*(iii) Securities financing transactions*	-	-
16	*(iv) Netting sets subject to valid cross-product netting agreements*	-	-
17	Segregated initial margin	-	
18	Unsegregated initial margin	-	-
19	Funded default fund contributions	-	-
20	Unfunded default fund contributions	-	-

Table 44: 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**
As at 31 Dec 2019		**Segregated HK$m**	**Unsegregated HK$m**	**Segregated HK$m**	**Unsegregated HK$m**	**HK$m**	**HK$m**
1	Cash – domestic currency	**-**	**1**	**-**	**64**	**-**	**-**
2	Cash – other currencies	**-**	**369**	**-**	**106**	**1,878**	**6,810**
3	Domestic sovereign debt	**-**	**-**	**-**	**-**	**-**	**-**
4	Other sovereign debt	**-**	**-**	**-**	**-**	**4,894**	**2,104**
5	Government agency debt	**-**	**-**	**-**	**-**	**-**	**-**
6	Corporate bonds	**-**	**-**	**-**	**-**	**1,794**	**-**
7	Equity securities	**-**	**-**	**-**	**-**	**-**	**-**
8	Other collateral	**-**	**-**	**-**	**-**	**-**	**-**
9	**Total**	**-**	**370**	**-**	**170**	**8,566**	**8,914**

Counterparty default risk under internal ratings-based approach

Table 45: 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
As at 31 Dec 2019	**EAD post-CRM**	**Average PD**	**Number of obligors**	**Average LGD**	**Average maturity**	**RWA**	**RWA density**
PD scale	**HK$m**	**%**		**%**	**years**	**HK$m**	**%**
Sovereign							
0.00 to < 0.15	-	-	-	-	-	-	-
0.15 to < 0.25	-	-	-	-	-	-	-
0.25 to < 0.50	-	-	-	-	-	-	-
0.50 to < 0.75	-	-	-	-	-	-	-
0.75 to < 2.50	-	-	-	-	-	-	-
2.50 to < 10.00	-	-	-	-	-	-	-
10.00 to < 100.00	-	-	-	-	-	-	-
100.00 (Default)	-	-	-	-	-	-	-
Sub-total	-	-	-	-	-	-	-
Bank							
0.00 to < 0.15	**8,417**	**0.05**	**104**	**34.8**	**1.60**	**1,140**	**14**
0.15 to < 0.25	**334**	**0.22**	**10**	**43.2**	**0.84**	**127**	**38**
0.25 to < 0.50	**399**	**0.37**	**6**	**45.0**	**1.01**	**232**	**58**
0.50 to < 0.75	**34**	**0.63**	**3**	**45.0**	**1.00**	**26**	**77**
0.75 to < 2.50	-	-	-	-	-	-	-
2.50 to < 10.00	**4**	**4.20**	**1**	**45.0**	**1.00**	**6**	**149**
10.00 to < 100.00	-	-	-	-	-	-	-
100.00 (Default)	-	-	-	-	-	-	-
Sub-total	**9,188**	**0.07**	**124**	**35.6**	**1.54**	**1,531**	**17**
Corporates							
0.00 to < 0.15	**373**	**0.08**	**27**	**45.8**	**3.62**	**132**	**35**
0.15 to < 0.25	**56**	**0.22**	**12**	**54.3**	**1.10**	**27**	**49**
0.25 to < 0.50	**20**	**0.37**	**13**	**50.7**	**1.03**	**10**	**50**
0.50 to < 0.75	**51**	**0.63**	**11**	**51.9**	**1.01**	**34**	**68**
0.75 to < 2.50	**423**	**1.52**	**51**	**58.5**	**1.87**	**516**	**122**
2.50 to < 10.00	**40**	**3.62**	**7**	**53.2**	**1.19**	**56**	**140**
10.00 to < 100.00	-	-	-	-	-	-	-
100.00 (Default)	-	-	-	-	-	-	-
Sub-total	**963**	**0.90**	**121**	**52.6**	**2.41**	**775**	**80**
Retail							
0.00 to < 0.15	-	-	-	-	-	-	-
0.15 to < 0.25	-	-	-	-	-	-	-
0.25 to < 0.50	-	-	-	-	-	-	-
0.50 to < 0.75	-	-	-	-	-	-	-
0.75 to < 2.50	-	-	-	-	-	-	-
2.50 to < 10.00	-	-	-	-	-	-	-
10.00 to < 100.00	-	-	-	-	-	-	-
100.00 (Default)	-	-	-	-	-	-	-
Sub-total	-	-	-	-	-	-	-
Total (sum of all portfolios)	**10,151**	**0.15**	**245**	**37.2**	**1.62**	**2,306**	**23**

Note:
Details on the scope of models and percentage of RWA covered by models for each of the regulatory portfolios can be found in the "Credit risk under internal ratings-based approach" section of this document.

The Group has not used IMM(CCR) approach to calculate its default risk exposure.

