Regulatory Disclosures

31 December 2019

集友銀行

Chiyu Banking Corporation Ltd.

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1. Basis of reporting

Liquidity Coverage Ratio (LCR):

The average value of liquidity coverage ratio is computed on the consolidated basis which comprises the positions of local offices, overseas branches and subsidiaries of the Bank specified by the Hong Kong Monetary Authority ("HKMA") for its regulatory purposes and in accordance with the Banking (Liquidity) Rules.

Net Stable Funding Ratio (NSFR):

The net stable funding ratio is computed on the consolidated basis which comprises the positions of local offices, overseas branches and subsidiaries of the Bank specified by the HKMA for its regulatory purposes and in accordance with the Banking (Liquidity) Rules.

Capital Adequacy Ratio (CAR):

Total capital ratio is computed on consolidated basis which comprises the positions of the Bank's local offices, overseas branches and designated subsidiaries specified by the HKMA for its regulatory purposes and in accordance with the Banking (Capital) Rules.

Interest Rate Risk in Banking Book (IRRBB):

The interest rate risk in banking book is computed on consolidated basis which comprises the positions of the Bank's local offices, overseas branches and designated subsidiaries specified by the HKMA for its regulatory purposes.

2. Key prudential ratios, overview of risk management and RWA

KM1: Key prudential ratios

		At 31 December 2019	At 30 September 2019	At 30 June 2019	At 31 March 2019	At 31 December 2018
		HK$'000	HK$'000	HK$'000	HK$'000	HK$'000
	Regulatory capital (amount)					
1	Common Equity Tier 1 (CET1)	10,146,991	9,859,909	9,533,110	9,575,943	7,758,669
2	Tier 1	12,084,703	11,797,621	11,470,822	11,513,655	9,696,381
3	Total capital	13,222,608	12,915,837	12,557,531	12,522,130	10,643,302
	RWA (amount)					
4	Total RWA	74,655,828	72,370,938	69,422,316	60,555,177	50,695,553
	Risk-based regulatory capital ratios (as a percentage of RWA)					
5	CET1 ratio (%)	13.59	13.62	13.73	15.81	15.30
6	Tier 1 ratio (%)	16.19	16.30	16.52	19.01	19.13
7	Total capital ratio (%)	17.71	17.85	18.09	20.68	20.99
	Additional CET1 buffer requirements (as a percentage of RWA)					
8	Capital conservation buffer requirement (%)	2.500	2.500	2.500	2.500	1.875
9	Countercyclical capital buffer requirement (%)	1.426	1.759	1.735	1.715	1.448
10	Higher loss absorbency requirements (%) (applicable only to G-SIBs or D-SIBs)	-	-	-	-	-
11	Total AI-specific CET1 buffer requirements (%)	3.926	4.259	4.235	4.215	3.323
12	CET1 available after meeting the AI's minimum capital requirements (%)	8.615	8.669	8.797	10.979	10.672
	Basel III leverage ratio					
13	Total leverage ratio (LR) exposure measure	154,471,671	144,887,070	148,840,305	130,142,152	105,325,379
14	LR (%)	7.82	8.14	7.71	8.85	9.21
	Liquidity Coverage Ratio (LCR)					
15	Total high quality liquid assets (HQLA)	24,453,791	21,638,779	20,171,323	13,721,926	12,325,150
16	Total net cash outflows	11,883,939	10,966,381	10,739,416	6,506,137	5,194,550
17	LCR (%)	210.17	205.53	191.46	218.71	244.69
	Net Stable Funding Ratio (NSFR)					
18	Total available stable funding	102,181,942	96,636,596	92,278,766	83,513,870	76,308,966
19	Total required stable funding	71,745,791	73,725,013	72,582,514	67,623,942	54,420,814
20	NSFR (%)	142.42	131.08	127.14	123.50	140.22

2. Key prudential ratios, overview of risk management and RWA (continued)

OVA: Overview of risk management

(a) The Group believes that sound risk management is crucial to the success of any corporation. In daily operations, the Group attaches high degree of importance to risk management and emphasizes that an appropriate balance between the risk taken l and the return attained should be maintained. The Group has a robust risk management framework with a comprehensive set of policies and procedures to identify, measure, evaluate, monitor, report and control or mitigate various material risks that may arise on a timely basis. These risk management policies and procedures are regularly reviewed and updated to reflect changes in markets, business strategies and regulatory requirements.

The Group has adopted a set of prudent risk governance arrangements and a strong risk culture, adhering to the principles of effective governance and full compliance. The Group has a defined risk appetite statement approved by the Board, which is consistent with the Group's strategic, business, capital and financial plans, as well as the Group's risk-taking capacity and remuneration system, in order to achieve its development goals and to meet the expectations of its stakeholders. The Group has also put in place appropriate internal control systems, including high level controls covering clear delegation of authority and responsibility, separation of critical functions, as well as controls related to major operational areas, financial accounting, annual budgeting, management reporting and compilation of prudential returns to the regulators, information technology, outsourced activities, compliance with statutory and regulatory requirements, policies, procedures and limits.

(b) The Group has followed the guidelines as set out in the Supervisory Policy Manual CG-1 "Corporate Governance of Locally Incorporated Authorised Institutions" issued by the HKMA. The Group is committed to maintaining sound corporate governance standards and considers such commitment essential in balancing the interests of shareholders, customers and employees; and in upholding accountability and transparency.

The Board, representing the interests of shareholders, is the core of The Group's corporate governance framework. The Board is the highest decision making authority of The Group and has the ultimate responsibility for the oversight of risk management.

The Board, assisted by its standing specialized Risk Management Committee ("RC"), is responsible for determining the Group's overall risk management strategy, ensuring that the Group has an effective risk management system and monitoring the implementation of risk management strategies.

The Board authorizes Senior Management to implement the business strategies, risk appetite and policies as approved by the Board. Senior Management is responsible and accountable for the day-to-day operations of the Group and reports to the Board.

2. Key prudential ratios, overview of risk management and RWA (continued)

OVA: Overview of risk management (continued)

(b) *(continued)*

The Chief Executive is responsible for leading the whole Management to implement significant policies and business development strategies adopted by the Board.

The Chief Risk Officer is responsible for the Group's overall risk management and has a direct reporting line to the Group's Chief Executive, and reports to the Board or its Risk Committee regularly and whenever necessary on risk management issues.

Four committees have been established at the Board level to oversee various major areas: Bank's operation, financial performance, risk management and long-term development. The details on the four committees are set out on page 17-21 of 2019 Annual Report.

(c) Risk management culture is the common belief within the organization about risk awareness, risk-taking and risk management philosophy, vision, values, norms, attitudes and behaviors. The Group advocates proper standards of ethics in conducting its affairs with a high degree of integrity. The core ethical values include but not limited to honesty, integrity, diligence, fairness, responsible citizenship and accountability. The Group develops various codes of conduct and has sound management systems in place to enforce them. The standards of conduct are laid down in its risk management policies, and other operating principles and guidelines. All staff members are required to comply with these standards, when conducting their businesses.

The Group advocates that risk management is the responsibility of every staff. The Group seeks to encourage staff members to continue enhancing and strengthening their knowledge and skills in risk management. The Group makes use of appropriate training programs, remuneration, incentive, reward and penalty schemes, assessment and feedback mechanism to guide and drive staff to conduct business in a responsible, honest, practical and proper manner.

(d) The Group employs effective methodologies and tools for the measurement of various types of risk. The Group adopts different methods or models to measure each type of risk in accordance with the nature, scale and complexity of its business activities and business needs, etc.

(e) The Group has developed management information systems with adequate technological support and processing capacity to effectively capture, aggregate and report on the risks of major business activities within the Group. The comprehensive risk management information systems are capable to provide regular and sufficiently detailed reports for the Board and Senior Management and the HKMA, to facilitate their continuous monitoring of the risk profile of the Group as well as the implementation of risk management policies (especially exceptions).

2. Key prudential ratios, overview of risk management and RWA (continued)

OVA: Overview of risk management (continued)

(f) Stress testing is an integral part of the Group's risk management. The Group regularly performs stress-tests on the principal risks, where appropriate, covering the Group's major portfolios such as lending and investments. Various stress testing methodologies and techniques including sensitivity tests, scenario analyses and reverse stress testing are adopted to assess the potential impact of stressed business conditions arising from extreme but plausible market or macroeconomic movements (such as Hong Kong and Mainland China Economic Slowdown, the increase of Fed fund target rate by the FOMC and the increase of CNY interbank offered rate in Mainland China) on the Group's financial positions, in particular, capital adequacy, profitability, and liquidity. Stress testing enables us to identify potentially risky portfolio segments as well as inherent systematic risks. Every stress test is documented and the stress testing results are reported to relevant committees. According to the stress testing result, whenever necessary, the Group will develop and execute action plan to mitigate potential impacts.

The result of stress testing will be used in the Internal Capital Adequacy Assessment Process ("ICAAP") and the Capital Plan process in order to align the capital requirement of our business strategy to our Risk Appetite.

The Asset and Liability Management Committee ("ALCO") monitors the results against the key risk limits approved by the RC. Financial Management Department reports the combined stress test results of the Group to the Board and RC regularly.

(g) Credit Risk

The Group strives to obtain legally enforceable collaterals and guarantee as one of the measures to mitigate credit risk, and has formulated relevant policies and procedures to monitor the value of collateral and creditability of the guarantors effectively. Details on credit risk mitigation are set out on Note 4.1 to the Consolidated Financial Statements.

Market Risk

Financial Management Department is mainly responsible for managing market risk, assisting senior management to perform their day-to-day duties, independently monitoring the market risk profile and compliance of management policies and limits of the Group, and ensuring that the aggregate and individual market risks are within acceptable levels. For details of the Group's Market Risk Management, please refer to Note 4.2 to the Consolidated Financial Statements.

Interest Rate Risk

Financial Management Department is responsible for interest rate risk management. Its roles include formulation of management policies, selection of methodologies, setting of risk indicators and limits, assessment of targeted balance sheet, monitoring of the compliance with policies and limits, and submission of interest rate risk management reports to the senior management and the RC, etc. For details of the Group's Interest Rate Risk Management, please refer to Note 4.2 to the Consolidated Financial Statements.

2. Key prudential ratios, overview of risk management and RWA (continued)

OVA: Overview of risk management (continued)

(g) *(continued)*

Liquidity Risk

Financial Management Department is responsible for overseeing the Group's liquidity risk. It cooperates with Financial Markets Department to assist the ALCO to perform liquidity management functions according to their specific responsibilities. The Group has established liquidity risk management indicators and limits to identify, measure, monitor and control liquidity risk on daily basis. For details of the Group's Liquidity Risk Management, please refer to Note 4.3 to the Consolidated Financial Statements.

Operational Risk

Operational and Reputation Risk Management Division under Legal and Compliance Department is responsible for managing the Group's operational risk. The Group has established an effective operational risk management framework to identify, assess, monitor and control the operational risks inherent in business activities and products, as well as purchase of insurance to mitigate unforeseeable operational risks.

To ensure operational risks are under proper monitoring, the Group has maintained a centralized operational risk management system which captured operational risk incidents submitted by the business and support units. The overall operational risk position will be reported to the Management and the RC on a regular or need basis.

Legal and Compliance Risk

Compliance management function under Legal and Compliance Department is responsible for Legal and Compliance risk. To mitigate legal risk, the Group has maintained a list of recognized local law firms and they are covered by sufficient insured amount of the professional indemnity insurance. Insofar as compliance risk is concerned, the Group has implemented appropriate internal policies, procedures and control measures to mitigate the risk of failure to comply with all applicable laws and regulations.

2. Key prudential ratios, overview of risk management and RWA (continued)

OV1: Overview of RWA

		RWA		Minimum capital requirements
		At 31 December 2019	At 30 September 2019	At 31 December 2019
		HK$'000	HK$'000	HK$'000
1	Credit risk for non-securitization exposures	67,359,267	65,852,206	5,673,313
2	Of which STC approach	8,073,465	7,266,995	645,877
2a	Of which BSC approach	-	-	-
3	Of which foundation IRB approach	59,285,802	58,585,211	5,027,436
4	Of which supervisory slotting criteria approach	-	-	-
5	Of which advanced IRB approach	-	-	-
6	Counterparty default risk and default fund contributions	74,051	40,165	6,277
7	Of which SA-CCR*	Not applicable	Not applicable	Not applicable
7a	Of which CEM	40,870	40,165	3,463
8	Of which IMM(CCR) approach	-	-	-
9	Of which others	33,181	-	2,814
10	CVA risk	43,263	50,300	3,461
11	Equity positions in banking book under the simple risk-weight method and internal models method	-	-	-
12	Collective investment scheme ("CIS") exposures – LTA*	Not applicable	Not applicable	Not applicable
13	CIS exposures – MBA*	Not applicable	Not applicable	Not applicable
14	CIS exposures – FBA*	Not applicable	Not applicable	Not applicable
14a	CIS exposures – combination of approaches*	Not applicable	Not applicable	Not applicable
15	Settlement risk	-	-	-
16	Securitization exposures in banking book	-	-	-
17	Of which SEC-IRBA	-	-	-
18	Of which SEC-ERBA	-	-	-
19	Of which SEC-SA	-	-	-
19a	Of which SEC-FBA	-	-	-
20	Market risk	165,113	162,563	13,209
21	Of which STM approach	17,888	17,525	1,431
22	Of which IMM approach	147,225	145,038	11,778
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	3,776,600	3,522,388	302,128
24a	Sovereign concentration risk	-	-	-
25	Amounts below the thresholds for deduction (subject to 250% RW)	479,500	29,500	38,360
26	Capital floor adjustment	-	-	-
26a	Deduction to RWA	803,518	803,654	64,282
26b	Of which portion of regulatory reserve for general banking risks and collective provisions which is not included in Tier 2 Capital	4,845	4,140	388
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	798,673	799,514	63,894
27	**Total**	**71,094,276**	**68,853,468**	**5,972,466**

RWAs in this table are before the application of the 1.06 scaling factor following a clarification from the HKMA. Minimum capital requirement represents the amount of capital required to be held for that risk based on its RWAs after any applicable scaling factor multiplied by 8%.

3. Linkages between financial statements and regulatory exposures

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

The following table shows the differences between the carrying values as reported in the Group's financial statements following the scope of accounting consolidation and the carrying values under the scope of regulatory consolidation, with a breakdown into regulatory risk categories of every item of the assets and liabilities reported in financial statements based on the scope of accounting consolidation.

	At 31 December 2019						
			Carrying values of items:				
	Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation	subject to credit risk framework	subject to counterparty credit risk framework	subject to the securitization framework	subject to market risk framework	not subject to capital requirements or subject to deduction from capital
	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000
Assets							
Cash and balances with banks and other financial institutions	18,235,988	18,228,791	18,228,791	-	-	-	-
Placements with banks and other financial institutions maturing between one and twelve months	4,819,212	4,819,212	4,819,212	-	-	-	-
Derivative financial instruments	122,133	122,133	-	122,133	-	9,556	-
Advances to customers and trade bills	76,986,891	76,986,891	76,986,891	-	-	-	-
Investment in securities	46,908,420	46,760,270	46,760,270	1,180,528	-	-	-
Investment in subsidiaries	-	191,800	191,800	-	-	-	-
Amounts due from subsidiaries	-	31,576	31,576	-	-	-	-
Investment properties	237,150	237,150	237,150	-	-	-	-
Properties, plant and equipment	2,021,072	2,021,072	2,021,072	-	-	-	-
Deferred tax assets	640	640	-	-	-	-	640
Other assets	**523,275**	520,920	520,920	19,001	-	-	-
Total assets	**149,854,781**	**149,920,455**	**149,797,682**	**1,321,661**	**-**	**9,556**	**640**

3. Linkages between financial statements and regulatory exposures (continued)

LI1: Differences between accounting and regulatory scopes of consolidation and mapping of financial statement categories with regulatory risk categories (continued)

	At 31 December 2019						
			Carrying values of items:				
	Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation	subject to credit risk framework	subject to counterparty credit risk framework	subject to the securitization framework	subject to market risk framework	not subject to capital requirements or subject to deduction from capital
	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000
Liabilities							
Deposits and balances from banks and other financial institutions	17,747,463	17,747,463	-	1,116,597	-	-	16,630,866
Derivative financial instruments	40,361	40,361	-	40,361	-	9,538	34,543
Deposits from customers	116,291,434	116,423,958	-	-	-	-	116,423,958
Other accounts and provisions	1,273,083	1,272,703	-	-	-	-	1,272,703
Current tax liabilities	195,776	186,333	-	-	-	-	186,333
Deferred tax liabilities	183,675	183,504	-	-	-	-	183,504
Total liabilities	**135,731,792**	**135,854,322**	**-**	**1,156,958**	**-**	**9,538**	**134,731,907**

The amounts shown in the column 'Carrying values under scope of regulatory consolidation' do not equal the sum of the amounts shown in the remaining columns of this table for line items 'Derivative financial instruments', as the assets and liabilities included in these items are subject to regulatory capital charges for both CCR and market risk.

