



**The Bank of East Asia, Limited**  
東亞銀行有限公司

Banking Disclosure Statement  
For the period ended  
31 December 2018

## Table of contents

Introduction.....	1
Table OVA: Overview of risk management .....	2
Template KM1 - Key prudential ratios.....	5
Template OV1: Overview of RWA .....	6
Template PV1: Prudent valuation adjustments .....	7
Template LI1: Differences between accounting and regulatory scopes of consolidation and mapping of financial statement categories with regulatory risk categories.....	8
Template LI2: Main sources of differences between regulatory exposure amounts and carrying values in financial statements.....	10
Template LIA: Explanations of differences between accounting and regulatory exposure amounts .....	11
Template CC1: Composition of regulatory capital .....	14
Template CC2: Reconciliation of regulatory capital to balance sheet .....	20
Table CCA: Main features of regulatory capital instruments.....	21
Template CCyB1: Geographical distribution of credit exposures used in countercyclical capital buffer (“CCyB”).....	24
Template LR1: Summary comparison of accounting assets against Leverage Ratio (“LR”) exposure measure.....	25
Template LR2: Leverage ratio (“LR”).....	26
Table LIQA: Liquidity risk management .....	27
Template LIQ1: Liquidity Coverage Ratio (“LCR”).....	31
Template LIQ2: Net Stable Funding Ratio (“NSFR”) .....	33
Table IRRBB: Interest rate exposures in banking book .....	37
Table REMA: Remuneration policy.....	38
Template REM1: Remuneration awarded during financial year.....	40
Template REM2: Special payments.....	41
Template REM3: Deferred remuneration .....	42
Table CRA: General information about credit risk .....	43
Template CR1: Credit quality of exposures.....	44
Template CR2: Changes in defaulted loans and debt securities.....	45
Table CRB: Additional disclosure related to credit quality of exposures.....	46
Table CRC: Qualitative disclosures related to credit risk mitigation .....	49
Template CR3: Overview of recognised credit risk mitigation.....	50
Table CRD: Qualitative disclosures on use of ECAI ratings under STC approach .....	51
Template CR4: Credit risk exposures and effects of recognised credit risk mitigation – for STC approach .....	52
Template CR5: Credit risk exposures by asset classes and by risk weights – for STC approach.....	53
Table CRE: Qualitative disclosures related to internal models for measuring credit risk under IRB approach .....	54
Template CR6: Credit risk exposures by portfolio and PD ranges – for IRB approach.....	60
Template CR7: Effects on RWA of recognised credit derivative contracts used as recognised credit risk mitigation – for IRB approach.....	64

## Table of contents

Template CR8: RWA flow statements of credit risk exposures under IRB approach .....	65
Template CR9: Back-testing of PD per portfolio – for IRB approach.....	66
Template CR10: Specialised lending under supervisory slotting criteria approach and equities under simple risk-weight method – for IRB approach .....	69
Table CCRA: Qualitative disclosures related to counterparty credit risk (including those arising from clearing through CCPs).....	71
Template CCR1: Analysis of counterparty default risk exposures (other than those to CCPs) by approaches .....	72
Template CCR2: CVA capital charge.....	73
Template CCR3: Counterparty default risk exposures (other than those to CCPs) by asset classes and by risk weights – for STC approach.....	74
Template CCR4: Counterparty default risk exposures (other than those to CCPs) by portfolio and PD range – for IRB approach.....	75
Template CCR5: Composition of collateral for counterparty default risk exposures (including those for contracts or transactions cleared through CCPs) .....	76
Template CCR6: Credit-related derivatives contracts.....	77
Table SECA: Qualitative disclosures related to securitization exposures.....	78
Template SEC1: Securitization exposures in banking book.....	79
Template SEC3: Securitization exposures in banking book and associated capital requirements – where AI acts as originator.....	80
Template SEC4: Securitization exposures in banking book and associated capital requirements – where AI acts as investor .....	81
Table MRA: Qualitative disclosures related to market risk.....	82
Table MRB: Additional qualitative disclosures for AI using IMM approach.....	83
Template MR1: Market risk under Standardised (market risk) approach (STM approach) .....	84
Template MR2: RWA flow statements of market risk exposures under IMM approach .....	85
Template MR3: IMM approach values for market risk exposures .....	86
Template MR4: Comparison of VaR estimates with gains or losses .....	87
International Claims .....	88
Mainland Activities .....	89
Currency Concentration .....	91
Countercyclical Capital Buffer Ratio .....	93
Capital Conservation Buffer Ratio.....	93
Higher Loss Absorbency Ratio .....	93
Glossary .....	94