Counterparty default risk under standardised approach

Table 46: CCR3 – Counterparty default risk exposures (other than those to CCPs) by asset classes and by risk weights – for STC approach

	As at 31 Dec 2019	a	b	c	ca	d	e	f	g	ga	h	i
	Risk weight	**0%**	**10%**	**20%**	**35%**	**50%**	**75%**	**100%**	**150%**	**250%**	**Others**	**Total default risk exposure after CRM**
		HK$m	**HK$m**	**HK$m**	**HK$m**	**HK$m**	**HK$m**	**HK$m**	**HK$m**	**HK$m**	**HK$m**	**HK$m**
	Exposure class											
1	Sovereign exposures	-	-	-	-	-	-	-	-	-	-	-
2	PSE exposures	-	-	-	-	-	-	-	-	-	-	-
2a	*Of which: Domestic PSEs*	-	-	-	-	-	-	-	-	-	-	-
2b	*Of which: Foreign PSEs*	-	-	-	-	-	-	-	-	-	-	-
3	Multilateral development bank exposures	-	-	-	-	-	-	-	-	-	-	-
4	Bank exposures	-	-	-	-	-	-	-	-	-	-	-
5	Securities firm exposures	-	-	-	-	-	-	-	-	-	-	-
6	Corporate exposures	-	-	-	-	-	-	**154**	-	-	-	**154**
7	CIS exposures	-	-	-	-	-	-	-	-	-	-	-
8	Regulatory retail exposures	-	-	-	-	-	**25**	-	-	-	-	**25**
9	Residential mortgage loans	-	-	-	-	-	-	-	-	-	-	-
10	Other exposures which are not past due exposures	-	-	-	-	-	-	-	-	-	-	-
11	Significant exposures to commercial entities	-	-	-	-	-	-	-	-	-	-	-
12	**Total**	-	-	-	-	-	**25**	**154**	-	-	-	**179**

Market risk

Overview and governance

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

Exposure to market risk is separated into two portfolios:

– Trading portfolios comprise positions arising from market-making.

– Non-trading portfolios comprise positions that primarily arise from the interest rate management of our retail and commercial banking assets and liabilities, and financial investments measured at fair value through other comprehensive income.

The diagram below illustrates the major trading and non-trading market risk types and market risk measures used to monitor and limit exposures.

	Trading Risk	Non-Trading Risk
Risk Type	- Foreign exchange & Commodities - Interest rates - Credit spreads	- Structural foreign exchange - Interest rates - Credit spreads
Risk Measure	VaR / Sensitivity / Stress testing	VaR / Sensitivity / Stress testing

Where appropriate, the Group applies similar risk management policies and measurement techniques to both trading and non-trading portfolios. The Group's objective is to manage and control market risk exposures in order to optimise return on risk while maintaining a market profile consistent with the established risk appetite.

The nature of the hedging and risk mitigation strategies range from the use of traditional market instruments, such as interest rate swaps, to more sophisticated hedging strategies to address a combination of risk factors arising at portfolio level.

Market risk governance

Market risk is managed and controlled through limits approved by the Group's Chief Risk Officer, noting the support of RMM. These limits are allocated across business lines and to the Group's legal entities, including Hang Seng Bank (China) Limited.

Each major operating entity has an independent market risk management and control function which is responsible for measuring market risk exposures in accordance with the policies defined by Group Risk, and monitoring and reporting these exposures against the prescribed limits on a daily basis. Each operating entity is required to assess the market risks arising on each product in its business and to transfer them to either its Global Markets for management, or to separate books managed under the supervision of the Asset and Liability Management Committee ("ALCO").

Our aim is to ensure that all market risks are consolidated within operations that have the necessary skills, tools, management and governance to manage them. In certain cases where the market risks cannot be fully transferred, we identify the impact of varying scenarios on valuations or on net interest income resulting from any residual risk positions.

The Wholesale Credit and Traded Risk Models Oversight Committee ("WCMR MOC") is a formal governance committee established to provide oversight on model risk management related matters for traded risk models used in the region. The WCMR MOC is responsible for overseeing, monitoring, and escalating model risk management related matters within Traded risk. It supports accountable individual model approvers in the oversight of model risk. The WCMR MOC reports into the Group’s RMM, which oversees all risk types at Group level.

Our control of market risk in the trading and non-trading portfolios is based on a policy of restricting trading within a list of permissible instruments authorised for each business lines, of enforcing new product approval procedures, and of restricting trading in the more complex derivative products only to business lines with appropriate levels of product expertise and robust control systems.

Market risk measures

Monitoring and limiting market risk exposures

The Group's objective is to manage and control market risk exposures while maintaining a market profile consistent with the Group's risk appetite. The Group uses a range of tools to monitor and limit market risk exposures including sensitivity analysis, VaR, and stress testing.

Sensitivity analysis

The Group uses sensitivity measures to monitor the market risk positions within each risk type. Sensitivity limits are set for portfolios, products and risk types, with the depth of the market being one of the principal factors in determining the level of limits set.

VaR

VaR is a technique that estimates the potential losses on risk positions 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 integrated into market risk management and is calculated for all trading positions regardless of how the Group capitalises those exposures. Where there is no approved internal model, the Group uses the appropriate local rules to capitalise exposures.

In addition, the Group calculates VaR for non-trading portfolios in order to have a complete picture of market risk. Where VaR is not calculated explicitly, the Group uses alternative tools as summarised in the 'Stress testing' section below.

The Group's VaR models derive plausible future scenarios from past series of recorded market rates and prices, taking into account interrelationships between different markets and rates such as interest rates and foreign exchange rates. The models use a mixed approach when applying changes in market rates and prices:

– For equity, credit and foreign exchange risk factors, the potential movements are typically represented 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.

The Group uses the past two years as the data set in our VaR models, which is updated on a fortnightly basis and these scenarios are then applied to the market baselines and trading positions on a daily basis. The models also incorporate the effect of option features on the underlying exposures.

The valuation approach used in our models values:
– non-linear instruments using a full revaluation approach; and
– linear instruments, such as bonds and swaps, using a sensitivity based approach.