3. Linkages between financial statements and regulatory exposures (continued)

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

		At 31 December 2019				
		Total	Items subject to:			
			Credit risk framework	Securitisation framework	Counterparty credit risk framework	Market risk framework
		HK$'000	HK$'000	HK$'000	HK$'000	HK$'000
1	**Asset carrying value amount under scope of regulatory consolidation (as per template LI1)**	**149,919,815**	**149,797,682**	**-**	**1,321,661**	**9,556**
2	Liabilities carrying value amount under regulatory scope of consolidation (as per template LI1)	1,122,415	-	-	1,122,415	9,538
3	Total net amount under regulatory scope of consolidation	148,797,400	149,797,682	-	199,246	18
4	Off-balance sheet amounts	3,559,450	3,457,367	-	102,083	-
5	Differences in valuations	(8,610)	(8,610)	-	-	-
6	Differences due to consideration of provisions	647,431	647,431	-	-	-
7	Differences due to EAD modeling and other differences	959,492	959,492	-	-	-
8	**Exposure amounts considered for regulatory purposes**	**153,955,163**	**154,853,362**	**-**	**301,329**	**18**

3. Linkages between financial statements and regulatory exposures (continued)

LIA: Explanations of differences between accounting and regulatory exposure amounts

(a) Differences between the amounts of 'Carrying values as reported in published financial statements' and 'Carrying values under scope of regulatory consolidation' in template LI1 is due to the difference between basic of consolidation of regulatory purpose and accounting purpose. The combined basis for regulatory purposes comprises the positions of the Group's local offices, overseas branches and designated subsidiaries specified by the HKMA for its regulatory purposes and in accordance with the Banking (Capital) Rules. For accounting purposes, subsidiaries are consolidated in accordance with HKFRSs and the list of subsidiaries is set out in Note 43 to the Consolidated Financial Statements. Subsidiaries not included in consolidation for regulatory purposes can be referred to 'Basis of regulatory combination' under Unaudited Supplementary Financial Information 5.1 of 2019 Annual Report.

(b) The main drivers for the differences between accounting values and amounts considered for regulatory purposes shown in template LI2 are as follow:

- (i) Off-balance sheet amounts subject to credit risk frameworks include contingent liabilities and commitments, by applying a credit conversion factor ('CCF') to these items and consideration of potential future exposures ('PFE') for counterparty credit risk.
- (ii) The carrying value reported in the financial statement is net of all stages of impairment allowances while regulatory exposure amount is before the deduction of credit risk impairment.
- (iii) Valuation adjustments included in regulatory adjustments.
- (iv) For certain retail exposures under IRB approach, the use of modeled exposures caused the difference between accounting carrying values and regulatory exposures.

(c) The Group has an established controls framework to ensure that fair values are either determined or validated by control units independent of the front offices. Specific controls include verification of observable pricing inputs; review and approval for new models and changes to models; calibration and back-testing of models against observed market transactions; analysis and investigation of significant daily valuation movements; review of significant unobservable inputs and valuation adjustments.

The Group chooses appropriate valuation methodologies in corresponding to the nature, position and complexity of treasury products and derivatives. They can be classified into marking-to-market and marking-to-model. Marking-to-market is valuation of positions by adopting readily available and observable close out prices in the market. If market quotation is not available, marking-to-model should be adopted. Marking–to-model is valuation which has to be benchmarked, extrapolated or otherwise derived from market data inputs.

On top of accounting valuation, the Group conducts liquidity risk adjustments for risk management and regulatory capital adequacy purpose in order to arrive at a prudent value. The appropriateness of the valuation adjustments is reviewed regularly.

3. Linkages between financial statements and regulatory exposures (continued)

PV1: Prudent valuation adjustments

		At 31 December 2019							
		Equity	Interest rates	FX	Credit	Commodities	Total	Of which: In the trading book	Of which: In the banking book
		HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000
1	Close-out uncertainty, of which:	-	8,610	-	-	-	8,610	-	8,610
2	*Mid-market value*	-	-	-	-	-	-	-	-
3	*Close-out costs*	-	-	-	-	-	-	-	-
4	*Concentration*	-	*8,610*	-	-	-	*8,610*	-	*8,610*
5	Early termination	-	-	-	-	-	-	-	-
6	Model risk	-	-	-	-	-	-	-	-
7	Operational risks	-	-	-	-	-	-	-	-
8	Investing and funding costs						-	-	-
9	Unearned credit spreads						-	-	-
10	Future administrative costs	-	-	-	-	-	-	-	-
11	Other adjustments	-	-	-	-	-	-	-	-
12	**Total adjustments**	**-**	**8,610**	**-**	**-**	**-**	**8,610**	**-**	**8,610**

4. Composition of regulatory capital

CC1: Composition of regulatory capital

		At 31 December 2019	
		Amount	Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation
		HK$'000	
	CET1 capital: instruments and reserves		
1	Directly issued qualifying CET1 capital instruments plus any related share premium	3,245,980	(4)
2	Retained earnings	7,220,972	(9)
3	Disclosed reserves	1,661,469	(5)+(6)+(7)+(8)
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 adjustments**	**12,128,421**	
	CET1 capital: regulatory deductions		
7	Valuation adjustments	8,610	
8	Goodwill (net of associated deferred tax liabilities)	-	
9	Other intangible assets (net of associated deferred tax liabilities)	-	
10	Deferred tax assets (net of associated deferred tax liabilities)	640	(2)
11	Cash flow hedge reserve	-	
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 securitization transactions	-	
14	Gains and losses due to changes in own credit risk on fair valued liabilities	60	(1) + (3)
15	Defined benefit pension fund net assets (net of associated deferred tax liabilities)	-	
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 capital investments in CET1 capital instruments issued by financial sector entities that are outside the scope of regulatory consolidation (amount above 10% threshold)	-	
19	Significant capital 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

4. Composition of regulatory capital (continued)

CC1: Composition of regulatory capital (continued)

		At 31 December 2019	
		Amount	Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation
		HK$'000	
	CET1 capital: regulatory deductions (continued)		
26	National specific regulatory adjustments applied to CET1 capital	1,972,120	
26a	Cumulative fair value gains arising from the revaluation of land and buildings (own-use and investment properties)	1,452,133	(5) + (10)
26b	Regulatory reserve for general banking risks	519,987	(7)
26c	Securitization exposures specified in a notice given by the MA	-	
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 AT1 capital and Tier 2 capital to cover deductions	-	
28	**Total regulatory deductions to CET1 capital**	**1,981,430**	
29	**CET1 capital**	**10,146,991**	
	AT1 capital: instruments		
30	Qualifying AT1 capital instruments plus any related share premium	1,937,712	(11)
31	of which: classified as equity under applicable accounting standards	1,937,712	
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**	**1,937,712**	
	AT1 capital: regulatory deductions		
37	Investments in own AT1 capital instruments	-	
38	Reciprocal cross-holdings in AT1 capital instruments	-	
39	Insignificant capital investments in AT1 capital instruments issued by financial sector entities that are outside the scope of regulatory consolidation (amount above 10% threshold)	-	
40	Significant capital 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**	**1,937,712**	
45	**Tier 1 capital (T1 = CET1 + AT1)**	**12,084,703**	

4. Composition of regulatory capital (continued)

CC1: Composition of regulatory capital (continued)

		At 31 December 2019	
		Amount	Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation
		HK$'000	
	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	484,445	
51	**Tier 2 capital before regulatory deductions**	**484,445**	
	Tier 2 capital: regulatory deductions		
52	Investments in own Tier 2 capital instruments	-	
53	Reciprocal cross-holdings in Tier 2 capital instruments	-	
54	Insignificant capital investments in Tier 2 capital instruments issued by financial sector entities that are outside the scope of regulatory consolidation (amount above 10% 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 capital investments in Tier 2 capital instruments issued by financial sector entities that are outside the scope of regulatory consolidation (net of eligible short positions)	-	
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	(653,460)	
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	(653,460)	[(5) + (10)]*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**	**(653,460)**	
58	**Tier 2 capital (T2)**	**1,137,905**	
59	**Total regulatory capital (TC = T1 + T2)**	**13,222,608**	
60	**Total RWA**	**74,655,828**	

4. Composition of regulatory capital (continued)

CC1: Composition of regulatory capital (continued)

		At 31 December 2019	
		Amount	Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation
		HK$'000	
	Capital ratios (as a percentage of RWA)		
61	**CET1 capital ratio**	**13.59%**	
62	**Tier 1 capital ratio**	**16.19%**	
63	**Total capital ratio**	**17.71%**	
64	**Institution-specific buffer requirement (capital conservation buffer plus countercyclical capital buffer plus higher loss absorbency requirements)**	**3.926%**	
65	of which: capital conservation buffer requirement	2.500%	
66	of which: bank specific countercyclical capital buffer requirement	1.426%	
67	of which: higher loss absorbency requirement	-	
68	CET1 (as a percentage of RWA) available after meeting minimum capital requirements	**8.615%**	
	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 capital investments in CET1, AT1 and Tier 2 capital instruments issued by financial sector entities that are outside the scope of regulatory consolidation	23,881	
73	Significant capital investments in CET1 capital instruments issued by financial sector entities that are outside the scope of regulatory consolidation	223,376	
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)	111,765	
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	106,920	
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)	540,479	
79	Cap for inclusion of provisions in Tier 2 under the IRB approach and SEC-IRBA	377,525	

4. Composition of regulatory capital (continued)

CC1: Composition of regulatory capital (continued)

		At 31 December 2019	
		Amount	Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation
		HK$'000	
	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)*	-	

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4. Composition of regulatory capital (continued)

CC1: Composition of regulatory capital (continued)

	Description	Hong Kong basis	Basel III basis
		HK$'000	HK$'000
9	**Other intangible assets (net of associated deferred tax liabilities)**	-	-
	Explanation As set out in paragraph 87 of the Basel III text issued by the Basel Committee (December 2010), mortgage servicing rights ("MSRs") 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 follow the accounting treatment of including MSRs as part of intangible assets reported in the AI's financial statements and to deduct MSRs in full from CET1 capital. Therefore, the amount to be deducted as reported in row 9 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 9 (i.e. the amount reported under the "Hong Kong basis") adjusted by reducing the amount of MSRs to be deducted to the extent not in excess of the 10% threshold set for MSRs and the aggregate 15% threshold set for MSRs, DTAs arising from temporary differences and significant investments in CET1 capital instruments issued by financial sector entities (excluding those that are loans, facilities or other credit exposures to connected companies) under Basel III.		
10	**Deferred tax assets (net of associated deferred tax liabilities)**	**640**	**-**
	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 realized 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 MSRs, DTAs arising from temporary differences and significant investments in CET1 capital instruments issued by financial sector entities (excluding those that are loans, facilities or other credit exposures to connected companies) under Basel III.		
18	**Insignificant capital investments in CET1 capital instruments issued by financial sector entities that are outside the scope of regulatory consolidation (amount above 10% threshold)**	**-**	**-**
	Explanation For the purpose of determining the total amount of insignificant capital investments in CET1 capital instruments issued by financial sector entities, an AI is required to aggregate any amount of loans, facilities or other credit exposures provided by it to any of its connected companies, where the connected company is a financial sector entity, as if such loans, facilities or other credit exposures were direct holdings, indirect holdings or synthetic holdings of the AI in the capital instruments of the financial sector entity, except where the AI demonstrates to the satisfaction of the MA that any such loan was made, any such facility was granted, or any such other credit exposure was incurred, in the ordinary course of the AI's business. Therefore, the amount to be deducted as reported in row 18 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 18 (i.e. the amount reported under the "Hong Kong basis") adjusted by excluding the aggregate amount of loans, facilities or other credit exposures to the AI's connected companies which were subject to deduction under the Hong Kong approach.		

4. Composition of regulatory capital (continued)

CC1: Composition of regulatory capital (continued)

	Description	Hong Kong basis	Basel III basis
		HK$'000	HK$'000
19	**Significant capital investments in CET1 capital instruments issued by financial sector entities that are outside the scope of regulatory consolidation (amount above 10% threshold)**	-	-
	Explanation For the purpose of determining the total amount of significant capital investments in CET1 capital instruments issued by financial sector entities, an AI is required to aggregate any amount of loans, facilities or other credit exposures provided by it to any of its connected companies, where the connected company is a financial sector entity, as if such loans, facilities or other credit exposures were direct holdings, indirect holdings or synthetic holdings of the AI in the capital instruments of the financial sector entity, except where the AI demonstrates to the satisfaction of the MA that any such loan was made, any such facility was granted, or any such other credit exposure was incurred, in the ordinary course of the AI's business. Therefore, the amount to be deducted as reported in row 19 may be greater than that required under Basel III. The amount reported under the column "Basel III basis" in this box represents the amount reported in row 19 (i.e. the amount reported under the "Hong Kong basis") adjusted by excluding the aggregate amount of loans, facilities or other credit exposures to the AI's connected companies which were subject to deduction under the Hong Kong approach.		
39	**Insignificant capital investments in AT1 capital instruments issued by financial sector entities that are outside the scope of regulatory consolidation (amount above 10% threshold)**	-	-
	Explanation The effect of treating loans, facilities or other credit exposures to connected companies which are financial sector entities as CET1 capital instruments for the purpose of considering deductions to be made in calculating the capital base (see note re row 18 to the template above) will mean the headroom within the threshold available for the exemption from capital deduction of other insignificant capital investments in AT1 capital instruments may be smaller. Therefore, the amount to be deducted as reported in row 39 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 39 (i.e. the amount reported under the "Hong Kong basis") adjusted by excluding the aggregate amount of loans, facilities or other credit exposures to the AI's connected companies which were subject to deduction under the Hong Kong approach.		
54	**Insignificant capital investments in Tier 2 capital instruments issued by financial sector entities that are outside the scope of regulatory consolidation (amount above 10% threshold)**	-	-
	Explanation The effect of treating loans, facilities or other credit exposures to connected companies which are financial sector entities as CET1 capital instruments for the purpose of considering deductions to be made in calculating the capital base (see note re row 18 to the template above) will mean the headroom within the threshold available for the exemption from capital deduction of other insignificant capital investments in Tier 2 capital instruments may be smaller. Therefore, the amount to be deducted as reported in row 54 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 54 (i.e. the amount reported under the "Hong Kong basis") adjusted by excluding the aggregate amount of loans, facilities or other credit exposures to the AI's connected companies which were subject to deduction under the Hong Kong approach.		
Remarks: The amount of the 10% threshold 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.			

4. Composition of regulatory capital (continued)

CC2: Reconciliation of regulatory capital to balance sheet

	At 31 December 2019		
	Balance sheet as in published financial statements	Under regulatory scope of consolidation	Reference
	HK$'000	HK$'000	
Assets			
Cash and balances with banks and other financial institutions	18,235,988	18,228,791	
Placements with banks and other financial institutions maturing between one and twelve months	4,819,212	4,819,212	
Derivative financial instruments	122,133	122,133	
of which: debit valuation adjustments in respect of derivative contracts	-	*54*	(1)
Advances to customers and trade bills	76,986,891	76,986,891	
Investment in securities	46,908,420	46,760,270	
Investment in subsidiaries	-	191,800	
Amount due from subsidiaries	-	31,576	
Investment properties	237,150	237,150	
Properties, plant and equipment	2,021,072	2,021,072	
Deferred tax assets	640	640	(2)
Other assets	523,275	520,920	
Total assets	**149,854,781**	**149,920,455**	
Liabilities			
Deposits and balances from banks and other financial institutions	17,747,463	17,747,463	
Derivative financial instruments	40,361	40,361	
of which: debit valuation adjustments in respect of derivative contracts	-	*(6)*	(3)
Deposits from customers	116,291,434	116,423,958	
Other accounts and provisions	1,273,083	1,272,703	
Current tax liabilities	195,776	186,333	
Deferred tax liabilities	183,675	183,504	
Total liabilities	**135,731,792**	**135,854,322**	
Shareholders' equity			
Share capital	3,245,980	3,245,980	(4)
Reserves	8,939,297	8,882,441	
Premises revaluation reserve	1,249,885	1,249,885	(5)
Fair value reserve	588	588	(6)
Regulatory reserve	519,987	519,987	(7)
Translation reserve	(108,991)	(108,991)	(8)
Retained earnings	7,277,828	7,220,972	(9)
of which: cumulative fair value gains arising from the revaluation of investment properties	-	*202,248*	(10)
Additional equity instruments	1,937,712	1,937,712	(11)
Total equity	**14,122,989**	**14,066,133**	

4. Composition of regulatory capital (continued)

CCA: Main features of regulatory capital instruments

		CET1 Capital Ordinary shares	USD Non-Cumulative Subordinated Additional Tier 1 Capital Securities
1	Issuer	Chiyu Banking Corporation Limited	Chiyu Banking Corporation Limited
2	Unique identifier (e.g. CUSIP, ISIN or Bloomberg identifier for private placement)	Not applicable	XS1720307344
3	Governing law(s) of the instrument	Hong Kong law	The Capital Securities are governed by and shall be construed in accordance with English Law, except that the subordination provisions are governed by and shall be construed in accordance with Hong Kong law.
	Regulatory treatment		
4	Transitional Basel III rules[1]	Not applicable	Not applicable
5	Post-transitional Basel III rules[2]	Common Equity Tier 1	Additional Tier 1
6	Eligible at solo / group / solo and group	Solo and Group	Solo and Group
7	Instrument type (types to be specified by each jurisdiction)	Ordinary shares	Additional Tier 1 capital instruments
8	Amount recognised in regulatory capital (currency in millions, as of most recent reporting date)	HK$3,246m (as of 31 December 2019)	HK$1,938m (as of 31 December 2019)
9	Par value of instrument	No par value (refer to Note 1 for details)	US$250m
10	Accounting classification	Shareholders' equity	Equity instruments
11	Original date of issuance	10 July 1947 (refer to Note 2 for details)	29 November 2017
12	Perpetual or dated	Perpetual	Perpetual
13	Original maturity date	No maturity	Not applicable
14	Issuer call subject to prior supervisory approval	No	Yes
15	Optional call date, contingent call dates and redemption amount	Not applicable	First call date: 29 November 2022 (Redemption in whole at 100%)
16	Subsequent call dates, if applicable	Not applicable	Any distribution payment date thereafter
	Dividend / coupon		
17	Fixed or floating dividend / coupon	Floating	Fixed
18	Coupon rate and any related index	Not applicable	Year 1-5: 5.25% per annum payable semi-annually in arrear; Year 5 onwards: resettable on year 5 and every 5 years thereafter at then prevailing 5-year US Treasury rate plus a fixed initial spread
19	Existence of a dividend stopper	No	Yes
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	Noncumulative	Noncumulative

[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.*

4. Composition of regulatory capital (continued)

CCA: Main features of regulatory capital instruments (continued)

		CET1 Capital Ordinary shares	**USD Non-Cumulative Subordinated Additional Tier 1 Capital Securities**
23	Convertible or non-convertible	Non-convertible	Non-convertible
24	If convertible, conversion trigger(s)	Not applicable	Not applicable
25	If convertible, fully or partially	Not applicable	Not applicable
26	If convertible, conversion rate	Not applicable	Not applicable
27	If convertible, mandatory or optional conversion	Not applicable	Not applicable
28	If convertible, specify instrument type convertible into	Not applicable	Not applicable
29	If convertible, specify issuer of instrument it converts into	Not applicable	Not applicable
30	Write-down feature	No	Yes
31	If write-down, write-down trigger(s)	Not applicable	Upon the occurrence of a Non-Viability Event
32	If write-down, full or partial	Not applicable	Full or Partial
33	If write-down, permanent or temporary	Not applicable	Permanent
34	If temporary write-down, description of write-up mechanism	Not applicable	Not Applicable
35	Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument in the insolvency creditor hierarchy of the legal entity concerned).	Not applicable	Depositors, bank's unsubordinated creditors, creditors of Tier 2 capital and all other subordinated indebtedness of the bank stated to rank senior to the Capital Securities.
36	Non-compliant transitioned features	No	No
37	If yes, specify non-compliant features	Not applicable	Not Applicable

Note 1: Pursuant to the Hong Kong Companies Ordinance (Chapter 622) which has commenced operation on 3 March 2014, all shares issued by a company incorporated in Hong Kong before, on and after that commencement date shall have no par value and the relevant concept of authorised share capital is abolished.