## **Introduction**

### **Purpose**

The information contained in this document is for The Bank of East Asia, Limited (“the Bank”) and its subsidiaries (together “the Group”), and is prepared in accordance with the Banking (Disclosure) Rules (“BDR”) and disclosure templates issued by the Hong Kong Monetary Authority (“HKMA”).

These banking disclosures are governed by the Group’s disclosure policy, which has been approved by the Board. The disclosure policy sets out the governance, control and assurance requirements for publication of the document. While the banking disclosure statement is not required to be externally audited, the document has been subject to independent review in accordance with the Group’s policies on disclosure and its financial reporting and governance processes.

### **Basis of preparation**

Except where indicated otherwise, the financial information contained in this Banking Disclosure Statement has been prepared on the basis of regulatory scope of consolidation specified by the HKMA to the Bank. The basis of consolidation for regulatory purposes is different from that for accounting purposes.

### **The banking disclosure statement**

The HKMA has implemented the final standards on the Revised Pillar 3 Disclosure Requirements issued by the Basel Committee on Banking Supervision in January 2015, and also incorporated the BCBS Pillar 3 disclosures requirements – consolidated and enhanced framework finalized in March 2017 in the latest BDR. These disclosures are supplemented by specific additional requirements of the HKMA set out in the BDR. The banking disclosure statement includes the information required under the BDR.

According to the BDR, disclosure of comparative information is not required unless otherwise specified in the standard disclosure templates.

### **Table OVA: Overview of risk management**

The Group has established an effective risk governance and management framework in line with the requirements set out by the HKMA and other regulators. This framework is built around a structure that enables the Board and Senior Management to discharge their risk management-related responsibilities with appropriate delegation and checks and balances. These responsibilities include defining risk appetite in accordance with the Group's business strategies and objectives, formulating risk policies that govern the execution of those strategies, and establishing procedures and limits for the approval, control, monitoring, and remedy of risks.

The Risk Committee stands at the highest level of the Group's risk governance structure below the Board. The Risk Committee provides direct oversight over the formulation of the Group's institutional risk appetite, and sets the levels of risk that the Group is willing to undertake with regard to its financial capacity, strategic direction, prevailing market conditions, and regulatory requirements.

The Group faces a variety of risks that could affect its franchise, operations, and financial conditions. Under the ERM framework, the principal risks include credit risk, interest rate risk, market risk, liquidity risk, operational risk, reputation risk, strategic risk, legal risk, compliance risk, technology risk, business continuity risk, and new product and business risk.

The Group reviews the risk profile through regular assessments of both qualitative and quantitative risk factors to determine its tolerance of prevailing risk levels against the applicable risk appetites annually approved by the Board.

The Risk Committee also ensures that the Group's risk appetite is reflected in the policies and procedures that Senior Management and relevant Division Heads adopt to execute their business functions. Through the Management Committees at the executive level, including the Crisis Management Committee, Risk Management Committee, Credit Committee, Asset and Liability Management Committee, and Operational Risk Management Committee – and with overall co-ordination by the Risk Management Division – the Risk Committee regularly reviews the Group's risk management framework and ensures that all important risk-related tasks are performed according to established policies with appropriate resources.

The Group has adopted the "Three Lines of Defence" risk management structure to ensure that roles within the Group are clearly defined.