The nature of the VaR models 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 should always be viewed in the context 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 holding period assumes that all positions can be liquidated or the risks offset during that period. This may not fully reflect the market risk arising at times of severe illiquidity, when the holding period may be insufficient to liquidate or hedge all positions fully;

– 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 the close of business and therefore does not necessarily reflect intra-day exposures.

Risk not in VaR ("RNIV") framework

The risks not in VaR (‘RNIV’) framework aims to capture and capitalise material market risks that are not adequately covered in the VaR model.

Risk factors are reviewed on a regular basis and either incorporated directly in the VaR models, where possible, or quantified through either the VaR-based RNIV approach or a stress test approach within the RNIV framework.

Backtesting

The Group routinely validates the accuracy of the VaR models by back-testing both actual and hypothetical profit and loss against the trading VaR numbers. 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. VaR backtesting is performed at Group consolidated and solo levels, including entities that do not have local permission to use VaR for regulatory purposes.

Stress testing

Stress testing is an important tool that is integrated into the Group's market risk management tool to evaluate the potential impact on portfolio values of more extreme, although plausible, events or movements in a set of financial variables. In such abnormal scenarios, losses can be much greater than those predicted by VaR modelling.

Stress testing is implemented at the legal entity and the overall Group levels. Scenarios are tailored in order to capture the relevant events or market movements. A scoring framework is in place for management to effectively assess the severity of the potential stress losses and the likelihood of occurrence of the stress scenarios. The risk appetite around potential stress losses for the Group is set and monitored against referral limits.

Market risk reverse stress tests are undertaken based upon the premise that there is a fixed loss. The stress test process identifies which scenarios lead to this loss. The rationale behind the reverse stress test is to understand scenarios which are beyond normal business settings that could have contagion and systemic implications.

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

Stressed VaR and stress testing, together with reverse stress testing, provide management with insights regarding the "tail risk" beyond VaR for which the Group appetite is limited.

Market risk capital models

There are a number of measures that the Group has permission to use in calculating regulatory capital, which are listed below.

For regulatory purposes, the trading book comprises all positions in financial instruments and commodities that are held with trading intent, which are taken with the intention of benefiting from short-term gains or positions where it can be demonstrated that they hedge positions in the trading book.

Positions in the trading book are subject to market risk-based rules, i.e. market risk capital, computed using regulatory approved models. Otherwise, the market risk capital is calculated using the Standardised approach.

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

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 for the following:

– 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;
– 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.

Using the standard templates as specified by the HKMA, the following tables provide detailed information relating to market risk under STM and IMM approaches.

Market risk under standardised approach

Table 47: MR1 – Market risk under STM approach

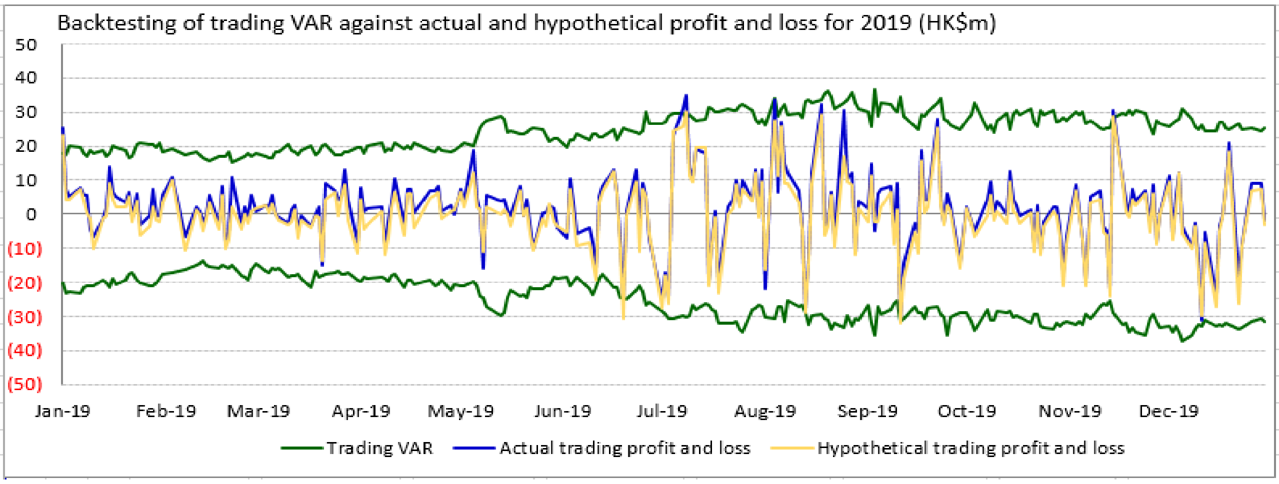
		a
		RWA
	As at 31 Dec 2019	**HK$m**
	Outright product exposures	
1	Interest rate exposures (general and specific risk)	**101**
2	Equity exposures (general and specific risk)	-
3	Foreign exchange (including gold) exposures	-
4	Commodity exposures	-
	Option exposures	
5	Simplified approach	-
6	Delta-plus approach	-
7	Other approach	-
8	Securitisation exposures	-
9	**Total**	**101**

Analysis of VaR, stressed VaR and incremental risk charge measures

Table 48: MR3 – IMM approach values for market risk exposures

		a
		Value
As at 31 Dec 2019		**HK$m**
VaR (10 days – one-tailed 99% confidence interval)		
1	Maximum Value	**117**
2	Average Value	**80**
3	Minimum Value	**43**
4	Period End	**103**
Stressed VaR (10 days – one-tailed 99% confidence interval)		
5	Maximum Value	**400**
6	Average Value	**139**
7	Minimum Value	**56**
8	Period End	**122**
IRC (99.9% confidence interval)		
9	Maximum value	**-**
10	Average value	**-**
11	Minimum value	**-**
12	Period end	**-**
CRC (99.9% confidence interval)		
13	Maximum value	**-**
14	Average value	**-**
15	Minimum value	**-**
16	Period end	**-**
17	Floor	**-**

Table 49: MR4 – Comparison of VaR estimates with gains or losses



In 2019, there were four profit exceptions and two loss exceptions at the Group consolidated level.