Note 2:

- Several issuance of ordinary share had been made since the first issuance. Last issuance was on 31 December 2018.
- The concepts of par value for shares and authorised share capital have been abolished following the commencement of the Hong Kong Companies Ordinance (Chapter 622) as mentioned in Note 1.

5. Macroprudential supervisory measures

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

	Geographical breakdown by Jurisdiction (J)	At 31 December 2019			
		Applicable JCCyB ratio in effect	RWA used in computation of CCyB ratio	AI-specific CCyB ratio	CCyB amount
		%	HK$'000	%	HK$'000
1	Hong Kong SAR	2.000%	38,161,876		
	Sum		38,161,876		
	Total		**53,515,918**	**1.426%**	**1,064,592**

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

The total RWAs used in the computation of the CCyB ratio represents the total RWAs for the private sector credit exposures in all jurisdictions to which the Group is exposed, including jurisdictions with no countercyclical buffer rate or with a countercyclical buffer rate set at zero. The CCyB amount represents the Group's total RWAs multiplied by the Group's specific CCyB ratio.

6. Leverage ratio

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

	Item	At 31 December 2019
		Value under the LR framework
		HK$'000
1	Total consolidated assets as per published financial statements	149,854,781
2	Adjustment for investments in banking, financial, insurance or commercial entities that are consolidated for accounting purposes but outside the scope of regulatory consolidation	65,674
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	77,264
5	Adjustment for SFTs (i.e. repos and similar secured lending)	3,380,528
6	Adjustment for off-balance sheet ("OBS") items (i.e. conversion to credit equivalent amounts of OBS exposures)	3,101,651
6a	Adjustment for specific and collective provisions that are allowed to be excluded from exposure measure	(664,579)
7	Other adjustments	(1,343,648)
8	**Leverage ratio exposure measure**	**154,471,671**

6. Leverage ratio (continued)

LR2: Leverage ratio

		At 31 December 2019	At 30 September 2019
		HK$'000	HK$'000
On-balance sheet exposures			
1	On-balance sheet exposures (excluding those arising from derivative contracts and SFTs, but including collateral)	150,436,098	141,861,917
2	Less: Asset amounts deducted in determining Tier 1 capital	(1,981,424)	(1,977,417)
3	**Total on-balance sheet exposures (excluding derivative contracts and SFTs)**	**148,454,674**	**139,884,500**
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)	116,315	101,589
5	Add-on amounts for PFE associated with all derivative contracts	102,083	131,045
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	(19,001)	(35,832)
8	Less: Exempted 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**	**199,397**	**196,802**
Exposures arising from SFTs			
12	Gross SFT assets (with no recognition of netting), after adjusting for sale accounting transactions	3,316,597	2,200,000
13	Less: Netted amounts of cash payables and cash receivables of gross SFT assets	-	-
14	CCR exposure for SFT assets	63,931	-
15	Agent transaction exposures	-	-
16	**Total exposures arising from SFTs**	**3,380,528**	**2,200,000**
Other off-balance sheet exposures			
17	Off-balance sheet exposure at gross notional amount	12,637,876	12,780,175
18	Less: Adjustments for conversion to credit equivalent amounts	(9,536,225)	(9,565,257)
19	**Off-balance sheet items**	**3,101,651**	**3,214,918**
Capital and total exposures			
20	**Tier 1 capital**	**12,084,703**	**11,797,621**
20a	**Total exposures before adjustments for specific and collective provisions**	**155,136,250**	**145,496,220**
20b	**Adjustments for specific and collective provisions**	**(664,579)**	**(609,150)**
21	**Total exposures after adjustments for specific and collective provisions**	**154,471,671**	**144,887,070**
Leverage ratio			
22	**Leverage ratio**	**7.82%**	**8.14%**

7. Liquidity

LIQA: Liquidity risk management

Liquidity risk is the risk that banks fail to provide sufficient funds to grow assets or pay due obligations, and need to bear an unacceptable loss. The Group maintains sound liquidity risk appetite to provide stable, reliable and adequate sources of cash to meet liquidity needs under normal circumstances or stressed scenarios; and to survive with net positive cumulative cash flow in extreme scenarios, without requesting the HKMA to act as the lender of last resort.

The Group's risk management governance structure is designed to cover all business processes and ensures various risks are properly managed and controlled in the course of conducting business. The Group has a robust risk management organisational structure with a comprehensive set of policies and procedures to identify, measure, monitor and control various risks that may arise. These risk management policies and procedures are regularly reviewed and updated to reflect changes in markets and business strategies. Various groups of risk takers assume their respective responsibilities for risk management.

The Group has a defined risk appetite statement approved by the Board, which is an expression of the types and level of risk that the Group is willing to take in a controllable way in order to achieve its business goals and to meet the expectations of its stakeholders. The Board of Directors, representing the interests of shareholders, is the highest decision-making authority of the Group and has the ultimate responsibility for risk management. The Board, with the assistance of its committees, has the primary responsibility for the formulation of risk management strategies and ensuring that the Group has an effective risk management system to implement these strategies. The RC, a standing committee established by the Board of Directors, is responsible for overseeing the Group's various types of risks, approving Level I risk management policies and monitoring their implementation, reviewing significant or high risk exposures or transactions (other than credit transactions) and exercising its power of veto if it considers that any transaction should not proceed.

The RC is the decision-making authority of liquidity risk management, and assumes the ultimate responsibility of liquidity risk management. As authorised by RC, ALCO exercises its oversight of liquidity risk and ensures the daily operations of the Group are in accordance with risk appetite and policies as set by Board of Directors. FMD is responsible for overseeing the Group's liquidity risk. It cooperates with Financial Markets Department to assist the ALCO to perform liquidity management functions according to their specific responsibilities.

The Group established liquidity risk management indicators and limits to identify, measure, monitor and control liquidity risk on daily basis. These indicators and limits include, but are not limited to liquidity coverage ratio ("LCR"), net stable funding ratio ("NSFR"), loan-to-deposit ratio, Maximum Cumulative Cash Outflow ("MCO") and liquidity cushion. The Group applies cash flow analysis to assess the Group's liquidity condition under normal conditions and also performs a liquidity stress test (including institution specific, general market crisis and combined crisis) and other methods at least on monthly basis to assess the Group's capability to withstand various severe liquidity crises. Also, relevant management information systems such as Assets and Liabilities Management System and Basel Liquidity Ratio Management System are developed to provide data and the preparation for regular management reports to facilitate liquidity risk management duties.

7. Liquidity (continued)

LIQA: Liquidity risk management (continued)

In accordance with the requirements of Supervisory Policy Manual LM-2 “Sound Systems and controls for Liquidity Risk Management” issued by the HKMA, the Group has implemented behaviour model and assumptions of cash flow analysis and stress test to enhance the Group’s cash flow analysis under both normal and stressed conditions. In cash flow analysis under normal circumstances, assumptions have been made relating to on-balance sheet items (such as deposits from customers) and off-balance sheet items (such as loan commitments). According to various characteristics of the assets, liabilities and off-balance sheet items, the Group forecasts the future cash flow based on contractual maturity date and the assumptions of customer behaviour and balance sheet changes. The Group establishes MCO indicator which predicts the future 30 days maximum cumulative net cash outflow in normal situations based on the above assumptions, to assess if the Group has sufficient financing capacity to meet the cash flow gap in order to achieve the objective of continuing operation. As at 31 December 2019, before taking the cash inflow through the sale of outstanding marketable securities into consideration, the Group’s 30-day cumulative cash flow was a net cash inflow, amounting to HK$8,400,908,000 (2018: HK$6,579,324,000) and was in compliance with the internal limit requirements.

In the liquidity stress test, institution specific, general market crisis and combined crisis scenario has been set up, combined crisis scenario is a combination of institution specific and general market crisis to assess the Group’s capability to withstand a more severe liquidity crisis, with a more stringent set of assumptions being adopted. A contingency plan is being established which details the conditions to trigger the plan based on stress test results and early warning indicators, the action plans and relevant procedures and responsibility of various departments. Where necessary, in order to mitigate liquidity risk, the Group could take different mitigation actions which include, but are not limited to sales of bonds in the secondary market, funding from interbank market or repo in the money market, attracting new deposits and keeping the core deposit.

The Group is committed to diversify the use of funds and sources and tenors of funding to avoid excessive concentration of assets and liabilities and prevent triggering liquidity risk due to the break of funding strand when problem occurred in one concentrated funding source. The group sets concentration limits on collateral pools and sources of funding which include, but are not limited to top ten depositors ratio, large depositors ratio and funding from the interbank market ratio and high- quality collateral ratio.

As the Group efforts to manage the LCR and NSFR effectively, the Group actively attracts new deposits, keeps the core deposit and obtains supplementary funding from the interbank market to ensure stable, sufficient and diversified source of funds. In 2019, the average LCR of the fourth quarters was 210.17%. Also, the NSFR of the fourth quarter of 2019 was 142.42%.

The Group has established intra-group liquidity risk management guideline to manage the liquidity funding among different entities within the Group, and to restrict their reliance of funding on each other. As at 31 December 2019, the aggregate sums of amounts from Subsidiaries and Mainland branch of the Group arising from transactions entered into during the normal course of business at commercial terms are HK$4,564,996,000.

7. Liquidity (continued)

LIQA: Liquidity risk management (continued)

As a majority of the Group's liquidity risk arises from the maturity mismatch gap between the Group's asset and liability portfolios, the Group manages liquidity risk by conducting cash flow analysis and projections through the regular use of the Group's management information system. These are carried out on a regular basis to identify funding needs arising from on and off-balance sheet items in a specific time frame over a set of time horizons.

The Group's analysis of on- and off-balance sheet items by remaining maturity and the resultant liquidity gaps as at 31 December 2019 is shown as follows:

	2019							
	On demand	Up to 1 month	1 to 3 months	3 to 12 months	1 to 5 years	Over 5 years	Indefinite	Total
	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000
Assets								
Cash and balances with banks and other financial institutions	6,104,131	10,633,966	-	-	-	-	1,497,891	18,235,988
Placements with banks and other financial institutions maturing between one and twelve months	-	-	3,506,091	1,313,121	-	-	-	4,819,212
Derivative financial instruments	87,106	5,259	6,763	14,805	8,200	-	-	122,133
Advances to customers and trade bills	16,224,011	3,202,383	6,801,934	23,734,721	22,269,514	4,754,328	-	76,986,891
Investment in securities								
– securities mandatorily measured at FVTPL	-	12,814	50,971	20,615	57,468	6,282	-	148,150
– securities designated at FVTPL	-	613	1,215	1,770	212,356	154,653	-	370,607
– securities at FVOCI	-	3,740,834	4,382,640	10,141,356	26,455,253	-	27,183	44,747,266
– securities at amortised cost	-	8,437	1,598	135,038	1,497,324	-	-	1,642,397
Investment properties	-	-	-	-	-	-	237,150	237,150
Properties, plant and equipment	-	-	-	-	-	-	2,021,072	2,021,072
Other assets (including deferred tax assets)	145,840	230,619	144,323	304	-	-	2,829	523,915
Total assets	22,561,088	17,834,925	14,895,535	35,361,730	50,500,115	4,915,263	3,786,125	149,854,781
Liabilities								
Deposits and balances from banks and other financial institutions	(4,530,452)	(5,308,622)	(1,559,588)	(6,348,801)	-	-	-	(17,747,463)
Derivative financial instruments	(6,246)	(15,683)	(1,045)	(5,799)	(11,588)	-	-	(40,361)
Deposits from customers	(27,832,051)	(20,780,489)	(31,812,183)	(34,016,778)	(1,849,933)	-	-	(116,291,434)
Other accounts and provisions (including current and deferred tax liabilities)	(581,226)	(371,590)	(51,439)	(292,270)	(153,966)	(17,025)	(185,018)	(1,652,534)
Total liabilities	(32,949,975)	(26,476,384)	(33,424,255)	(40,663,648)	(2,015,487)	(17,025)	(185,018)	(135,731,792)
Net liquidity gap	(10,388,887)	(8,641,459)	(18,528,720)	(5,301,918)	48,484,628	4,898,238	3,601,107	14,122,989
Total off-balance sheet obligations	-	(970,567)	(2,983,897)	(4,841,275)	(3,821,131)	(21,006)	-	(12,637,876)

7. Liquidity (continued)

LIQ1: Liquidity Coverage Ratio

Number of data points used in calculating the average value of the LCR and related components set out in this template		**For the quarter ended 31 December 2019: 75 data points**	
Basis of disclosure: consolidated		**Unweighted value (average)**	**Weighted value (average)**
		HK$'000	**HK$'000**
A.	**HQLA**		
1	Total HQLA		24,453,791
B.	**Cash outflows**		
2	Retail deposits and small business funding, of which:	73,624,634	4,367,482
3	*Stable retail deposits and stable small business funding*	*10,728,166*	*321,845*
4	*Less stable retail deposits and less stable small business funding*	*17,904,574*	*1,790,458*
4a	*Retail term deposits and small business term funding*	*44,991,894*	*2,255,179*
5	Unsecured wholesale funding (other than small business funding), and debt securities and prescribed instruments issued by the AI, of which:	23,447,138	16,378,987
6	*Operational deposits*	*2,937,754*	*690,079*
7	*Unsecured wholesale funding (other than small business funding) not covered in row 6*	*20,509,384*	*15,688,908*
8	*Debt securities and prescribed instruments issued by the AI and redeemable within the LCR period*	-	-
9	Secured funding transactions (including securities swap transactions)		-
10	Additional requirements, of which:	11,353,865	2,252,795
11	*Cash outflows arising from derivative contracts and other transactions, and additional liquidity needs arising from related collateral requirements*	*221,573*	*221,573*
12	*Cash outflows arising from obligations under structured financing transactions and repayment of funding obtained from such transactions*	-	-
13	*Potential drawdown of undrawn committed facilities (including committed credit facilities and committed liquidity facilities)*	*11,132,292*	*2,031,222*
14	Contractual lending obligations (not otherwise covered in Section B) and other contractual cash outflows	1,663,234	1,663,234
15	Other contingent funding obligations (whether contractual or non-contractual)	1,303,789	42,734
16	**Total Cash Outflows**		**24,705,232**
C.	**Cash Inflows**		
17	Secured lending transactions (including securities swap transactions)	-	-
18	Secured and unsecured loans (other than secured lending transactions covered in row 17) and operational deposits placed at other financial institutions	20,135,906	11,556,994
19	Other cash inflows	1,271,699	1,264,299
20	**Total Cash Inflows**	**21,407,605**	**12,821,293**
D.	**Liquidity Coverage Ratio**		
21	**Total HQLA**		**24,453,791**
22	**Total Net Cash Outflows**		**11,883,939**
23	**LCR (%)**		**210.17%**

7. Liquidity (continued)

LIQ1: Liquidity Coverage Ratio (continued)

Notes:

- The weighted amount of HQLA is to be calculated as the amount after applying the haircuts as required under the Banking (Liquidity) Rules.
- The unweighted amounts of cash inflows and cash outflows are to be calculated as the principal amounts in the calculation of the LCR as required under the Banking (Liquidity) Rules.
- The weighted amounts of cash inflows and cash outflows are to be calculated as the amounts after applying the inflow and outflow rates as required under the Banking (Liquidity) Rules.
- The adjusted value of total HQLA and the total net cash outflows have taken into account any applicable ceiling as required under the Banking (Liquidity) Rules.