The first line of defence comprises the Risk Owners, who are division/department heads at Head Office and heads of significant subsidiaries, together with staff under their management. They are primarily responsible for the day-to-day risk management of their units, including establishing and executing specific risk control mechanisms and detailed procedures.

The second line of defence consists of the Risk Controllers, who are designated division / department heads at Head Office. Supported by their respective divisions and departments, the Risk Controllers are responsible for setting out a risk management governance framework, monitoring risks independently and supporting the management committees in their oversight of risk management.

The third line of defence is the Internal Audit Division, which is responsible for providing assurance as to the effectiveness of the Group's risk management framework including risk governance arrangements.

The Group is committed to fostering strong risk culture embedded with risk ownership, accountability and awareness of all staff. Such environment for risk management is cultivated by both "top-down" and "bottom-up" channels.

"Top-down" channel is reflected in the Board's approval of the Risk Appetite Statement to define the risk tolerance for the Group, so that risk policies and limits can be designed specifically and accordingly. These policies and limits are accessible by all staff on internal electronic platform. Significant updates are communicated to staff by way of regular electronic bulletin.

**Table OVA: Overview of risk management** (continued)

“Bottom-up” channel is reinforced by staff’s awareness of adherence to risk policies and limits, avoidance of excessive risk-taking, and regular information reporting on different risk areas to the Management Committees, the Risk Committee and the Board.

To provide the Board and Senior Management with a clear view of the Group’s exposures to different risk types, information on both quantifiable and non-quantifiable risks is reported to the Management Committees, the Risk Committee and the Board at pre-determined schedule for review and discussion. The Group’s enterprise risk management framework helps define the scope of risk information, such that those of asset quality, liquidity, profitability, portfolio mix, capital adequacy etc. on Group level and functional unit level are relevant. The information is analysed with regard to factors such as the Group’s risk profile, risk management strategies and market statistics.

The Group maintains risk management systems to measure and monitor exposures, identify areas of high risk, and ensure that the magnitude of risk is within the tolerance level. In particular, the credit, market and operational risk management systems are also used for assessing the capital adequacy. Their features are as follows:

(a) Credit risk measurement system

The Group has established policies, procedures, and rating systems to identify, measure, monitor, control, and report on credit risk. In this connection, guidelines for management of credit risk have been laid down in the Group’s Credit Risk Management Manual. These guidelines stipulate delegated lending authorities, credit underwriting criteria, a credit monitoring process, an internal rating structure, credit recovery procedures and a provisioning policy. They are reviewed and enhanced on an ongoing basis to cater for market changes, statutory requirements, and best practices in risk management processes.

The Group’s credit risk management for the major types of credit risk is depicted as follows:

(i) Corporate and bank credit risk

The Group has laid down policies and procedures to evaluate the potential credit risk of a particular counterparty or transaction and to approve the transaction. For corporate and bank customers, the Group has different internal rating systems that are applied to each counterparty. For exposure classified as Specialised Lending in particular, supervisory slotting criteria are used. To monitor concentration risk, the Group has preset limits for exposures to individual industries and for borrowers and groups of borrowers. The Group also has a review process to ensure that the level of review and approval is proper and will depend on the size of the facility and rating of the credit.

The Group undertakes on-going credit analysis and monitoring at several levels. The policies are designed to promote early detection of counterparty, industry or product exposures that require special monitoring. The overall portfolio risk as well as individual impaired loans and potential impaired loans are monitored on a regular basis.

(ii) Retail credit risk

The Group’s retail credit policy and approval process are designed for the fact that there are high volumes of relatively homogeneous and small value transactions in each retail loan category. The design of internal rating system and formulation of credit policies are primarily based on the demographic factors and the loss experience of the loan portfolios. The Group monitors its own and industry experience to determine and periodically revise product terms and desired customer profiles.

(iii) Credit for treasury transactions

The credit risk of the Group’s treasury transactions is managed in the same way as the Group manages its corporate and bank lending risk. The Group applies an internal rating system to its counterparties and sets individual counterparty limits.