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 ("close out") uncertainty, model risk, concentration, administration cost, unearned credit spreads and investing and funding costs.

Table 50: PV1 – Prudent valuation adjustments

		a	b	c	d	e	f	g	h
		Equity	**Interest rates**	**FX**	**Credit**	**Commo-dities**	**Total**	**Of which: In the trading book**	**Of which: In the banking book**
As at 31 Dec 2019		**HK$m**	**HK$m**	**HK$m**	**HK$m**	**HK$m**	**HK$m**	**HK$m**	**HK$m**
1	Close-out uncertainty	**43**	**94**	**3**	**1**	**-**	**141**	**16**	**125**
	-for which:								
2	*Mid-market value*	***43***	***64***	***3***	***1***	***-***	***111***	***11***	***100***
3	*Close-out costs*	***-***	***11***	***-***	***-***	***-***	***11***	***4***	***7***
4	*Concentration*	***-***	***19***	***-***	***-***	***-***	***19***	***1***	***18***
5	Early termination	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
6	Model risk	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
7	Operational risks	**4**	**8**	**-**	**-**	**-**	**12**	**2**	**10**
8	Investing and funding costs	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
9	Unearned credit spreads	**-**	**2**	**-**	**-**	**-**	**2**	**2**	**-**
10	Future administrative costs	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
11	Other adjustments	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
12	**Total adjustments**	**47**	**104**	**3**	**1**	**-**	**155**	**20**	**135**

Note:
The numbers above represent negative valuation adjustments for assets measured at fair value.

Liquidity information

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 51: LIQA – LCRs and NSFRs on three liquidity reporting bases

	LCR	NSFR
As at 31 Dec 2019	**%**	**%**
Hong Kong Office	**213.2**	**151.3**
Unconsolidated	**208.2**	**149.9**
Consolidated	**205.9**	**149.1**

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 is set out in the "Liquidity and funding risk" section on pages 78 to 83 of the Group's 2019 Annual Report. The balance sheet items, broken down into maturity buckets are disclosed in note 21 "Maturity Analysis of assets and liabilities" on the consolidated financial statements in the Group's 2019 Annual Report.

The Group is required to calculate its LCR on a consolidated basis in accordance with rule 11(1) of the BLR and to maintain an LCR of not less than 100% from 1 January 2019.

Table 52: Average liquidity coverage ratio

	Quarter ended
	31 Dec 2019
	%
Average liquidity coverage ratio	**201.8**

In accordance with the BLR, the NSFR was implemented in Hong Kong with effect from 1 January 2018. The Group is required to calculate its NSFR on a consolidated basis and maintain a NSFR of not less than 100%.

The liquidity position and funding position of the Group remained strong and stable in 2019. The average LCR ranged from 198.5% to 210.8% for the reportable quarters.

The composition of the Group's high quality liquid assets ("HQLA") as defined under Schedule 2 of the BLR is shown as below. The majority of the HQLA held by the Group are Level 1 assets which comprise mainly of government debt securities.

Table 53: Total weighted amount of high quality liquid assets

	Weighted value (average) for the quarter ended
	31 Dec 2019
	HK$m
Level 1 assets	**309,019**
Level 2A assets	**14,257**
Level 2B assets	**758**
Total weighted amount of HQLA	**324,034**

Sources of funding

Our primary sources of funding are customer deposits. We issue wholesale securities to supplement our customer deposits and change the currency mix or maturity profile of our liabilities.

Currency mismatch

In times of stress it cannot automatically be assumed that one currency can always be converted for another, even if those currencies are "hard" currencies. LCR is therefore assessed by single currency for those that are material. In some currencies, convertibility is restricted by regulators and central banks and this restriction results in local currency not being convertible offshore or even onshore. All operating entities are required to monitor material single currency LCR. Limits are approved and monitored by local ALCO.

Additional contractual obligations

Most of the Group's derivative transactions are exchange rate contracts and interest rate contracts. Under the terms of our current collateral obligations under derivative contracts (which are ISDA compliant CSA contracts), in the event of one-notch and two-notch downgrade in credit ratings, the additional collateral required to post is nil.

A summary of the Group's current policies and practices for the management of liquidity and funding risk is set out in "Liquidity and funding risk" section on pages 78 to 83 of the Group's 2019 Annual Report.

The following table sets out the required disclosure items under the Liquidity Coverage Ratio Standard Disclosure Template as specified by the HKMA. Number of data points used in calculating the average value of the LCR and related components set out in this table for the quarter ended on 31 December 2019 was 75.