In 2019, the Group has maintained a healthy liquidity position. The LCR was sensitive to the asset deployment and the funding structure of the Group. The average LCR of the first, second, third and fourth quarters were 218.71%, 191.46%, 205.53% and 210.17% respectively. The average HKD level 1 HQLA to HKD net cash outflow ratio of 2019 was 353.55%, well above the regulatory requirement of 20%. The ratios have maintained at stable and healthy levels.

The HQLA consists of cash, balances at central banks and high quality marketable securities issued or guaranteed by sovereigns, central banks, public sector entities or multilateral development banks and non-financial corporate debt securities. In 2019, the majority of the HQLA was composed of Level 1 HQLA.

The net cash outflow was mainly from retail and corporate customer deposit which are the Group’s primary source of funds, together with deposit and balance from bank and other financial institution. To ensure stable, sufficient and diversified source of funds, the Group actively attracts new deposits, keeps the core deposit and obtains supplementary funding from the interbank market. Other cash outflow, such as commitment, cash outflow under derivative contract and potential collateral requirement, were minimal to the LCR.

Majority of the Group's customer deposits are denominated in HKD, USD and RMB. As the supply of HKD denominated HQLA in the market is relatively limited, the Group swaps surplus HKD funding into USD and other foreign currencies, part of funding are deployed to investment in HQLA.

7. Liquidity (continued)

LIQ2: Net Stable Funding Ratio

Basis of disclosure: consolidated		At 31 December 2019				
		Unweighted value by residual maturity				Weighted amount
		No specified term to maturity	< 6 months or repayable on demand	6 months to < 12 months	12 months or more	
		HK$'000	HK$'000	HK$'000	HK$'000	HK$'000
A.	**Available stable funding ("ASF") item**					
1	Capital:	14,072,593	-	-	-	14,072,593
2	*Regulatory capital*	14,072,593	-	-	-	14,072,593
2a	*Minority interests not covered by row 2*	-	-	-	-	-
3	*Other capital instruments*	-	-	-	-	-
4	Retail deposits and small business funding:	-	66,884,501	8,884,988	115,181	69,080,041
5	*Stable deposits*		14,748,780	697,589	3,313	14,677,364
6	*Less stable deposits*		52,135,721	8,187,399	111,868	54,402,677
7	Wholesale funding:	-	48,325,490	7,623,915	1,760,426	18,625,215
8	*Operational deposits*		3,621,543	-	-	1,810,772
9	*Other wholesale funding*	-	44,703,947	7,623,915	1,760,426	16,814,443
10	Liabilities with matching interdependent assets	-	-	-	-	-
11	Other liabilities:	1,890,701	580,687	-	-	404,093
12	*Net derivative liabilities*	-				
13	*All other funding and liabilities not included in the above categories*	1,890,701	580,687	-	-	404,093
14	**Total ASF**					**102,181,942**
B.	**Required stable funding ("RSF") item**					
15	Total HQLA for NSFR purposes				34,171,464	2,189,049
16	Deposits held at other financial institutions for operational purposes	-	111,307	-	-	55,654
17	Performing loans and securities:	6,611,369	42,739,089	22,116,848	40,736,504	65,456,440
18	*Performing loans to financial institutions secured by Level 1 HQLA*	-	-	-	-	-
19	*Performing loans to financial institutions secured by non-Level 1 HQLA and unsecured performing loans to financial institutions*	-	19,900,621	1,900,599	2,711,529	6,646,922
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:*	6,611,369	18,066,336	16,757,548	24,316,314	43,700,472
21	*With a risk-weight of less than or equal to 35% under the STC approach*	-	273,187	-	-	136,593
22	*Performing residential mortgages, of which:*	-	90,419	89,565	3,305,730	2,241,130
23	*With a risk-weight of less than or equal to 35% under the STC approach*	-	89,823	88,959	3,293,663	2,230,272
24	*Securities that are not in default and do not qualify as HQLA, including exchange-traded equities*	-	4,681,713	3,369,136	10,402,931	12,867,916
25	Assets with matching interdependent liabilities	-	-	-	-	-
26	Other assets:	3,309,389	424,896	4,561	484	3,472,158
27	*Physical traded commodities, including gold*	53,236				53,236
28	*Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs*	-				-
29	*Net derivative assets*	100,773				100,773
30	*Total derivative liabilities before deduction of variation margin posted*	40,361				Not applicable
31	*All other assets not included in the above categories*	3,115,019	424,896	4,561	484	3,318,149
32	Off-balance sheet items				12,637,877	572,490
33	**Total RSF**					**71,745,791**
34	**Net Stable Funding Ratio (%)**					**142.42%**

7. Liquidity (continued)

LIQ2: Net Stable Funding Ratio (continued)

Basis of disclosure: consolidated		At 30 September 2019				
		Unweighted value by residual maturity				Weighted amount
		No specified term to maturity	< 6 months or repayable on demand	6 months to < 12 months	12 months or more	
		HK$'000	HK$'000	HK$'000	HK$'000	HK$'000
A.	**Available stable funding ("ASF") item**					
1	Capital:	13,775,087	-	-	-	13,775,087
2	*Regulatory capital*	13,775,087	-	-	-	13,775,087
2a	*Minority interests not covered by row 2*	-	-	-	-	-
3	*Other capital instruments*	-	-	-	-	-
4	Retail deposits and small business funding:	-	62,496,291	10,329,049	38,346	66,432,639
5	*Stable deposits*		15,659,613	1,370,125	7,057	16,185,308
6	*Less stable deposits*		46,836,678	8,958,924	31,289	50,247,331
7	Wholesale funding:	-	42,440,665	7,781,308	2,287,583	16,053,057
8	*Operational deposits*		3,332,305	-	-	1,666,153
9	*Other wholesale funding*	-	39,108,360	7,781,308	2,287,583	14,386,904
10	Liabilities with matching interdependent assets	-	-	-	-	-
11	Other liabilities:	1,513,445	942,294	-	-	375,813
12	*Net derivative liabilities*	-				
13	*All other funding and liabilities not included in the above categories*	1,513,445	942,294	-	-	375,813
14	**Total ASF**					**96,636,596**
B.	**Required stable funding ("RSF") item**					
15	Total HQLA for NSFR purposes				29,507,969	1,801,529
16	Deposits held at other financial institutions for operational purposes	-	175,382	-	-	87,691
17	Performing loans and securities:	6,112,996	32,326,377	22,166,457	47,705,038	67,804,340
18	*Performing loans to financial institutions secured by Level 1 HQLA*	-	-	-	-	-
19	*Performing loans to financial institutions secured by non-Level 1 HQLA and unsecured performing loans to financial institutions*	20,694	14,804,793	2,191,637	3,828,580	7,165,811
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:*	6,092,302	13,101,055	16,788,621	29,628,308	45,307,357
21	*With a risk-weight of less than or equal to 35% under the STC approach*	-	268,179	-	-	134,090
22	*Performing residential mortgages, of which:*	-	84,558	82,436	2,927,177	1,988,478
23	*With a risk-weight of less than or equal to 35% under the STC approach*	-	84,122	81,992	2,915,597	1,978,195
24	*Securities that are not in default and do not qualify as HQLA, including exchange-traded equities*	-	4,335,971	3,103,763	11,320,973	13,342,694
25	Assets with matching interdependent liabilities	-	-	-	-	-
26	Other assets:	3,347,475	399,559	5,390	1,648	3,468,418
27	*Physical traded commodities, including gold*	50,993				50,993
28	*Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs*	-				-
29	*Net derivative assets*	69,360				69,360
30	*Total derivative liabilities before deduction of variation margin posted*	77,363				Not applicable
31	*All other assets not included in the above categories*	3,149,759	399,559	5,390	1,648	3,348,065
32	Off-balance sheet items				12,780,175	563,035
33	**Total RSF**					**73,725,013**
34	**Net Stable Funding Ratio (%)**					**131.08%**

7. Liquidity (continued)

LIQ2: Net Stable Funding Ratio (continued)

Notes:

The above disclosures are made pursuant to the section 16FL and 103AB of Banking (Disclosure) Rules. The items disclosed are measured according to the methodology and instructions set out in the Stable Funding Position Return (MA(BS)26) and the requirements set out in Banking (Liquidity) Rules.

Net Stable Funding Ratio ("NSFR") is defined as the amount of available stable funding ("ASF") relative to the amount of required stable funding ("RSF"). The ratio is calculated after applying the respective ASF or RSF factors required under the Stable Funding Position Return (MA(BS)26). It requires banks to maintain a stable funding profile in relation to the composition of banks' assets and off-balance sheet activities.

The NSFR of the group remained robust and well above the regulatory requirement of 100%. The NSFR of the third quarter and the fourth quarter of 2019 were 131.08% and 142.42% respectively. The weighted amount of ASF items mainly consists of retail deposits. The weighted amount of RSF items mainly consists of loans to customers and investments in debt securities.

8. Interest rate risk in banking book

IRRBBA: Interest rate risk in banking book – risk management objectives and policies

(a) Interest rate risk means the risks to a bank's earnings and economic value arising from movements in interest rate and term structures of the Group's asset and liability positions. The Group's interest rate risk exposures are mainly structural. The major types of interest rate risk from structural positions are gap risk, basis risk and option risk. For details of the Group's Interest Rate Risk Management, please refer to Note 4.2 to the Consolidated Financial Statements.

(b) The Group sets out interest rate risk indicators and limits to identify, measure, monitor and control interest rate risk. The indicators and limits include, but are not limited to, repricing gap limits, basis risk, price value of a basis point ("PVBP"), net interest income sensitivity ratio ("NII"), economic value sensitivity ratio ("EVE"), etc. According to the Group's development strategy, risk appetite, interest rate risk monitor and control procedure, the indicators and limits are classified into different levels, which are approved by the RC, ALCO and the General Manager of FMD accordingly. Risk-taking business units are required to conduct their business within the boundary of the interest rate risk limits. Before launching a new product or business in the banking book, the relevant departments are required to go through a risk assessment process, which includes the assessment of underlying interest rate risk and consideration of the adequacy of current risk monitoring mechanism. Any material impact on interest rate risk noted during the risk assessment process will be submitted to the RC for approval.

(c) NII and EVE assess the impact of interest rate movement on the Group's net interest income and capital base. They are the Group's key interest rate risk indicators. The former assesses the impact of interest rate movement on net interest income as a percentage to the projected net interest income for the year. The latter assesses the impact of interest rate movement on economic value (i.e. the net present value of cash-flows of assets, liabilities and off-balance sheet items discounted using market interest rate) as a percentage to the latest Tier1 capital base. The Group would calculate interest rate risk in banking book ("IRRBB") measures on a monthly basis and submit the regulatory reports on a quarterly basis. Limits are set by the RC on these two indicators to monitor and control the Group's IRRBB.

(d) The Group appropriately adjusts the interest rate repricing structure, the pricing method and pricing level at opportune time to facilitate the business development in order to align with the effective control of IRRBB. In addition, financial instruments as approved by ALCO are effectively used to mitigate the IRRBB. The risk mitigation measures include, but not limited to, the use of interest rate derivatives, adjustment of portfolio duration, etc.

8. Interest rate risk in banking book (continued)

IRRBBA: Interest rate risk in banking book – risk management objectives and policies (continued)

(e) The Group uses scenario analyses and stress tests to assess the IRRBB that the Group would face under adverse circumstances on a monthly basis. Scenario analyses and stress tests are also used to assess the impact on net interest income and economic value arising from the optionality of savings deposits and the prepayment of mortgage loans.

(f) To estimate the impact on EVE and NII, the Group measures IRRBB by means of the following six scenarios under the regulatory standard framework:

- Parallel shock up;
- Parallel shock down;
- Steepener shock (short rates down and long rates up);
- Flattener shock (short rates up and long rates down);
- Short rates shock up; and
- Short rates shock down.

(g) As of the reporting date 31 December 2019, the Group's maximum ∆EVE loss for all major currencies (including HKD, USD, CNY and CNH) under the six prescribed interest rate shock scenarios is 6.65%, far below the regulatory benchmark 15%, which indicates that the Group's interest rate risk level is under control. For details of the Group's ∆EVE, please refer to IRRBB1.

(h) In terms of IRRBB management, the key functions of ALCO are as below:

- To formulate or review regularly (at least annually) the IRRBB management policy and Key Risk Indicators (Level A), for the approval of the RC;
- ALCO is authorized to review Level B limits, relevant assumptions and methodologies, including measurement methods and stress testing methodologies;
- To formulate or review the fund transfer pricing mechanism for effectively transferring the IRRBB to the funding pool to facilitate centralized management;
- To peruse the Group's risk reports on IRRBB and monitor the trend of risk level of the Group and whether the IRRBB Management Policy is duly implemented; to ensure that the asset-liability strategies, investment and other business strategies are executed within the established IRRBB limit controls;
- To review limit utilization / excess reports on IRRBB and to approve relevant remedial actions;
- To report the measurement results of IRRBB and hedging strategies to the RC regularly (at least semi-annually). The report includes, but not limited to, the aggregate IRRBB exposures and the reasons of risk changes, compliance with policies and limits, key assumptions, stress testing results, reviews of IRRBB policies, findings of internal and external auditors and/or other equivalent external parties, and risk hedging strategies.

8. Interest rate risk in banking book (continued)

IRRBBA: Interest rate risk in banking book – risk management objectives and policies (continued)

(i) The Group has an effective management information system so as to provide timely, accurate and reliable management information and technical support for measuring, monitoring, controlling and reporting IRRBB. The management information system is maintained by a designated unit and continuously enhanced the technical functions to support the needs of business development and risk management requirements.

(j) When calculate change in EVE, commercial margins and other spread components are included in the cash flows. The margin components are slotted according to their payment schedule until the contractual maturity, irrespective of whether the notional principal has been repriced or not, provided that the notional principal has not yet been repaid and that the margin components do not reprice. The commercial margins are not included in the risk-free rates which are used to discount cash flows.

(k) The average repricing maturity of NMDs depends on two main factors, which are product characteristics of in-scope products and the behavioural modelling results. In-scope NMDs include VOSTRO account deposits and current account & saving account ("CASA") deposits.

- Since VOSTRO account deposits are very volatile in nature, they are slotted to overnight time bucket as stipulated by regulation.
- All other CASA deposits except in HKD and USD are slotted to overnight time bucket as stipulated by regulation, due to the small proportion.
- The CASA deposits in HKD and USD would undergo quantitative behavioural modelling analysis. Less-stable deposit percentage is obtained from volatility analysis, which is to derive the percentage drop in balance in a portfolio by tracking the same portfolio of accounts for a certain defined period, using daily historical data. Non-core deposit percentage is obtained from pass-through-rate analysis, which is to derive the magnitude in relation to how a change in market rate will correlate to a change in saving rate. The remaining NMD portion would be the core deposit.

(l) For retail term deposits subject to early redemption without significant penalty (flexi deposits only), early redemption rates are calculated on a balance-weighted average basis using daily historical data, categorized into different segments, which comprise of currency, contractual maturity and interest rate structure. Significant assumptions include:

- Customers in the same segment have the same behaviour:
- Only terminated transactions are in the scope of modelling so as to track the entire early redemption behaviour within the contractual maturity.

8. Interest rate risk in banking book (continued)

IRRBBA: Interest rate risk in banking book – risk management objectives and policies (continued)

(m) For retail fixed rate loans subject to prepayment without significant penalty, prepayment rates are calculated on a balance-weighted average basis using daily historical data, categorized into different segments, which comprise of product type and currency. Significant assumptions include:

- Customers in the same segment have the same behaviour;
- The monthly prepayment rate is independent and constant.

(n) Methods of aggregation across currencies strictly follow the IRRBB Standardised Framework. EVE losses (i.e., ΔEVE greater than 0) are aggregated under a given interest rate shock scenario and currency. The aggregate EVE risk measure across all applicable currencies is calculated as the maximum loss across the six interest rate shock scenarios. The Group adopts the six supervisory prescribed interest rate shock scenarios to measure IRRBB. No additional correlations between different currencies are applied.

(o) Average repricing maturity assigned to NMDs is the principal-weighted maturity. That is the sum product of the principal of NMDs and the assigned repricing maturity, divided by the total principal of NMDs. As of the reporting date 31 December 2019, the average repricing maturity the Group assigned to NMDs are as follow:

- Average repricing maturity assigned to NMDs of HKD is 0.34 year/4.11 months;
- Average repricing maturity assigned to NMDs of USD is 0.67 year/8.09 months;
- Repricing maturity assigned to other NMDs is overnight.

(p) As of the reporting date 31 December 2019, the longest repricing maturity the Group assigned to NMDs are as follow:

- Longest repricing maturity assigned to NMDs of HKD is 1 year;
- Longest repricing maturity assigned to NMDs of USD is 5 years;
- Repricing maturity assigned to other NMDs is overnight.

8. Interest rate risk in banking book (continued)

IRRBB1: Quantitative information on interest rate risk in banking book

(a) The following is a summary of possible effects of market interest rates shocks on the Group's interest rate exposure as at 31 December 2019 under the six prescribed interest rate shock scenarios in relevant currency (including HKD, USD, CNY and CNH). Since this is the first time disclosure under new requirements of the HKMA, comparative figures with previous year are not available.

	Period	ΔEVE	ΔNII
		At 31 December 2019	**At 31 December 2019**
		HK$'000	**HK$'000**
1	Parallel up	804,000	9,000
2	Parallel down	165,000	(9,000)
3	Steepener	151,000	
4	Flattener	336,000	
5	Short rate up	585,000	
6	Short rate down	228,000	
7	**Maximum**	**804,000**	**9,000**
	Period	**At 31 December 2019**	
		HK$'000	
8	**Tier 1 capital**	**12,084,703**	

9. Credit risk for non-securitization exposures

CRA: General information about credit risk

(a) Credit risk[3] is the risk of loss that a customer or counterparty is unable to or unwilling to meet its contractual obligations. Credit risk exists in the trading book and banking book, as well as on- and off-balance sheet transactions. It arises principally from lending, trade finance, debt securities and treasury businesses.

(b) The Group has formulated a comprehensive set of credit risk management policies and procedures, and appropriate credit risk limits to manage and control credit risk in a proactive and prudent manner. These policies, procedures and credit risk limits are regularly reviewed and updated to cope with changes in market conditions and business strategies. The credit risk policy and credit limits are set out in a sustainable, stable and healthy manner by adopting prudent and consistent credit risk management standards and practices. The Group will not relax the underwriting standards or sacrifice the credit quality in return for a rapid growth or return in loan portfolio or market share or meeting short term targets.

(c) Risk Assessment Department (RAD) and Risk Management Department (RMD) are responsible for credit risk management. Various units of the Group have their respective credit risk management responsibilities. Business units act as the first line of defense. Both RAD and RMD, which are independent from the business units, are responsible for the day-to-day management of credit risks and has the primary responsibility for providing an independent due diligence through identifying, measuring, monitoring and controlling credit risk to ensure an effective checks and balances, as well as drafting, reviewing and updating credit risk management policies and procedures.

The Board of Directors delegates credit approval authority to the CE. The CE can further delegate to the subordinates within his limit authorized by the Board of Directors. The Group sets the limits of credit approval authority according to the credit business nature, rating, the level of transaction risk, and the extent of the credit exposure.

(d) The Group uses internal ratings in its credit risk management process, which are generated by its internal rating models to support risk assessments in the credit approval, monitoring, making provisions, reporting and so on.

Compliance functions, which are independent from the business units, are responsible for day-to-day management of compliance risks. They have the primary responsibilities for providing an independent due diligence through identifying, measuring, monitoring and controlling compliance risk to ensure an effective check and balance.

[3] Credit risk includes, but not limited to, credit concentration risk on any single credit exposure or exposure to the same group of customer or counterparty, geographical area, industry, or economic sector that could cause substantial losses to the Bank or material changes to the Bank's risk profile. Credit risk also includes counterparty credit risk arising from derivative transactions.

9. Credit risk for non-securitization exposures (continued)

CRA: General information about credit risk (continued)

(d) *(continued)*

Internal audit function is responsible for conducting independent checking, and report to the Board on the quality of risk management supervision, the adequacy and the compliance of internal policies and procedures.

(e) The Group will provide timely, accurate and reliable credit risk reporting for reference by the Board of Directors, the Risk Management Committee, senior management and relevant units in the decision-making process. The Group provides various reports to the Board of Directors, Risk Management Committee and senior management regularly and where appropriate. The highlights include: large exposures and risk concentrations, ratio of total loans to loan limits, credit structure and quality, internal rating and trends, exposures to connected parties, impairment provision and stress test results.

9. Credit risk for non-securitization exposures (continued)

CR1: Credit quality of exposures

		At 31 December 2019						
		Gross carrying amounts of		Allowances / Impairments	Of which ECL accounting provisions for credit losses on STC approach exposures		Of which ECL accounting provisions for credit losses on IRB approach exposures	Net values
		Defaulted exposures	Non-defaulted exposures		Allocated in regulatory category of specific provisions	Allocated in regulatory category of collective provisions		
		HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000
1	Loans	296,200	100,090,870	633,654	-	83,422	550,232	99,753,416
2	Debt securities	-	46,734,886	1,798	-	-	1,798	46,733,088
3	Off-balance sheet exposures	8,597	12,629,279	26,803	-	11,550	15,253	12,611,073
4	**Total**	**304,797**	**159,455,035**	**662,255**	**-**	**94,972**	**567,283**	**159,097,577**

"Defaulted exposures" are defined as the exposures are past due for more than 90 days or the borrower is unlikely to pay in full for the credit obligations.

CR2: Changes in defaulted loans and debt securities

		HK$'000
1	**Defaulted loans and debt securities as at 30 June 2019**	336,073
2	Loans and debt securities that have defaulted since the last reporting period	102,305
3	Returned to non-defaulted status	-
4	Amounts written off	(140,552)
5	Other changes	(1,626)
6	**Defaulted loans and debt securities as at 31 December 2019**	**296,200**

9. Credit risk for non-securitization exposures (continued)

CRB: Additional disclosure related to credit quality of exposures

(a) Advances with a specific repayment date are classified as overdue when the principal or interest is past due and remains unpaid. Advances repayable by regular installments are classified as overdue when an installment payment is past due and remains unpaid. 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 instruction or when the advances have remained continuously exceeded the approved limit that was advised to the borrower.

HKFRS 9 commence to implement on 01 Jan 2018, the Group required to make impairment, maximum of 12-month expected credit loss, for the account without significant increase in credit risk since initial recognition, if it happens significant increase in credit risk, lifetime expected credit loss should be considered for the recognition of credit loss. Our bank would base on major credit risk criteria, such as overdue days, credit rating, watchlist and stage consistency appraisal etc, to determine the exposure stage.

(b) Advances which are past due for more than 90 days but are not impaired as the carrying amount can be fully covered by the present value of estimated future cash flows.

(c) For exposures that are covered by internal model

Stage 1:

Definition: No significant increase in credit risk since initial recognition.

Impairment calculation logic: maximum of 12-month expected credit loss for the recognition of credit loss.

Stage 2:

Definition: Significant increase in credit risk since initial recognition but no objective evidence of credit impairment event.

Impairment calculation logic: lifetime expected credit loss should be considered for the recognition of credit loss.

Stage 3:

Definition: Significant increase in credit risk since initial recognition with objective evidence of credit event.

Impairment calculation logic: Asset net value minus collateral value after haircut, the unsecured portion would be assigned for credit loss.

For exposures that are not covered by internal model, the ECL% proxy approach will be adopted which calculates ECL based on an estimation with reference to similar exposures covered by an internal model. Below are some types of exposures that do not have any internal rating nor LGD estimates.

1. If the financial assets are under the standardized approach in capital calculation, the ECL% proxy approach is used, except sovereign exposures.

2. An internal rating is not yet available for some new loans issued in the current month. These exposures will apply the ECL% proxy approach until an internal rating is available.

9. Credit risk for non-securitization exposures (continued)

CRB: Additional disclosure related to credit quality of exposures (continued)

(c) *(continued)*

3. Some exposures can only be pushed back onto the ECL engine after the month end. These exposures will apply the ECL% proxy approach.

4. For any future new product type in the impairment scope without an internal model covered, the ECL% proxy approach is also used primarily.

The ECL of these exposures under the ECL% proxy approach is calculated as:

$ECL = EAD \times ECL\%proxy\ portfolio, stage, risk\ class \times remaining\ expected\ life$

, where $ECL\%proxy\ portfolio$, $class$ is annualized ECL% of proxy portfolio by risk class and stage.

(d) Rescheduled advances are those advances that have been restructured or renegotiated because of deterioration in the financial position of the borrower or of the inability of the borrower to meet the original repayment schedule.

9. Credit risk for non-securitization exposures (continued)

CRB: Additional disclosure related to credit quality of exposures (continued)

(e) Breakdown of exposures by geographical areas, industry and residual maturity.

Any segment which constitutes less than 10% of the Group's total RWA for credit risk (after taking into account any recognized CRM) is deemed non-significant exposures and disclosed on an aggregated basis under the category "other".

Exposures subject to credit risk framework are classified by geographical areas:

		At 31 December 2019
		HK$'000
1	Hong Kong SAR	90,052,138
2	China	41,386,695
3	Others	28,320,999
4	**Total**	**159,759,832**

Exposures subject to credit risk framework are classified by industry:

		At 31 December 2019
		HK$'000
1	Financial concerns	52,025,422
2	Sovereign	19,912,275
3	Building & construction, property	16,077,852
4	Professional & private individuals	13,891,107
5	Wholesale and retail trade	13,160,707
6	Others	44,692,469
7	**Total**	**159,759,832**

Exposures subject to credit risk framework are classified by residual maturity:

		At 31 December 2019
		HK$'000
1	Within one year	99,076,376
2	One to five years	54,255,578
3	Over five years	4,929,987
4	Indefinite	1,497,891
5	**Total**	**159,759,832**

9. Credit risk for non-securitization exposures (continued)

CRB: Additional disclosure related to credit quality of exposures (continued)

(f) Amounts of impaired exposures (according to the definitions in use under the applicable accounting standards) broken down by geographical areas and industries:

	At 31 December 2019		
	Gross advances	Stage 3 impairment allowance	Amounts Written off
Geographical areas	**HK$'000**	**HK$'000**	**HK$'000**
Hong Kong	189,376	188,526	352
Mainland of China	104,751	96,342	27,627
Others	2,073	-	-
Total	**296,200**	**284,868**	**27,979**

	At 31 December 2019		
	Gross advances	Stage 3 impairment allowance	Amounts Written off
Industry	**HK$'000**	**HK$'000**	**HK$'000**
Property investment	20	-	-
Loans for purchase of other residential properties	3,240	-	-
Electricity and gas	91,667	91,669	-
Manufacturing	100,374	92,357	-
Wholesale and retail trade	100,701	100,842	11,638
Others	198	-	16,341
Total	**296,200**	**284,868**	**27,979**

As at 31 December 2019, there were no restructured exposures.

(g) Aging analysis of accounting past due exposures:

	At 31 December 2019
	Gross advances
Gross advances to customers which have been overdue for	**HK$'000**
- less than three months	593,202
- six months or less but over three months	2
- one year or less but over six months	78,847
- over one year	120,262
Total	**792,313**

9. Credit risk for non-securitization exposures (continued)

CRC: Qualitative disclosures related to credit risk mitigation

(a) For collateral recognized for the purpose of capital management, the Group has established clear policies and procedures for collateral valuation and management which are compliant with the operational requirements for recognised collateral of credit risk mitigation set out in the Banking (Capital) Rules.

For credit exposures adopting FIRB approach for capital calculation purpose, the recognised eligible guarantees include the guarantees provided by banks, corporate and securities firms with a lower risk weights than the counterparty. The Group takes into account the credit risk mitigation effect of recognised collaterals through its determination of the net credit exposures and the effective LGD.

For retail exposures adopting IRB approach, the effect of the credit risk mitigation is incorporated into the internal risk parameters of PD or LGD depending on the nature of the guarantees and collaterals for calculating the risk exposures.

For credit exposures adopting STC approach, the main types of recognised collaterals include cash deposits, debt securities and equities for non-past due exposures. In addition, real estate collateral is also recognised for past due exposures. The treatment of recognised collateral is compliant with the comprehensive approach for credit risk mitigation set out in the Banking (Capital) Rules. For credit exposures under STC approach, the recognised guarantees for capital calculation include the guarantees given by sovereigns, public sector entities, multilateral development banks, or banks and corporates with ECAI issuer ratings both exempted from FIRB approach for credit exposures, that have lower risk weights than the counterparty.

Besides, the recognised netting for credit risk mitigation includes derivatives subject to valid bilateral netting agreements.

(b) The Group’s collateral management policies sets out different valuation methods of collateral, type of valuation agencies , requirements and the form of valuation based on the nature and risk characteristics of loan, collateral and the type of valuation agencies for evaluate/revaluation objectively.

Depending on the level of risk, collateral condition and abnormal situation that may arise, the Group may adopt more prudent requirements on valuation method, frequency and on-site visit etc.

The assumptions of the valuation methodologies to be used in the valuation report should be reasonable and prudent and clearly documented.

The Group sets out different requirements in accordance with the nature of different credit, risk underlying and collateral types, including (but not limited to) monitoring of loan to value ratio, specific haircuts of different collateral, as well as the requirement of insurance.

9. Credit risk for non-securitization exposures (continued)

CRC: Qualitative disclosures related to credit risk mitigation (continued)

(c) The credit and market risk concentrations within the credit risk mitigation (recognised collateral and guarantees for capital calculation) used by the Group are under a low level.

Up to the date of report, for capital calculation, except OTC derivative transactions cleared by central counterparties and derivatives subject to valid bilateral netting agreements, the Group has not used any other on-balance sheet or off-balance sheet recognised netting for credit risk mitigation. The Group also has not used any recognized credit derivative contracts for credit risk mitigation.

CR3: Overview of recognized credit risk mitigation

		At 31 December 2019				
		Exposures unsecured: carrying amount	**Exposures to be secured**	**Exposures secured by recognized collateral**	**Exposures secured by recognized guarantees**	**Exposures secured by recognized credit derivative contracts**
		HK$'000	**HK$'000**	**HK$'000**	**HK$'000**	**HK$'000**
1	Loans	77,755,447	21,997,969	12,879,972	9,117,997	-
2	Debt securities	45,319,789	1,413,299	-	1,413,299	-
3	**Total**	**123,075,236**	**23,411,268**	**12,879,972**	**10,531,296**	**-**
4	Of which defaulted	11,339	-	-	-	-

CRD: Qualitative disclosures on use of ECAI ratings under STC approach

(a) The Group performs the ECAI issuer ratings mapping to its exposures in banking book in accordance with Part 4 of the Banking (Capital) Rules. The ECAIs recognized by the Group include Standard & Poors, Moody's and Fitch. The ECAIs recognized by the Group has no change over the reporting period.

(b) The Group adopts STC approach based on external credit rating to determine the risk weight of the credit exposure that approved by the HKMA to be exempted from FIRB approach, which included Sovereign exposures and Equity exposures.

(c) For credit exposures adopting STC approach, the main types of recognised collaterals include cash deposits, debt securities and equities for non-past due exposures. In addition, real estate collateral is also recognised for past due exposures. The treatment of recognised collateral is compliant with the comprehensive approach for credit risk mitigation as mentioned in the Banking (Capital) Rules. For credit exposures under STC approach, the recognised guarantees for capital calculation include the guarantees given by sovereigns, public sector entities, multilateral development banks, or banks and corporates with ECAI issuer ratings both exempted from FIRB approach for credit exposures, that have lower risk weights than the counterparty. Besides, the recognised netting for credit risk mitigation includes derivatives subject to valid bilateral netting agreements.

9. Credit risk for non-securitization exposures (continued)

CR4: Credit risk exposures and effects of recognized credit risk mitigation – for STC approach

		At 31 December 2019					
		Exposures pre-CCF and pre-CRM		Exposures post-CCF and post-CRM		RWA and RWA density	
		On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount	RWA	RWA density
	Exposure classes	**HK$'000**	**HK$'000**	**HK$'000**	**HK$'000**	**HK$'000**	**%**
1	Sovereign exposures	25,503,807	-	25,503,807	-	58,400	0.23
2	PSE exposures	1,415,230	-	1,415,230	-	283,046	20.00
2a	Of which: domestic PSEs	1,415,230	-	1,415,230	-	283,046	20.00
2b	Of which: foreign PSEs	-	-	-	-	-	-
3	Multilateral development bank exposures	182,528	-	182,528	-	-	-
4	Bank exposures	46,710	-	46,710	-	9,342	20.00
5	Securities firm exposures	-	-	-	-	-	-
6	Corporate exposures	4,100,916	594,982	4,100,916	289,639	3,804,344	86.65
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	2,339,661	613,322	2,339,661	25,055	1,761,988	74.51
11	Residential mortgage loans	13,287	0	13,287	-	6,644	50.00
12	Other exposures which are not past due exposures	2,149,684	93,909	2,149,684	-	2,149,684	100.00
13	Past due exposures	11	-	11	-	17	155.88
14	Significant exposures to commercial entities	-	-	-	-	-	-
15	**Total**	**35,751,834**	**1,302,213**	**35,751,834**	**314,694**	**8,073,465**	**22.38**

9. Credit risk for non-securitization exposures (continued)

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

	Exposure class / Risk Weight	At 31 December 2019										
		0%	10%	20%	35%	50%	75%	100%	150%	250%	Others	Total credit risk exposures amount (post CCF and post CRM)
		HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000
1	Sovereign exposures	25,211,809	-	291,998	-	-	-	-	-	-	-	25,503,807
2	PSE exposures	-	-	1,415,230	-	-	-	-	-	-	-	1,415,230
2a	Of which: domestic PSEs	-	-	1,415,230	-	-	-	-	-	-	-	1,415,230
2b	Of which: foreign PSEs	-	-	-	-	-	-	-	-	-	-	-
3	Multilateral development bank exposures	182,528	-	-	-	-	-	-	-	-	-	182,528
4	Bank exposures	-	-	46,710	-	-	-	-	-	-	-	46,710
5	Securities firm exposures	-	-	-	-	-	-	-	-	-	-	-
6	Corporate exposures	586,211	-	-	-	-	-	3,804,344	-	-	-	4,390,555
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	15,398	-	-	-	-	2,349,318	-	-	-	-	2,364,716
11	Residential mortgage loans	-	-	-	-	13,287	-	-	-	-	-	13,287
12	Other exposures which are not past due exposures	-	-	-	-	-	-	2,149,684	-	-	-	2,149,684
13	Past due exposures	-	-	-	-	-	-	-	11	-	-	11
14	Significant exposures to commercial entities	-	-	-	-	-	-	-	-	-	-	-
15	**Total**	**25,995,946**	**-**	**1,753,938**	**-**	**13,287**	**2,349,318**	**5,954,028**	**11**	**-**	**-**	**36,066,528**

9. Credit risk for non-securitization exposures (continued)

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

(a) The internal model developments, controls and changes are complied with the regulatory requirements of Banking (Capital) Rules by the HKMA. Model standards are established for governing the process of the initial development, the approval and the implementation of the internal rating system, as well as the procedures for monitoring and reporting of the model performance.