Table 54: LIQ1 – Liquidity coverage ratio – for category 1 institution

		Quarter ended 31 Dec 2019 (75 data points)	
		a	b
	Basis of disclosure: consolidated	**Unweighted value (average) HK$m**	**Weighted value (average) HK$m**
A	**High quality liquid assets**		
1	Total high quality liquid assets ("HQLA")		**324,034**
B	**Cash outflows**		
2	Retail deposits and small business funding, of which:	**854,053**	**70,104**
3	*Stable retail deposits and stable small business funding*	***218,586***	***6,557***
4	*Less stable retail deposits and less stable small business funding*	***635,467***	***63,547***
4a	*Retail term deposits and small business term funding*	***-***	***-***
5	Unsecured wholesale funding (other than small business funding) and debt securities and prescribed instruments issued by the institution, of which:	**276,448**	**129,010**
6	*Operational deposits*	***25,142***	***5,710***
7	*Unsecured wholesale funding (other than small business funding) not covered in Row 6*	***248,928***	***120,922***
8	*Debt securities and prescribed instruments issued by the institution and redeemable within the LCR period*	***2,378***	***2,378***
9	Secured funding transactions (including securities swap transactions)		**-**
10	Additional requirements, of which:	**76,488**	**10,738**
11	*Cash outflows arising from derivative contracts and other transactions, and additional liquidity needs arising from related collateral requirements*	***2,838***	***2,838***
12	*Cash outflows arising from obligations under structured financing transactions and repayment of funding obtained from such transactions*	***882***	***882***
13	*Potential drawdown of undrawn committed facilities (including committed credit facilities and committed liquidity facilities)*	***72,768***	***7,018***
14	Contractual lending obligations (not otherwise covered in Section B) and other contractual cash outflows	**18,537**	**18,537**
15	Other contingent funding obligations (whether contractual or non-contractual)	**448,025**	**1,972**
16	Total cash outflows		**230,361**
C	**Cash inflows**		
17	Secured lending transactions (including securities swap transactions)	**3,717**	**473**
18	Secured and unsecured loans (other than secured lending transactions covered in Row 17) and operational deposits placed at other financial institutions	**96,726**	**53,680**
19	Other cash inflows	**23,122**	**14,724**
20	Total cash inflows	**123,565**	**68,877**
D	**Liquidity coverage ratio (adjusted value)**		
21	Total HQLA		**324,034**
22	Total net cash outflows		**161,484**
23	LCR (%)		**201.8%**

Table 55: LIQ2 – Net stable funding ratio – for category 1 institution

		Quarter ended 31 Dec 2019				
		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:	**157,646**	**-**	**-**	**-**	**157,646**
2	*Regulatory capital*	***157,646***	***-***	***-***	***-***	***157,646***
2a	*Minority interests not covered by row 2*	-	-	-	-	-
3	*Other capital instruments*	-	-	-	-	-
4	Retail deposits and small business funding:	**-**	**866,582**	**-**	**-**	**790,880**
5	*Stable deposits*		***219,128***	***-***	***-***	***208,172***
6	*Less stable deposits*		***647,454***	***-***	***-***	***582,708***
7	Wholesale funding:	**-**	**403,292**	**5,387**	**177**	**163,866**
8	*Operational deposits*		***20,454***	***-***	***-***	***10,227***
9	*Other wholesale funding*	***-***	***382,838***	***5,387***	***177***	***153,639***
10	Liabilities with matching interdependent assets	-	-	-	-	-
11	Other liabilities:	**24,564**	**31,105**	**6,652**	**21,735**	**25,061**
12	*Net derivative liabilities*	***8***				
13	*All other funding and liabilities not included in the above categories*	***24,556***	***31,105***	***6,652***	***21,735***	***25,061***
14	**Total ASF**					**1,137,453**
B.	**Required stable funding ("RSF") item**					
15	Total HQLA for NSFR purposes		**358,490**			**10,767**
16	Deposits held at other financial institutions for operational purposes	-	-	-	-	-
17	Performing loans and securities:	**40,252**	**270,202**	**96,867**	**654,414**	**680,988**
18	*Performing loans to financial institutions secured by Level 1 HQLA*	***-***	***4,865***	***-***	***-***	***486***
19	*Performing loans to financial institutions secured by non-Level 1 HQLA and unsecured performing loans to financial institutions*	***6***	***57,716***	***4,477***	***8,630***	***19,532***
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:*	***36,533***	***170,061***	***74,151***	***358,162***	***457,117***
21	*With a risk-weight of less than or equal to 35% under the STC approach*	***28***	***4,503***	***85***	***2,343***	***3,828***
22	*Performing residential mortgages, of which:*	***-***	***7,078***	***7,765***	***278,477***	***194,471***
23	*With a risk-weight of less than or equal to 35% under the STC approach*	***-***	***5,972***	***5,928***	***248,278***	***167,331***
24	*Securities that are not in default and do not qualify as HQLA, including exchange-traded equities*	***3,713***	***30,482***	***10,474***	***9,145***	***9,382***
25	Assets with matching interdependent liabilities	-	-	-	-	-
26	Other assets:	**74,491**	**17,388**	**38**	**1,367**	**67,407**
27	*Physical traded commodities, including gold*	***9,394***				***7,985***
28	*Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs*	***1,363***				***1,158***
29	*Net derivative assets*	***-***				***-***
30	*Total derivative liabilities before deduction of variation margin posted*	***2,610***				***N/A***
31	*All other assets not included in the above categories*	***61,124***	***17,388***	***38***	***1,367***	***58,264***
32	Off-balance sheet items			**520,492**		**3,655**
33	**Total RSF**					**762,817**
34	**Net Stable Funding Ratio (%)**					**149.1%**