The Group uses statistical models to provide own estimated probability of default ("PD") for its corporate, bank and retail borrowers, and loss given default ("LGD") and exposure at default ("EAD") for retail exposures under retail IRB approach.

(b) The model development and maintenance unit of Risk Assessment Department is responsible for developing, maintaining and changing internal rating models. The implementation of initial IRB models and the subsequent material changes of models are approved by the Group's Risk Committee of the Board. For models used in the calculation of statutory minimum capital requirement, prior approval of the HKMA is required before implementation.

The Risk Assessment Department as a credit risk control unit is responsible for the design, selection, testing and implementation, oversight of the effectiveness, as well as related monitoring and review of an internal rating system.

Internal audit reviews the internal rating system and the operations of the related credit risk control units. The audit purpose is to verify the control mechanism over the internal rating system is functioning as intended.

Comprehensive validation of all internal rating models is carried out by Model Validation Team that is functionally independent of model development, maintenance unit and business units. The validation findings and conclusions will be submitted directly to the Group's senior management and the RC.

In principle, models already approved and launched for official use are validated at least once a year. If material changes in the market environment or business activities are perceived to have potentially significant impact on effectiveness of IRB systems, unscheduled validation will be conducted accordingly.

For newly-developed or revised internal rating models, independent validation should be carried out before the model is submitted to the RC for approval for implementation. The validation opinions will be submitted together with the model development documentation for consideration in the model approval process.

9. Credit risk for non-securitization exposures (continued)

CRE: Qualitative disclosures related to internal models for measuring credit risk under IRB approach (continued)

(c) The performance of internal rating system is put under ongoing periodic monitoring. A set of quantitative indicators approved by the RC of the Board are used for reviewing the performance of credit risk models with respect to discriminatory power, accuracy, stability and conservativeness. The results of periodic monitoring are reported to the senior management and the RC of the Board.

(d) The Group adopts the FIRB approach to calculate the regulatory capital requirements for most of the corporate and bank exposures, and adopts the supervisory slotting criteria approach to project finance exposures under specialised lending. The Group adopts retail IRB approach for retail exposures to individuals and small business. The following is the table showing the Group’s different capital calculation approaches to each asset class and sub-classes of exposures (other than securitisation exposures).

Asset Class	Exposure sub-class	Capital calculation approach
Corporate exposures	Specialised lending under supervisory slotting criteria approach (project finance)	Supervisory Slotting Criteria Approach
	Small-and-medium sized corporates	FIRB Approach
	Other corporates	
Sovereign exposures	Sovereigns	Standardised (credit risk) Approach
	Sovereign foreign public sector entities	
	Multilateral development banks	
Bank exposures	Banks	FIRB Approach
	Securities firms	
	Public sector entities (excluding sovereign foreign public sector entities)	Standardised (credit risk) Approach
Retail exposures	Residential mortgages to individuals	Retail IRB Approach
	Residential mortgages to property-holding shell companies	
	Qualifying revolving retail	
	Other retail to individuals	
	Small business retail	
Equity exposures		Standardised (credit risk) Approach
Other exposures	Cash items	Specific Risk-weight Approach
	Other items	

9. Credit risk for non-securitization exposures (continued)

CRE: Qualitative disclosures related to internal models for measuring credit risk under IRB approach (continued)

(e) The portion of EAD subject to credit risk framework covered by the STC approach and FIRB approaches are as follow:

	At 31 December 2019		
	Portion of EAD (%)		
Portfolios	IRB	STD	Total
Sovereign Exposure	0.00	100.00	100.00
Bank Exposures	96.46	3.54	100.00
Corporate Exposures	93.94	6.06	100.00
Retail Exposures	66.16	33.84	100.00
Others exposures	88.54	11.46	100.00
Total	75.69	24.31	100.00

9. Credit risk for non-securitization exposures (continued)

CRE: Qualitative disclosures related to internal models for measuring credit risk under IRB approach (continued)

(f) The following is a table showing key IRB models used with respect to each asset class and sub-classes of exposure:

Asset class	Exposure sub-class	IRB model used
Corporate exposures	Small-and-medium sized corporates	1. Bank-like PD Model: Mainly applicable to banks, banking groups and relevant holding companies 2. Non-bank Financial Institution (Insurance) PD Model: Mainly applicable to insurers 3. Non-bank Financial Institution (Securities) PD Model: Mainly applicable to securities firms and relevant holding companies 4. Large Corporate PD Model: Mainly applicable to companies with higher annual sales turnover 5. Corporate SME/Middle Market PD Model Mainly applicable to companies with lower annual sales turnover 6. Real Estate Developer PD Model: Mainly applicable to real estate developers 7. Corporate Real Estate Investor PD Model: Mainly applicable to companies with a real estate investment focus in their business activities 8. Object Finance PD Model: Mainly applicable to funding used for acquisition of specific physical assets
	Other corporates	
Bank exposures	Banks	
	Securities firms	
Retail exposures	Residential mortgages to individuals	Retail Mortgage Loan PD Model
	Residential mortgages to property-holding shell companies	
	Qualifying revolving retail	Other Retail PD Model
	Other retail to individuals	1.Initial Public Offering (IPO) PD Model :Mainly applicable to other exposures 2.Other Retail PD Model : Mainly applicable to other exposures
	Small business retail	Retail SME PD Model

(g) Probability of default (PD) is modeled following the through-the-cycle (TTC) approach. For portfolios with a sufficient number of defaults, PD models are built on a statistical basis. For historically low-default portfolios, PD models rely more heavily on external data and/or expert judgement. Compared with historical average actual observed default rates, the estimated PD of the Group is generally conservative.

Loss given default (LGD) is modeled using risk drivers such as product type and collateral attached to the exposure. The LGD models are calibrated based on downturn experience. Historical loss experience of defaults during a downturn and stressed parameter based estimates (such as the cure rate) are considered for LGD estimation.

Exposure at default (EAD) takes into account the potential drawdown of a commitment as an obligor defaults. For reducing balance exposures which do not allow additional drawdowns, EAD is estimated as the outstanding balance. For revolving balance exposures which allow additional drawdowns, EAD is predicted by estimating the credit conversion factors (CCF) of undrawn commitments. Historical default experience, external data and expert judgement are used for CCF estimation.

9. Credit risk for non-securitization exposures (continued)

CR6: Credit risk exposures by portfolio and PD ranges – for IRB approach

(a) FIRB approach

		At 31 December 2019											
	PD scale	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$'000	HK$'000	%	HK$'000	%		%	Year	HK$'000	%	HK$'000	HK$'000
Bank Exposures	0.00 to < 0.15	31,711,135	302,957	0.98	32,310,059	0.07	124	45.00	2.5	9,762,335	30.21	9,839	
	0.15 to < 0.25	2,459,623	-	-	2,458,352	0.22	24	45.00	2.5	1,516,674	61.69	2,434	
	0.25 to < 0.50	3,289,816	459,021	17.81	3,496,762	0.39	18	46.33	2.5	2,728,111	78.02	6,323	
	0.50 to < 0.75	334,126	30,500	-	762,422	0.52	9	44.97	2.5	695,343	91.20	1,775	
	0.75 to < 2.50	609,049	3,000	-	609,049	1.31	4	45.00	2.5	610,542	100.25	3,602	
	2.50 to < 10.00	-	-	-	-	-	-	-	-	-	-	-	
	10.00 to < 100.00	-	-	-	-	-	-	-	-	-	-	-	
	100.00 (Default)	-	-	-	-	-	-	-	-	-	-	-	
	Sub-total	38,403,749	795,478	10.65	39,636,644	0.13	179	45.12	2.5	15,313,005	38.63	23,973	213,041
Corporate Exposures – Small-and-medium sized Corporates	0.00 to < 0.15	120,202	70,763	7.36	120,620	0.11	20	40.78	2.5	27,107	22.47	55	
	0.15 to < 0.25	43,866	96,654	3.17	46,928	0.22	14	41.09	2.5	16,287	34.71	42	
	0.25 to < 0.50	263,244	276,840	1.14	355,633	0.39	27	41.33	2.5	160,027	45.00	573	
	0.50 to < 0.75	287,333	49,509	0.03	293,904	0.57	25	41.82	2.5	161,116	54.82	702	
	0.75 to < 2.50	2,608,141	379,248	0.79	2,645,396	1.38	108	43.01	2.5	2,026,787	76.62	15,700	
	2.50 to < 10.00	1,637,691	91,975	-	1,637,691	5.57	33	39.16	2.5	1,684,895	102.88	36,017	
	10.00 to < 100.00	48,146	104	-	48,146	13.77	2	43.09	2.5	76,794	159.50	2,857	
	100.00 (Default)	-	-	-	-	-	-	-	-	-	-	-	
	Sub-total	5,008,623	965,093	1.50	5,148,318	2.68	229	41.53	2.5	4,153,013	80.67	55,946	57,523
Corporate Exposures – Other Corporates	0.00 to < 0.15	12,294,475	2,405,156	61.04	13,167,421	0.10	71	44.42	2.5	3,967,465	30.13	5,820	
	0.15 to < 0.25	3,129,945	1,395,239	23.83	3,461,498	0.22	27	44.52	2.5	1,793,875	51.82	3,390	
	0.25 to < 0.50	9,789,521	1,196,426	54.64	10,234,144	0.39	34	42.54	2.5	6,040,944	59.03	16,979	
	0.50 to < 0.75	10,353,343	1,238,628	34.14	10,340,913	0.57	74	41.48	2.5	7,039,495	68.07	24,483	
	0.75 to < 2.50	17,507,463	561,504	11.54	17,537,997	1.27	121	38.32	2.5	15,329,575	87.41	81,451	
	2.50 to < 10.00	5,440,724	952,078	1.39	5,453,913	4.03	41	6.66	2.5	1,118,065	20.50	14,356	
	10.00 to < 100.00	1,262,419	-	-	1,262,419	10.98	5	5.3	2.5	295,533	23.41	7,273	
	100.00 (Default)	304,257	8,597	50.00	308,555	100.00	8	44.37	2.5	12,620	4.09	296,626	
	Sub-total	60,082,147	7,757,628	38.18	61,766,860	1.63	381	37.76	2.5	35,597,572	57.63	450,378	790,326

集友銀行
Chiyu Banking Corporation Ltd.

9. Credit risk for non-securitization exposures (continued)

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

(b) Retail IRB approach

	PD scale	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
		At 31 December 2019											
	%	HK$'000	HK$'000	%	HK$'000	%		%	Year	HK$'000	%	HK$'000	HK$'000
Retail Exposures – Qualifying Revolving Retail Exposures (QRRE)	0.00 to < 0.15	682	472	-	993	0.10	2	20.30	1.00	12	1.24	-	
	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	682	472	-	993	0.10	2	20.30	1.00	12	1.24	-	-
Retail Exposures – Residential Mortgages Exposures	0.00 to < 0.15	2,433,505	-	-	2,433,505	0.10	1,125	10.97	4.90	472,122	19.40	266	
	0.15 to < 0.25	629,791	-	-	629,791	0.22	156	10.92	5.00	124,006	19.69	151	
	0.25 to < 0.50	276,483	-	-	276,483	0.39	70	10.69	5.00	67,083	24.26	115	
	0.50 to < 0.75	132,665	-	-	132,665	0.53	53	14.73	5.00	33,120	24.97	103	
	0.75 to < 2.50	1,561	-	-	1,561	1.45	3	10.72	4.98	271	17.42	2	
	2.50 to < 10.00	15,020	-	-	15,020	4.54	3	10.76	5.00	5,059	33.68	74	
	10.00 to < 100.00	2,138	-	-	2,138	18.00	1	10.00	5.00	1,176	55.00	38	
	100.00 (Default)	3,259	-	-	3,259	100.00	3	10.20	5.00	4,155	127.49	-	
	Sub-total	3,494,422	-	-	3,494,422	0.28	1,414	11.08	4.97	706,992	20.23	749	9,792

9. Credit risk for non-securitization exposures (continued)

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

(b) Retail IRB approach (continued)

	PD scale	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
		At 31 December 2019											
	%	HK$'000	HK$'000	%	HK$'000	%		%	Year	HK$'000	%	HK$'000	HK$'000
Retail Exposures – Small Business Retail Exposures	0.00 to < 0.15	80,967	90,764	29.11	107,389	0.09	118	6.53	2.46	1,567	1.46	6	
	0.15 to < 0.25	40,042	14,914	30.11	44,533	0.22	27	5.91	3.09	1,129	2.54	6	
	0.25 to < 0.50	29,679	6,360	37.13	32,041	0.39	19	6.56	2.83	1,308	4.08	8	
	0.50 to < 0.75	24,745	5,505	38.97	26,890	0.60	20	6.25	3.81	1,340	4.98	10	
	0.75 to < 2.50	68,219	7,195	29.86	70,368	1.33	26	7.83	3.14	5,971	8.48	69	
	2.50 to < 10.00	414	-	-	414	6.60	13	38.51	1.00	243	58.70	11	
	10.00 to < 100.00	-	-	-	-	-	-	-	-	-	-	-	
	100.00 (Default)	-	-	-	-	-	-	-	-	-	-	-	
	Sub-total	244,066	124,738	30.12	281,635	0.51	223	6.78	2.90	11,558	4.10	110	160
Retail Exposures – Other Retail Exposures to Individuals	0.00 to < 0.15	1,421,350	815,434	-	2,172,060	0.09	288	25.74	1.00	149,252	6.87	630	
	0.15 to < 0.25	71,046	-	-	71,046	0.22	117	12.40	4.07	3,805	5.36	19	
	0.25 to < 0.50	538,582	6,044	49.64	544,330	0.36	337	11.83	4.64	38,064	6.99	232	
	0.50 to < 0.75	987,070	51,420	70.38	1,037,406	0.57	276	14.82	3.21	117,046	11.28	857	
	0.75 to < 2.50	568,548	818,537	-	760,049	0.92	322	32.55	1.40	247,647	32.58	2,462	
	2.50 to < 10.00	607,342	821	-	607,423	2.79	75	48.12	1.32	401,910	66.17	8,093	
	10.00 to < 100.00	338	-	-	338	32.96	3	11.51	4.99	101	29.88	13	
	100.00 (Default)	1,182	-	-	1,182	100.00	1	11.48	4.37	1,697	143.57	-	
	Sub-total	4,195,458	1,692,256	2.32	5,193,834	0.68	1,419	25.53	1.96	959,522	18.47	12,306	13,290
Total (sum of all portfolios)		**111,429,147**	**11,335,665**	**27.72**	**115,522,706**	**1.08**	**3,821**	**39.02**	**2.55**	**56,741,674**	**45.30**	**543,462**	**1,084,132**

9. Credit risk for non-securitization exposures (continued)

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

		At 31 December 2019	
		Pre-credit derivatives RWA	Actual RWA
		HK$'000	HK$'000
1	Corporate – Specialized lending under supervisory slotting criteria approach (project finance)	-	-
2	Corporate – Specialized lending under supervisory slotting criteria approach (object finance)	-	-
3	Corporate – Specialized lending under supervisory slotting criteria approach (commodities finance)	-	-
4	Corporate – Specialized lending under supervisory slotting criteria approach (income-producing real estate)	-	-
5	Corporate – Specialized lending (high-volatility commercial real estate)	-	-
6	Corporate – Small-and-medium sized corporates	4,153,013	4,153,013
7	Corporate – Other corporates	35,597,572	35,597,572
8	Sovereigns	-	-
9	Sovereign foreign public sector entities	-	-
10	Multilateral development banks	-	-
11	Bank exposures – Banks	14,142,646	14,142,646
12	Bank exposures – Securities firms	1,170,359	1,170,359
13	Bank exposures – Public sector entities (excluding sovereign foreign public sector entities)	-	-
14	Retail – Small business retail exposures	11,558	11,558
15	Retail – Residential mortgages to individuals	688,842	688,842
16	Retail – Residential mortgages to property-holding shell companies	18,150	18,150
17	Retail – Qualifying revolving retail exposures (QRRE)	12	12
18	Retail – Other retail exposures to individuals	959,522	959,522
19	Equity – Equity exposures under market-based approach (simple risk-weight method)	-	-
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	-	-
27	Other – Other items	2,544,128	2,544,128
28	**Total (under the IRB calculation approaches)**	**59,285,802**	**59,285,802**

The group did not use any recognized credit derivatives contracts for credit risk mitigation.

9. Credit risk for non-securitization exposures (continued)

CR8: RWA flow statements of credit risk exposures under IRB approach

		HK$'000
1	**RWA as at 30 September 2019**	**58,585,211**
2	Asset size	1,366,434
3	Asset quality	(795,354)
4	Model updates	-
5	Methodology and policy	-
6	Acquisitions and disposals	-
7	Foreign exchange movements	129,511
8	Other	-
9	**RWA as at 31 December 2019**	**59,285,802**

9. Credit risk for non-securitization exposures (continued)

CR9: Back-testing of PD per portfolio – for IRB approach

The following table shows the back-testing result of PD by credit portfolios. Estimates of PD are computed as of 31 December 2018 and the observation period is the whole year of 2019. Compared with historical average actual observed default rates, the estimated PD of the Group is generally conservative. The key models used in the Group are disclosed in section (f) of Table CRE above.

			At 31 December 2019						
	PD Range %	External rating equivalent	Weighted average PD	Arithmetic average PD by obligors	Number of obligors		Defaulted obligors in the year	Of which: new defaulted obligors in the year	Average historical annual default rate
					Beginning of the year	End of the year			
Bank Exposures	0.00 to < 0.15	AAA to BBB+	0.07%	0.06%	62	70	-	-	0.00%
	0.15 to < 0.25	BBB+ to BBB	0.22%	0.22%	4	6	-	-	0.00%
	0.25 to < 0.50	BBB to BB+	0.39%	0.39%	5	4	-	-	0.00%
	0.50 to < 0.75	BB+	0.58%	0.57%	-	5	-	-	0.00%
	0.75 to < 2.50	BB+ to B+	1.46%	1.20%	4	3	-	-	0.00%
	2.50 to < 10.00	B+ to B-	-	-	-	-	-	-	0.00%
	10.00 to < 100.00	B- to C	-	-	-	-	-	-	0.00%
Securities Firms	0.00 to < 0.15	AAA to BBB+	0.13%	0.13%	-	2	-	-	0.00%
	0.15 to < 0.25	BBB+ to BBB	0.22%	0.22%	1	3	-	-	0.00%
	0.25 to < 0.50	BBB to BB+	0.39%	0.39%	-	2	-	-	0.00%
	0.50 to < 0.75	BB+			6	-	-	-	0.00%
	0.75 to < 2.50	BB+ to B+	0.89%	0.89%	1	1	-	-	0.00%
	2.50 to < 10.00	B+ to B-	-		1		-	-	0.00%
	10.00 to < 100.00	B- to C	-	-	-	-	-	-	0.00%
Corporate Exposures - Other Corporates	0.00 to < 0.15	AAA to BBB+	0.09%	0.10%	86	73	-	-	0.00%
	0.15 to < 0.25	BBB+ to BBB	0.22%	0.22%	23	30	-	-	0.00%
	0.25 to < 0.50	BBB to BB+	0.39%	0.39%	60	50	-	-	1.19%
	0.50 to < 0.75	BB+	0.57%	0.58%	92	83	-	-	0.24%
	0.75 to < 2.50	BB+ to B+	1.26%	1.28%	158	138	-	-	0.19%
	2.50 to < 10.00	B+ to B-	3.89%	4.25%	47	44	-	-	1.57%
	10.00 to < 100.00	B- to C	10.98%	11.62%	8	6	1	-	8.64%

9. Credit risk for non-securitization exposures (continued)

CR9: Back-testing of PD per portfolio – for IRB approach (continued)

	PD Range %	External rating equivalent	At 31 December 2019						
			Weighted average PD	Arithmetic average PD by obligors	Number of obligors		Defaulted obligors in the year	Of which: new defaulted obligors in the year	Average historical annual default rate
					Beginning of the year	End of the year			
Corporate Exposures - Small-and-medium sized Corporates	0.00 to < 0.15	AAA to BBB+	0.11%	0.11%	28	20	-	-	0.00%
	0.15 to < 0.25	BBB+ to BBB	0.22%	0.22%	17	14	-	-	0.00%
	0.25 to < 0.50	BBB to BB+	0.39%	0.39%	37	28	-	-	0.40%
	0.50 to < 0.75	BB+	0.57%	0.61%	50	25	-	-	0.00%
	0.75 to < 2.50	BB+ to B+	1.38%	1.36%	124	109	1	-	0.39%
	2.50 to < 10.00	B+ to B-	5.54%	4.38%	41	33	-	-	1.85%
	10.00 to < 100.00	B- to C	13.77%	13.77%	3	2	-	-	0.00%

9. Credit risk for non-securitization exposures (continued)

CR9: Back-testing of PD per portfolio – for IRB approach (continued)

			At 31 December 2019						
	PD Range%	External rating equivalent	Weighted average PD	Arithmetic average PD by obligors	Number of obligors		Defaulted obligors in the year	Of which: new defaulted obligors in the year	Average historical annual default rate
					Beginning of the year	End of the year			
Retail Exposures - Qualifying Revolving Retail Exposures	0.00 to < 0.15	-	0.10%	0.08%	3	2	-	-	0.00%
	0.15 to < 0.25	-	-	-	-	-	-	-	0.00%
	0.25 to < 0.50	-	-	-	-	-	-	-	0.00%
	0.50 to < 0.75	-	-	-	-	-	-	-	0.00%
	0.75 to < 2.50	-	-	-	-	-	-	-	0.00%
	2.50 to < 10.00	-	-	-	-	-	-	-	0.00%
	10.00 to < 100.00	-	-	-	-	-	-	-	0.00%
Retail Exposures - Residential Mortgages Exposures	0.00 to < 0.15	-	0.10%	0.08%	1,180	1,151	-	-	0.03%
	0.15 to < 0.25	-	0.22%	0.22%	163	153	-	-	0.00%
	0.25 to < 0.50	-	0.39%	0.39%	57	62	-	-	0.00%
	0.50 to < 0.75	-	0.53%	0.55%	30	48	-	-	0.00%
	0.75 to < 2.50	-	1.45%	1.20%	5	3	-	-	0.00%
	2.50 to < 10.00	-	3.66%	3.60%	4	3	1	-	6.67%
	10.00 to < 100.00	-	-	-	-	-	-	-	0.00%
Retail Exposures - Small Business Retail Exposures	0.00 to < 0.15	AAA to BBB+	0.09%	0.03%	71	68	-	-	0.00%
	0.15 to < 0.25	BBB+ to BBB	0.22%	0.22%	13	16	-	-	0.00%
	0.25 to < 0.50	BBB to BB+	0.39%	0.39%	16	15	-	-	0.00%
	0.50 to < 0.75	BB+	0.60%	0.61%	19	16	-	-	0.00%
	0.75 to < 2.50	BB+ to B+	1.33%	1.19%	19	18	-	-	0.00%
	2.50 to < 10.00	B+ to B-	6.60%	6.60%	22	13	-	-	1.11%
	10.00 to < 100.00	B- to C	-	-	-	-	-	-	20.00%
Retail Exposures - Other Retail Exposures to Individuals	0.00 to < 0.15	-	0.09%	0.07%	275	282	-	-	0.00%
	0.15 to < 0.25	-	0.22%	0.22%	162	139	-	-	0.00%
	0.25 to < 0.50	-	0.36%	0.36%	387	404	1	-	0.05%
	0.50 to < 0.75	-	0.57%	0.57%	288	346	1	-	0.06%
	0.75 to < 2.50	-	0.94%	1.00%	188	209	-	-	0.00%
	2.50 to < 10.00	-	2.78%	2.81%	140	113	-	-	1.97%
	10.00 to < 100.00	-	33.00%	33.00%	3	1	-	-	0.00%

9. Credit risk for non-securitization exposures (continued)

CR10: Specialized lending under supervisory slotting criteria approach and equities under simple risk-weight method – for IRB approach

There were no specialized lending under supervisory slotting criteria approach and the Group did not use simple risk-weight method to measure equities exposures as at 31 December 2019.

10. Counterparty credit risk

CCRA: Qualitative disclosures related to counterparty credit risk (including those arising from clearing through CCPs)

(a) The Group's counterparty credit risk arising from derivative contracts and securities financing transactions both in trading and banking book is subject to the same risk management framework as mentioned in Note 4 to the Consolidated Financial Statements. The Group establishes credit limit through formal credit approval procedures to control the pre-settlement credit risk arising from derivative transactions and settlement limit to control the settlement risk arising from foreign exchange-related transactions for counterparties in both the trading book and banking book.

(b) The Group monitors the risk exposures arising from market fluctuations by using the current exposure and the potential exposure value of the transactions. Exceptions or excesses are timely and closely identified and monitored by RMD.

Credit equivalent amount and capital charge for the relevant counterparty credit exposures are determined following the regulatory capital requirements. Currently, the Group has adopted the Current Exposure Method to measure the relevant credit equivalent amount, which comprises current exposures and potential future exposures. The relevant counterparty default risk capital charge is calculated under the FIRB/STC approach. In addition, the Group has adopted standardised credit valuation adjustment ("CVA") method to calculate the relevant counterparty CVA capital charge.

(c) If the Group has purchased credit protection, credit assessments and reviews should also be conducted on the creditworthiness of the credit protection providers. Whether specific wrong-way risk exists in the Group's exposure to the credit protection providers should also be included in the assessments. For credit protection via purchasing credit derivative contracts, limits are set for each credit protection provider and approvals from relevant level of management should be obtained, in order to control the concentration risk arising from individual credit protection providers.

The Group has procedures in place for requiring limit setting on central counterparty exposures, which is subject to review annually or where necessary. When the limit is breached, relevant business units will be alerted and immediate credit review would be conducted where necessary. Measures such as adjusting the current business strategy or suspending new transactions would also be considered.

(d) In controlling and monitoring of wrong-way risk (risk of existence of positive correlation between the PD of a counterparty and credit exposures driven by mark-to-market value of the underlying transactions), specific wrong-way risk transactions are generally not allowed.

(e) The amount of payment or collateral required varies with different internal rating. The amount of payment or collateral will be higher for poor ratings.

10. Counterparty credit risk (continued)

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

		At 31 December 2019					
		Replacement cost (RC)	PFE	Effective EPE	Alpha (α) used for computing default risk exposure	Default risk exposure after CRM	RWA
		HK$'000	HK$'000	HK$'000		HK$'000	HK$'000
1	SA-CCR (for derivative contracts)	-	-		1.4	-	-
1a	CEM	116,315	102,083		-	218,398	40,870
2	IMM (CCR) approach			-	-	-	-
3	Simple Approach (for SFTs)					-	-
4	Comprehensive Approach (for SFTs)					1,218,276	33,181
5	VaR (for SFTs)					-	-
6	**Total**						**74,051**

CCR2: CVA capital charge

		At 31 December 2019	
		EAD post CRM	RWA
		HK$'000	HK$'000
	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 standardized CVA method	218,608	43,263
4	**Total**	**218,608**	**43,263**

10. Counterparty credit risk (continued)

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

	Exposure class \ Risk Weight	At 31 December 2019										
		0%	10%	20%	35%	50%	75%	100%	150%	250%	Others	Total default risk exposure after CRM
		HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000
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	-	-	-	-	-	-	-	-	-	-	-
7	CIS exposures	-	-	-	-	-	-	-	-	-	-	-
8	Regulatory retail exposures	17,313	-	-	-	-	298	-	-	-		17,611
9	Residential mortgage loans	-	-	-	-	-	-	-	-	-	-	-
10	Other exposures which are not past due exposures	70,669	-	-	-	-	-	427	-	-	-	71,096
11	Significant exposures to commercial entities	-	-	-	-	-	-	-	-	-	-	-
12	**Total**	**87,982**	**-**	**-**	**-**	**-**	**298**	**427**	**-**	**-**	**-**	**88,707**

10. Counterparty credit risk (continued)

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

FIRB approach

		At 31 December 2019						
	PD scale	**EAD post-CRM**	**Average PD**	**Number of obligors**	**Average LGD**	**Average maturity**	**RWA**	**RWA density**
	%	**HK$'000**	**%**		**%**	**HK$'000**	**HK$'000**	**%**
Bank	**0.00 to < 0.15**	1,074,299	0.06	-	45.00	1.75	40,547	3.77
	0.15 to < 0.25	-	-	-	-	-	-	-
	0.25 to < 0.50	2,183	0.39	-	45.00	2.5	1,782	81.62
	0.50 to < 0.75	256,760	0.67	-	45.00	0.5	23,568	9.18
	0.75 to < 2.50	-	-	-	-	-	-	-
	2.50 to < 10.00	-	-	-	-	-	-	-
	10.00 to < 100.00	-	-	-	-	-	-	-
	100.00 (Default)	-	-	-	-	-	-	-
	Sub-total	1,333,242	0.18	-	45.00	1.51	65,897	4.94
Corporate Exposures - Other Corporates	0.00 to < 0.15	6,465	0.09	-	45.00	2.5	1,802	27.88
	0.15 to < 0.25	5,697	0.22	-	45.00	2.5	2,633	46.22
	0.25 to < 0.50	-	-	-	-	-	-	-
	0.50 to < 0.75	-	-	-	-	-	-	-
	0.75 to < 2.50	-	-	-	-	-	-	-
	2.50 to < 10.00	2,313	2.67	-	45.00	2.5	2,877	124.36
	10.00 to < 100.00	-	-	-	-	-	-	-
	100.00 (Default)	-	-	-	-	-	-	-
	Sub-total	14,475	0.55	-	45.00	2.5	7,312	50.51
Corporate Exposures - Small-and-medium sized Corporates	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	250	1.17	-	45.00	2.5	191	76.25
	2.50 to < 10.00	-	-	-	-	-	-	-
	10.00 to < 100.00	-	-	-	-	-	-	-
	100.00 (Default)	-	-	-	-	-	-	-
	Sub-total	250	1 17	-	45.00	2.5	191	76.25
Total (sum of all portfolios)		**1,347,967**	**0.18**	**-**	**45.00**	**1.52**	**73,400**	**5.45**

10. Counterparty credit risk (continued)

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

	At 31 December 2019					
	Derivative contracts				SFTs	
	Fair value of recognized collateral received		Fair value of posted collateral		Fair value of recognized collateral received	Fair value of posted collateral
	Segregated	Unsegregated	Segregated	Unsegregated		
	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000
Cash - other currencies	-	-	-	19,030	-	-
Domestic sovereign debt	-	-	-	-	-	2,197,874
Other sovereign debt	-	-	-	-	-	581,598
Other bonds	-	-	-	-	-	598,930
Total	**-**	**-**	**-**	**19,030**	**-**	**3,378,402**

CCR6: Credit-related derivatives contracts

The Group had no exposures of Credit-related derivatives contracts as at 31 December 2019.

CCR7: RWA flow statements of default risk exposures under IMM (CCR) approach

The Group did not use IMM(CCR) approach to measure default risk exposures as at 31 December 2019.

CCR8: Exposures to CCPs

The Group had no exposures to CCP as at 31 December 2019.

11. Securitization exposures

SECA: Qualitative disclosures related to securitization exposures

There were no securitization exposures as at 31 December 2019.

SEC1: Securitization exposures in banking book

There were no securitization exposures in the banking book as at 31 December 2019.

SEC2: Securitization exposures in trading book

There were no securitization exposures in the trading book as at 31 December 2019.

SEC3: Securitization exposures in banking book and associated capital requirements – where AI acts as originator

There were no securitization exposures in the banking book and the associated capital requirements where the Group acts as an originator as at 31 December 2019.

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

There were no securitization exposures in the banking book and the associated capital requirements where the Group acts as an investor as at 31 December 2019.

12. Market risk

MRA: Qualitative disclosures related to market risk

Market risk refers to the risk of loss arising from movements in the value of foreign exchange, interest rate, equity and commodity positions held by the Group due to the volatility of financial market price (foreign exchange rate, interest rate, equity price, commodity price). The Group adopts a moderate market risk appetite to achieve a balance between risk and return. The Group's objective in managing market risk is to secure healthy growth of the treasury business, by effective management of potential market risk in the Group's business, according to the Group's overall risk appetite and strategy of treasury business on the basis of a well-established risk management regime and related management measures.

In accordance with the Group’s corporate governance principles in respect of risk management, the Board and RC, senior management and functional departments/units perform their duties and responsibilities to manage the Group’s market risk. Financial Management Department is mainly responsible for managing market risk, assisting senior management to perform their day-to-day duties, independently monitoring the market risk profile and compliance of management policies and limits of the Group, and ensuring that the aggregate and individual market risks are within acceptable levels, as well as reporting general market risks to the RC and senior management on a periodic basis.

The Group sets up market risk indicators and limits to identify, measure, monitor and control market risk. Major risk indicators and limits include but are not limited to VAR, Stop Loss, Open Position, Stress Testing and Sensitivity Analysis etc. To meet management requirements, major risk indicators and limits are classified into three levels, and are approved by the RC, ALCO and the General Manager of Financial Management Department respectively. Review of the major risk indicators and limits will be conducted periodically. Business units are required to conduct their business within approved market risk indicators and limits can utilize hedging strategies to manage risk within set limits.