BANKING DISCLOSURE STATEMENT *(unaudited) (continued)*

Table 55: LIQ2 – Net stable funding ratio – for category 1 institution (continued)

	Basis of disclosure: consolidated	Quarter ended 30 Sep 2019				
		Unweighted value by residual maturity				
		No specified term to maturity	<6 months or repayable on demand	6 months to < 12 months	12 months or more	Weighted amount
		HK$m	HK$m	HK$m	HK$m	HK$m
A.	**Available stable funding (“ASF”) item**					
1	Capital:	153,953	-	-	-	153,953
2	*Regulatory capital*	*153,953*	-	-	-	*153,953*
2a	*Minority interests not covered by row 2*	-	-	-	-	-
3	*Other capital instruments*	-	-	-	-	-
4	Retail deposits and small business funding:	-	856,326	-	-	781,690
5	*Stable deposits*		*219,917*	-	-	*208,922*
6	*Less stable deposits*		*636,409*	-	-	*572,768*
7	Wholesale funding:	-	373,284	4,729	787	154,874
8	*Operational deposits*		*23,222*	-	-	*11,611*
9	*Other wholesale funding*	-	*350,062*	*4,729*	*787*	*143,263*
10	Liabilities with matching interdependent assets	-	-	-	-	-
11	Other liabilities:	22,939	34,773	7,825	21,462	25,374
12	*Net derivative liabilities*	-				
13	*All other funding and liabilities not included in the above categories*	*22,939*	*34,773*	*7,825*	*21,462*	*25,374*
14	**Total ASF**					1,115,891
B.	**Required stable funding (“RSF”) item**					
15	Total HQLA for NSFR purposes		336,488			10,287
16	Deposits held at other financial institutions for operational purposes	-	-	-	-	-
17	Performing loans and securities:	39,341	254,853	107,639	648,113	673,989
18	*Performing loans to financial institutions secured by Level 1 HQLA*	-	*2,913*	-	-	*291*
19	*Performing loans to financial institutions secured by non-Level 1 HQLA and unsecured performing loans to financial institutions*	*8*	*69,046*	*2,927*	*6,804*	*18,632*
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:*	*36,099*	*153,353*	*85,759*	*351,427*	*448,410*
21	*With a risk-weight of less than or equal to 35% under the STC approach*	*28*	*4,473*	*81*	*2,649*	*4,009*
22	*Performing residential mortgages, of which:*	-	*6,818*	*7,603*	*280,026*	*197,049*
23	*With a risk-weight of less than or equal to 35% under the STC approach*	-	*5,812*	*5,748*	*240,917*	*162,376*
24	*Securities that are not in default and do not qualify as HQLA, including exchange-traded equities*	*3,234*	*22,723*	*11,350*	*9,856*	*9,607*
25	Assets with matching interdependent liabilities	-	-	-	-	-
26	Other assets:	71,440	17,499	37	1,073	63,247
27	*Physical traded commodities, including gold*	*6,679*				*5,677*
28	*Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs*	*1,458*				*1,239*
29	*Net derivative assets*	*466*				*466*
30	*Total derivative liabilities before deduction of variation margin posted*	*3,641*				*N/A*
31	*All other assets not included in the above categories*	*59,196*	*17,499*	*37*	*1,073*	*55,865*
32	Off-balance sheet items			520,813		3,655
33	**Total RSF**					751,178
34	**Net Stable Funding Ratio (%)**					148.6%

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 Balance Sheet Management ("BSM") to manage, in accordance with internal transfer pricing rules. In its management of IRRBB, the group aims to balance mitigating the effect of future interest rate movements which could reduce net interest income against the cost of hedging. The monitoring of the projected net interest income and economic value of equity ("EVE") sensitivity under varying interest rate scenarios is a key part of this.

Governance and structure

The Group's Asset, Liability and Capital Management ("ALCM") monitor and control non-traded interest rate risk. This includes reviewing and challenging the business prior to the release of new products and in respect of proposed behavioural assumptions used for hedging activities. ALCM are also responsible for maintaining and updating the transfer pricing framework, informing the ALCO of the Group's overall banking book interest rate risk exposure and managing the balance sheet in conjunction with BSM.

The ALCO defines each operating entity's transfer pricing curve, 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 have to be formulated in line with the HSBC Group's behaviouralisation policies and approved at least annually by local ALCOs. Non-traded assets and liabilities are transferred to BSM based on their repricing and maturity characteristics.

BSM manages the banking book interest rate positions transferred to it within the Market Risk limits approved by RMM.

Sensitivity of economic value of equity

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

Sensitivity of net interest income

Net interest income ("NII") Sensitivity is the sensitivity of expected net interest income under varying interest rate scenarios, where all other economic variables are held constant. Sensitivity of net interest income reflects the authorised institution's ("AI") 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 an earnings is assessed over the next 12 months if the interest rates change by prescribed interest rate shock scenarios as per HKMA.

The EVE and NII sensitivity shown in the quantitative disclosures are indicative and based on scenarios and assumptions prescribed by HKMA under completion instruction for the Return of Interest Rate Risk in the banking book - (MA(BS)12A), which is completed and reported quarterly on consolidated basis.

Key modelling and parametric assumptions used in calculating ΔEVE and ΔNII in table 56 includes:

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

ii. 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

iii. no prepayment or early redemption risk assumed as AI does not have material long term fixed rate positions, majority of the loans are on a floating basis and average term for fixed rate deposits is one to three months therefore the risk is immaterial

The Group uses internal measurement system ("IMS")* to generate EVE metric for purposes of internal assessment of capital adequacy which are different from the modelling assumptions prescribed for this disclosure, however they do not contribute to any material directional implications, this includes:

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

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

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

   c. 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 reinvestment tenors available to BSM 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.

ii. internal measurement consider aggregated results of all currencies and not only material currencies as prescribed by HKMA under completion instruction for the Return of Interest Rate Risk in the banking book - (MA(BS)12A);

iii. 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

iv. economic value gains weighted 50% and losses weighted 100% under internal measurement unlike modelling assumptions for this disclosure where economic value gains weights 0%.

**IMS follows European Banking Authority ("EBA") EVE methodology which is a group wide metrics for the purpose of internal assessment of capital adequacy.*

Average and longest repricing maturity for non-maturity deposits ("NMDs") in 2019 was 1 day.

Table 56: IRRBB1 – Quantitative information on interest rate risk in banking book

		a	b	c	d
		ΔEVE		ΔNII	
		31 Dec 2019	31 Dec 2018[1]	**31 Dec 2019**	31 Dec 2018[1]
		HK$m	HK$m	**HK$m**	HK$m
1	Parallel up	**2,828**	N/A	**(121)**	N/A
2	Parallel down	**-**	N/A	**12**	N/A
3	Steepener	**-**	N/A		
4	Flattener	**1,579**	N/A		
5	Short rate up	**2,398**	N/A		
6	Short rate down	**-**	N/A		
7	Maximum	**2,828**	N/A	**12**	N/A
	Period	**31 Dec 2019**		31 Dec 2018[1]	
8	Tier 1 capital	**123,304**		N/A	

1 The prior period information is not available as the new local IRRBB framework (in accordance with the HKMA Supervisory Policy Manual IR-1) was implemented on 1 July 2019.

The worst scenario for change in the economic value of equity is "Parallel up". The major contributors to the sensitivity is from the net gap positions for HKD, USD, CNY and AUD currencies.

The worst scenario for change in the net interest income over the next twelve months is "Parallel down". The asymmetry between scenarios, ‘parallel up’ and ‘parallel down’, is due to flooring at -2% as prescribed by the HKMA.

Mainland activities exposures

The analysis of mainland activities exposures is based on the categories of non-bank counterparties and the type of direct exposures defined by the HKMA "Return of Mainland Activities - (MA(BS)20)". This includes the mainland activities exposures extended by the Bank's Hong Kong offices and its wholly owned banking subsidiary in mainland China.

Table 57: Mainland activities exposures

As at 31 Dec 2019		On-balance sheet exposure HK$m	Off-balance sheet exposure HK$m	Total exposures HK$m
Type of Counterparties				
1	Central government, central government-owned entities and their subsidiaries and joint ventures ("JVs")	**51,548**	**4,794**	**56,342**
2	Local governments, local government-owned entities and their subsidiaries and JVs	**21,761**	**4,041**	**25,802**
3	PRC nationals residing in Mainland China or other entities incorporated in Mainland China and their subsidiaries and JVs	**96,506**	**25,174**	**121,680**
4	Other entities of central government not reported in item 1 above	**9,401**	**937**	**10,338**
5	Other entities of local governments not reported in item 2 above	**3,657**	**9**	**3,666**
6	PRC nationals residing outside Mainland China or entities incorporated outside Mainland China where the credit is granted for use in Mainland China	**33,996**	**1,231**	**35,227**
7	Other counterparties where the exposures are considered by the reporting institution to be non-bank Mainland China exposures	**13,528**	**349**	**13,877**
Total		**230,397**	**36,535**	**266,932**
Total assets after provision		**1,532,680**		
On-balance sheet exposures as percentage of total assets		**15.03%**		

On-balance sheet exposures as percentage of total assets remained stable as compared with 30 June 2019.

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 58: International claims

As at 31 Dec 2019	Banks HK$m	Official Sector HK$m	Non Bank Financial Institution HK$m	Non-Financial Private Sector HK$m	Others HK$m	Total HK$m
Developed countries	**39,796**	**62,862**	**16,248**	**57,475**	**-**	**176,381**
Offshore centres	**10,732**	**11,680**	**4,698**	**120,059**	**-**	**147,169**
of which : Hong Kong SAR	**9,794**	**865**	**4,297**	**101,101**	**-**	**116,057**
Developing Asia and Pacific	**66,265**	**17,260**	**15,013**	**74,726**	**-**	**173,264**
of which : China	**42,419**	**17,215**	**13,949**	**68,026**	**-**	**141,609**

At 31 December 2019, only claims on Hong Kong SAR and China were the individual countries and territories or areas, which were not less than 10% of the Group's total international claims.

Foreign exchange exposure

The Group's structural foreign exchange exposure, monitored using sensitivity analysis, represents the Group's foreign currency investments in subsidiaries, branches and associates, and the fair value of the Group's long-term foreign currency equity investments, the functional currencies of which are currencies other than the HK dollar. An entity's functional currency is normally that of the primary economic environment in which the entity operates. The Group's structural foreign exchange exposures are managed by the Group's ALCO with the primary objective of ensuring, where practical, that the Group's and the Bank's capital ratios are largely protected from the effect of changes in exchange rates.

Exchange differences on structural exposures are recognised in 'Other comprehensive income'.

The Group's foreign exchange exposures in the table below are prepared in accordance with the HKMA "Return of Foreign Currency Position - (MA(BS)6)".