12. Market risk (continued)

MRB: Additional qualitative disclosures for AI using IMM approach

The Group continues to adopt the internal models ("IMM") approach to calculate the general market risk capital charge for foreign exchange and interest rate exposures and exclude its structural FX positions in the calculation of the market risk capital charge. The Group continues to adopt the standardized (market risk) ("STM") approach to calculate the market risk capital charge for the remaining exposures. Regulatory VAR and Stressed VAR models are adopted to use in the Group.

IMM VAR and stressed VAR measures used for market risk regulatory capital purposes are calculated to a 99% confidence level and use a 10-day holding period. The stressed VAR uses the same methodology as the VAR model and is generated with inputs calibrated to the historical market data from a continuous 12-month period of significant financial stress relevant to the Group's portfolio. For management purposes, the Group uses 1-day 99% VAR to measure and report general market risks, and sets up the VAR limit of the Group.

Directly modeled 10-day holding period is used in the calculation of Regulatory VAR, whereby two-year historical observations are equally weighted. Absolute returns are used for interest rates; logarithmic returns are used for foreign exchange rates and implied volatilities under historical simulation, where the data are updated daily.

Stressed VAR model is based on a directly modeled 10-day holding period, which is same as regulatory VAR model. Based on the assessment at the most volatile period in recent history, relevant historical crises are first identified. With further assessment, January 2008 to December 2008 is chosen as the stress period in calculating Stressed VAR.

Full revaluation approach is used in both VAR and Stressed VAR model. Specific risk charge is calculated as a standalone charge by using a different method (i.e. Standardized approach). It is aggregated by simple sum with the VAR and Stressed VAR contributions when computing the market risk capital charge.

The Group adopts back-testing to measure the accuracy of VAR model results. The back-testing compares the calculated VAR figure of market risk positions of each business day with the actual and hypothetical gains or losses arising from those positions on the next business day. Generally speaking, the number of back-testing exceptions in a rolling 12-month period will not exceed four times, given a 99% confidence level.

12. Market risk (continued)

MR1: Market risk under STM approach

		At 31 December 2019
		RWA
		HK$'000
	Outright product exposures	
1	Interest rate exposures (general and specific risk)	-
2	Equity exposures (general and specific risk)	-
3	Foreign exchange (including gold) exposures	17,888
4	Commodity exposures	-
	Option exposures	
5	Simplified approach	-
6	Delta-plus approach	-
7	Other approach	-
8	Securitization exposures	-
9	**Total**	**17,888**

MR2: RWA flow statements of market risk exposures under IMM approach

		VaR	Stressed VaR	IRC	CRC	Other	Total RWA
		HK$'000	HK$'000	HK$'000	HK$'000	HK$'000	HK$'000
1	**RWA as at 30 September 2019**	**79,338**	**65,700**	**-**	**-**	**-**	**145,038**
1a	Regulatory adjustment	(57,450)	(48,000)	-	-	-	(105,450)
1b	RWA as at day-end of 30 September 2019	21,888	17,700	-	-	-	39,588
2	Movement in risk levels	8,425	7,600	-	-	-	16,025
3	Model updates/changes	-	-	-	-	-	-
4	Methodology and policy	-	-	-	-	-	-
5	Acquisitions and disposals	-	-	-	-	-	-
6	Foreign exchange movements	-	-	-	-	-	-
7	Other	-	-	-	-	-	-
7a	RWA as at day-end of 31 December 2019	30,313	25,300	-	-	-	55,613
7b	Regulatory adjustment	49,750	41,862	-	-	-	91,612
8	**RWA as at 31 December 2019**	**80,063**	**67,162**	**-**	**-**	**-**	**147,225**

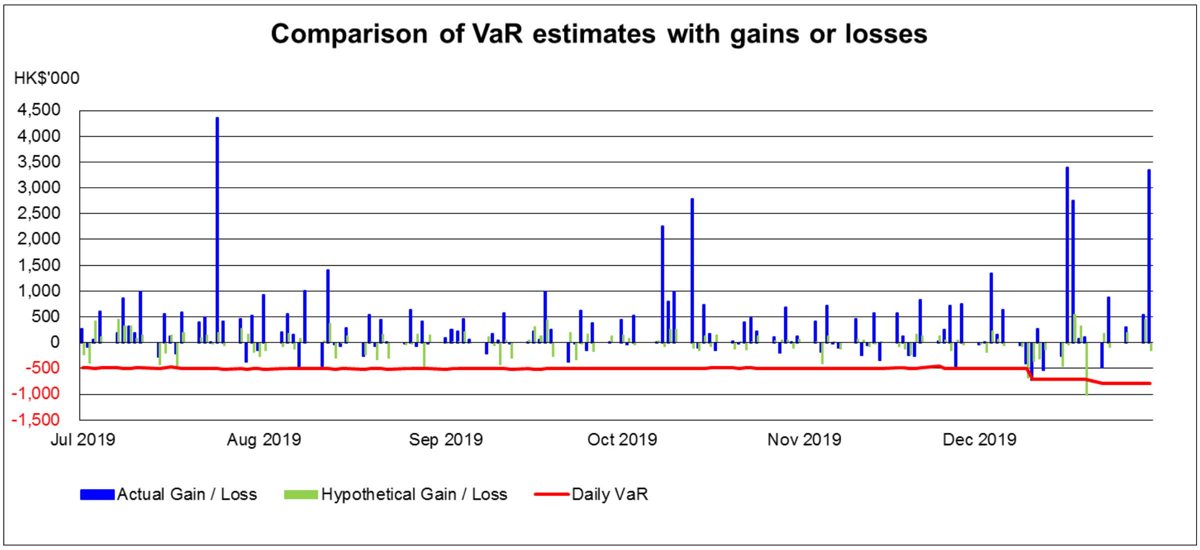
12. Market risk (continued)

MR3: IMM approach values for market risk exposures

		2019
		HK$'000
VaR (10 days – one-tailed 99% confidence interval)		
1	Maximum Value	2,455
2	Average Value	1,514
3	Minimum Value	321
4	As At 31 December 2019	2,425
Stressed VaR (10 days – one-tailed 99% confidence interval)		
5	Maximum Value	2,353
6	Average Value	1,203
7	Minimum Value	88
8	As At 31 December 2019	2,024
Incremental risk charge (IRC) (99.9% confidence interval)		
9	Maximum Value	-
10	Average Value	-
11	Minimum Value	-
12	As At 31 December 2019	-
Comprehensive risk charge (CRC) (99.9% confidence interval)		
13	Maximum Value	-
14	Average Value	-
15	Minimum Value	-
16	As At 31 December 2019	-
17	Floor	-

12. Market risk (continued)

MR4: Comparison of VaR estimates with gains or losses



Market risk regulatory capital charge is calculated under the Banking (Capital) (Amendment) Rules 2011 to incorporate capital charge for stressed VaR. Regulatory VaR and stressed VaR measures used for market risk regulatory capital purposes are calculated to a 99% confidence level and use a 10-day holding period. The stressed VaR uses the same methodology as the VaR model and is generated with inputs calibrated to the historical market data from a continuous 12-month period of significant financial stress relevant to the Group's portfolio.

The Group adopts a regulatory VaR model, using a historical simulation approach and two years of historical data, to capture general interest rate and foreign exchange risks over a 10-day holding period with a 99% confidence level. The Group adopts back-testing to measure the accuracy of VaR model results. Actual and hypothetical P&L are compared against the corresponding 99% one-day regulatory VaR over the recent 250 business days. The numbers of exception (actual or hypothetical P&L exceeds the VaR) determines the value of VaR multiplication factor.

Actual P&Ls are the P&Ls in respect to trading activities within the scope of regulatory VaR model, which includes intraday P&Ls; excludes commissions, fees and reserves. Hypothetical P&Ls are the hypothetical changes in portfolio value assuming unchanged end-of-day position.

During the period, there are one and three exceptions in actual and hypothetical P&L back-testing respectively as shown above. The exceptions were driven by unexpected market movements in foreign exchange rates.

13. Remuneration

REMA: Remuneration policy

Nomination and Remuneration Committee ("NRC")

The NRC assists the Board in performing the duties in respect of the Group in the following areas:

- human resources strategy, remuneration strategy and incentive framework of the Group,
- Group Governance and bank culture promotion,
- selection, nomination and appointment of Directors, Board Committee members and senior Management,
- structure, size and composition (including skills, experience and knowledge) of the Board and Board Committees,
- remuneration of Directors, Board Committee members, Senior Management and Key Personnel,
- effectiveness of the Board and Board Committees, and
- training and continuous professional development of Directors and Senior Management.

The members of the NRC during the year and up to date of the Report of the Directors are:

Mr Cheung Wai Hing (Chairman)

Ms Tsoi Lai Ha

Mr Woo Chia Wei

All of them are Non-executive Directors of the Bank. Among them, Mr Cheung Wai Hing and Mr Woo Chia Wei are Independent Non-executive Directors. Three NRC meetings were held during the year with an attendance rate of 100%.

Major tasks performed during the year (included the approval, review and proposal to the Board):

- review the amendment and formulation on the major human resources and remuneration policies;
- review on the performance appraisal result and bonus payment for the year 2018 and the proposal on the salary adjustment for the year 2019 of the Senior Management and Key Personnel;
- proposal on the Annual Review of the Four Type of Staff as delineated in the "Guideline on a Sound Remuneration System" of the HKMA;
- review on the change of Senior Management/Key Personnel of the Bank, members of the Board of Directors and their remuneration package. Review on the appointment of an Independent and non-executive Director as the Vice Chairman of the Bank and Chairman of the Strategy and Corporate Governance Committee, and review on the change of Chairman of the Bank from Non-Executive Director to Executive Director;
- review on the adjustment of organization chart and the reallocation of job duties among Senior Management due to the change of its members;
- review on the 2019 KPI framework of Senior Management and Key Personnel of the Bank, and
- review on the proposal for the build up of the bank culture of the Group.

13. Remuneration (continued)

REMA: Remuneration policy (continued)

Remuneration and Incentive Mechanism

The Remuneration and Incentive Mechanism of the Group is based on the principles of “effective motivation” and “sound remuneration management”. It links remuneration with performance and risk factors closely. It serves to encourage staff to enhance their performance and, at the same time, to strengthen their awareness of risk so as to achieve sound remuneration management.

The Remuneration and Incentive Policy of the Group is generally in line with the board principles set out in the HKMA’s “Guideline on a Sound Remuneration System” and applicable to the Bank and all of its subsidiaries (including the branches and institutions within and outside Hong Kong).

1. “Senior Management” and “Key Personnel”

The following groups of employees have been identified as the “Senior Management” and “Key Personnel” as defined in the HKMA’s “Guideline on a Sound Remuneration System”:

- “Senior Management”: The senior executives designated by the Board who are responsible for oversight of the bank-wide strategy or material business lines, including Executive Directors, Chief Executive, Deputy Chief Executives, Chief Risk Officer and Chief Financial Officer..
- “Key Personnel”: The employees whose individual business activities involve the assumption of material risk which may have significant impact on risk exposure, or whose individual responsibilities are directly and materially linked to the risk management, or those who have direct influence to the profit, including General Managers of material business lines, General Manager of Financial Markets Department, as well as General Managers of risk control functions.

2. Determination of the Remuneration Policy

To fulfil the above-mentioned principles and to facilitate effective risk management within the framework of the Remuneration Policy of the Group, Human Resources Department is responsible for proposing the Remuneration Policy of the Group and will seek consultation from the risk control units including risk management, financial management and compliance if necessary, in order to balance the needs for staff motivations, sound remuneration and prudent risk management. The proposed remuneration strategy and planning is submitted to the Nomination and Remuneration Committee for review and thereafter to the Board for approval.

13. Remuneration (continued)

REMA: Remuneration policy (continued)

Remuneration and Incentive Mechanism (continued)

3. Key Features of the Remuneration and Incentive Mechanism

(1) Performance Management Mechanism

The Group has put in place a performance management mechanism to formalise the performance management at the levels of the Group, units and individuals. For individual staff at different levels, annual targets of the Group will be tied to their job requirements through the performance management mechanism. Performance of individuals will be appraised on their achievement against targets, their contribution towards performance of their units, fulfilment of risk management duties, execution of the bank culture and compliance. Not only is target accomplishment taken into account, but the risk exposure involved during the course of work and their core value could also be evaluated and managed, ensuring security and normal operation of the Group

(2) Risk Adjustment of Remuneration

To put the principle of aligning performance and remuneration with risk into practice, based on the risk adjustment method of the Group, the key risk modifiers of the Bank have been incorporated into the performance management mechanism. Credit risk, market risk, interest rate risk, liquidity risk, operational risk, legal risk, compliance risk and reputation risk form the framework of the risk adjustment method.

(3) Risk-adjusted Remuneration Management

The remuneration of staff is composed of “fixed remuneration” and “variable remuneration”. The proportion of one to the other for individual staff members depends on job grades, roles, responsibilities and functions of the staff with the prerequisite that balance has to be struck between the fixed and variable portion, so as to encourage the staff to follow the philosophy of prudent risk management and sound long-term financial stability. Generally speaking, the higher the grading / responsibility of the individual staff, the bigger the portion of variable pay will be in his/her total remuneration

As mentioned above, performance assessment criteria include quantitative and qualitative factors, as well as financial and non-financial indicators.

13. Remuneration (continued)

REMA: Remuneration policy (continued)

Remuneration and Incentive Mechanism (continued)

3. Key Features of the Remuneration and Incentive Mechanism (continued)

(3) Performance-based and Risk-adjusted Remuneration Management (continued)

The size of the Variable Remuneration Pool of the Bank is determined by the Board of the Bank on the basis of its financial performance and the achievement of non-financial strategic business targets under the long-term development of the Group. Thorough consideration is also made to the risk factors in the determination process.

As far as individual units and individual staff are concerned, allocation of the variable remuneration is closely linked to the performance of the units, and that of each individual staff as well as the unit he/she is attached to, and the assessment of which should include risk modifiers. The performance and remuneration arrangement of risk control personnel are determined by the achievement of their core job responsibilities, which is independent from the business they oversee; for front-line risk controllers, a cross-departmental reporting and performance management system is applied to ensure the suitability of performance-based remuneration. The better the performance of the Department and the individual staff, the higher will be the variable remuneration for the individual staff.

(4) Linking the payout of the variable remuneration with the time horizon of the risk to reflect the long-term value creation of the Group

To work out the principle of aligning remuneration with the time horizon of risk and to ensure that sufficient time is allowed to ascertain the associated risk and its impact before the actual payout, payout of the variable remuneration of staff is required to be deferred in cash if such amount reaches certain prescribed threshold. The Group adopts a progressive approach towards deferral. The higher the job grade of the individual staff, the higher will be the proportion of deferral. Deferral period lasts for 3 years.

The vesting of the deferred variable remuneration is linked with the long-term value creation of the Group. The vesting conditions are linked to the yearly performance (financial and non-financial) of the Group in the next 3 years and the bahavior of the individual staff to the effect that the variable remuneration could only be vested to such extent as set for the relevant year in that 3-year period subject to the condition that the Group's performance has met the threshold requirement in the corresponding year. In case of material revision of the original estimates of the performance of the Group or individual units, or if a staff is found to commit fraud, or found to be of malfeasance or in violation of internal control policies, the unvested portion of the deferred variable remuneration of the relevant staff will be forfeited.

Compared with the previous years, there was no material change in the nature and type of above mentioned measures during the year, so it had no significant influence on the remuneration system of the Bank.

13. Remuneration (continued)

REMA: Remuneration policy (continued)

Remuneration and Incentive Mechanism (continued)

4. Annual Review of Remuneration Policy

(1) The Remuneration Policy of the Group is subject to annual review with reference to changes on external regulatory requirements, market conditions, organisational structure and risk management requirements, etc.

(2) The review on the “Remuneration and Incentive Policy” and “Variable Remuneration Management Policy” of the Bank have been conducted during the year, so as to demonstrate the important message of human resources strategy by giving the balance of “effective incentive” and “prudent remuneration management”, which is in line with HKMA guidance.

(3) Based on the latest organization structure and the business strategy of the Bank, the identification criteria & position lists of the “Senior Management” and “Key Personnel” and etc., as delineated in the “Guideline on a Sound Remuneration System”, were also reviewed.

5. Disclosure on Remuneration

The Group has fully complied with the guideline in Part 3 of the “Guideline on a Sound Remuneration System” issued by the HKMA to disclose information in relation to our remuneration and incentive mechanism.

13. Remuneration (continued)

REM1: Remuneration awarded during financial year

Remuneration amount and quantitative information			At 31 December 2019	
			Senior management	Key personnel
			HK$'000	HK$'000
1	Fixed remuneration	Number of employees	6	12
2		Total fixed remuneration	20,314	16,446
3		Of which: cash-based	20,314	16,446
4	Variable remuneration	Number of employees	6	10
5		Total variable remuneration	31,124	12,318
6		Of which: cash-based	22,116	10,430
7		Of which: deferred	9,008	1,888
8	**Total remuneration**		**51,438**	**28,764**

REM2: Special payments

There were no Guaranteed bonuses, Sign-on awards and Severance payments to senior management and key personnel of the Group during the year 2019.

REM3: Deferred remuneration

		At 31 December 2019	
Deferred and retained remuneration		Total amount of outstanding deferred remuneration	Of which: Total amount of deferred remuneration paid out in the financial year
		HK$'000	HK$'000
1	Senior management	15,398	(1,332)
2	Of which:Cash	15,398	(1,332)
3	Key personnel	2,897	(169)
4	Of which:Cash	2,897	(169)
5	**Total**	**18,295**	**(1,501)**