At 31 December 2019, the USD and RMB were the currencies in which the Group had non-structural foreign currency positions that were not less than 10% of the total net position in all foreign currencies. The Group also had a RMB structural foreign currency position, which was not less than 10% of the total net structural position in all foreign currencies. The net options position is calculated on the basis of delta-weighted positions of all foreign exchange options contracts.

The table below summarise the net structural and non-structural foreign currency positions of the Group.

Table 59: Foreign exchange exposure

As at 31 Dec 2019	**USD HK$m**	**RMB HK$m**	**Other foreign currencies HK$m**	**Total foreign currencies HK$m**
Non-structural position				
Spot assets	**221,783**	**128,093**	**129,478**	**479,354**
Spot liabilities	**(219,758)**	**(129,964)**	**(73,430)**	**(423,152)**
Forward purchases	**408,227**	**170,930**	**22,942**	**602,099**
Forward sales	**(406,473)**	**(169,837)**	**(78,552)**	**(654,862)**
Net options position	**-**	**(80)**	**142**	**62**
Net long/(short) non-structural position	**3,779**	**(858)**	**580**	**3,501**
Structural position	**-**	**16,319**	**1,372**	**17,691**

Other information

Abbreviations

A	
AI	Authorised institution
ALCM	Asset, Liability and Capital Management
ALCO	Asset and Liability Management Committee
ASF	Available stable funding
AT1	Additional tier 1
AUD	Australian dollar
AVAs	Additional valuation adjustments
B	
Bank	Hang Seng Bank Limited
BCBS	Basel Committee on Banking Supervision
BCR	Banking (Capital) Rules
BDR	Banking (Disclosure) Rules
BLR	Banking (Liquidity) Rules
BSC	Basic approach
BSM	Balance Sheet Management
C	
CCF	Credit conversion factor
CCP	Central counterparty
CCR	Counterparty credit risk
CCyB	Countercyclical capital buffer
CEM	Current exposure method
CET1	Common equity tier 1
CF	Commodities finance
CIS	Collective investment scheme
CNH	Offshore Chinese Yuan
CNY	Onshore Chinese Yuan
CRC	Comprehensive risk charge
CRM	Credit risk mitigation
CSA	Credit support annex
CVA	Credit valuation adjustment
D	
D-SIB	Domestic systemically important authorised institution
DTAs	Deferred tax assets
E	
EAD	Exposure at default
EBA	European Banking Authority
ECAI	External Credit Assessment Institution
ECL	Expected Credit Loss
EL	Expected loss
EPE	Expected positive exposure
EVE	Economic value of equity
F	
FBA	Fall-back approach
FIRO	Financial Institutions (Resolution) Ordinance
FSB	Financial Stability Board
FX	Foreign Exchange
G	
G-SIB	Global systemically important authorised institution
Group	Hang Seng Bank Limited together with its subsidiaries
H	
HK$bn	Billions (thousands of millions) of Hong Kong dollars
HK$m	Millions of Hong Kong dollars
HKD	Hong Kong dollar
HKMA	Hong Kong Monetary Authority
HKFRS	Hong Kong Financial Reporting Standards
Hong Kong SAR	The Hong Kong Special Administrative Region of the People's Republic of China
HSBC	HSBC Holdings together with its subsidiary undertakings
HQLA	High quality liquid assets

I	
IAA	Internal assessment approach
IMM	Internal models approach
IMM(CCR)	Internal models (counterparty credit risk) approach
IMS	Internal measurement system
IPRE	Income-producing real estate
IRB	Internal ratings-based approach
IRC	Incremental risk charge
IRRBB	Interest rate risk in the banking book
ISDA	International Swaps and Derivatives Association
J	
J	Jurisdiction
JVs	Joint ventures
L	
LAC	Loss-absorbing capacity
LAC Rules	Financial Institutions (Resolution) (Loss-absorbing Capacity Requirements - Banking Sector) Rules
LCR	Liquidity coverage ratio
LGD	Loss given default
LR	Leverage ratio
LTA	Look through approach
M	
MBA	Mandate-based approach
MOC	Model Oversight Committee
MSRs	Mortgage servicing rights
N	
N/A	Not applicable
NBFI	Non-Bank Financial Institution
NII	Net interest income
NMD	Non-maturity deposit
NSFR	Net stable funding ratio
O	
OBS	Off-balance sheet
OF	Object finance
OTC	Over-the-counter
P	
PD	Probability of default
PF	Project finance
PFE	Potential future exposure
PRA	Prudential Regulation Authority
PRC	People's Republic of China
PSE	Public sector entity
PVA	Prudent valuation adjustment
PVIF	Present value of in-force long-term insurance business
Q	
QRRE	Qualifying revolving retail exposures
R	
RAS	Risk Appetite Statement
RBWM	Retail Banking and Wealth Management
RC	Replacement cost
RMB	Chinese Renminbi
RMM	Risk Management Meeting
RNIV	Risk not in VaR
RSF	Required stable funding
RW	Risk-weight
RWA	Risk-weighted asset/risk-weighted amount

S	
SA-CCR	Standardised approach for counterparty credit risk
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 transaction
SME	Small and medium-sized enterprises
SRW	Supervisory risk-weight
STC	Standardised (credit risk) approach
STM	Standardised (market risk) approach
T	
T2	Tier 2
TLAC	Total loss-absorbing capacity
U	
USD	US dollar
V	
VaR	Value at risk
W	
WCMR	Wholesale Credit and Market Risk