(iv) Credit-related commitment

The risks involved in credit-related commitments and contingencies are essentially the same as the credit risk involved in extending loan facilities to customers. These transactions are subject to the same credit application, portfolio maintenance and collateral requirements as for customers applying for loans.

**Table OVA: Overview of risk management** (continued)

(b) Market risk measurement system

The Group has formulated market risk management policy to identify, measure, monitor, control, and report on the market risk, where appropriate, to allocate adequate capital to cover those risks. The market risk management policy and core control limits are approved by the Board and are monitored and regularly reviewed to align with market changes, statutory requirements, and best practices in risk management processes.

For measuring and monitoring of market risk, market risk analysis is conducted on different dimensions, such as by risk factors, by regions, by currencies in the form of potential loss and impact to capital adequacy. Risk limits and management action triggers are set with reference to the nature, volume of transaction and risk appetite of the Bank. Multiple systems are employed to facilitate the calculation, measurement and analysis of market risk.

Hedging and risk mitigation are performed corresponding to the market risk exposures. Various strategies, including the use of traditional market instruments, such as interest rate swaps, or dynamic hedging are adopted by the Bank according to the complexity of the corresponding portfolio.

The effectiveness of the hedging results would be independently monitored by various risk management functions.

(c) Operational risk measurement system

Under the existing risk management framework, operational risk is monitored on a Bank Group basis. All operational risk incidents are captured in a centralised database. MIS reports with analysis of operational losses by event types, comparatives figures of current and prior period, etc. are presented to Operational Risk Management Committee on a regular basis. Amongst others, frequency and severity of operational risk incidents are key measurement to assess the operational risk profile of the Bank Group.

A centralised operational risk management function, Operational Risk Management Department under the Risk Management Division, is responsible for coordinating the establishment / development of standard tools to identify, assess, monitor and report the operational risk inherent in the material products, activities, processes and systems of the Bank Group. A documented set of process / procedures for control and mitigation of operational risk is in place to keep pace with the growth / changes in business activities (e.g. new products / markets, business expansion) and infrastructure of the Bank Group. For identified operational risk, appropriate measures will be taken to determine if the Bank Group should accept the risk, control / mitigate the risk, transfer the risk (such as taking out of insurance policies) or avoid the risk (by withdrawing completely from the business activity).

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 (including historical situations such as Financial Tsunami 2008 and hypothetical situations such as a significant economic downturn in Mainland China and Hong Kong) on the Group's financial positions, in particular, capital adequacy, profitability, and liquidity. Whenever necessary, a prompt management response will be developed and executed to mitigate potential impacts.

**Template KM1 - Key prudential ratios**

(HK\$ million)		31 Dec 2018	30 Sep 2018	30 Jun 2018	31 Mar 2018	31 Dec 2017
<b>Regulatory capital (amount)</b>						
1	Common Equity Tier 1 (CET1)	74,513	73,408	74,207	74,054	72,786
2	Tier 1	84,825	83,720	84,519	84,366	83,452
3	Total capital	99,027	97,773	99,560	99,274	98,124
<b>RWA (amount)</b>						
4	Total RWA	475,714	472,509	486,098	495,037	551,868
<b>Risk-based regulatory capital ratios (as a percentage of RWA)</b>						
5	CET1 ratio (%)	15.66%	15.54%	15.27%	14.96%	13.19%
6	Tier 1 ratio (%)	17.83%	17.72%	17.39%	17.04%	15.12%
7	Total capital ratio (%)	20.82%	20.69%	20.48%	20.05%	17.78%
<b>Additional CET1 buffer requirements (as a percentage of RWA)</b>						
8	Capital conservation buffer requirement (%)	1.875%	1.875%	1.875%	1.875%	1.250%
9	Countercyclical capital buffer requirement (%)	0.774%	0.791%	0.767%	0.721%	0.464%
10	Higher loss absorbency requirements (%) (applicable only to G-SIBs or D-SIBs)	0.750%	0.750%	0.750%	0.750%	0.500%
11	Total AI-specific CET1 buffer requirements (%)	3.399%	3.416%	3.392%	3.346%	2.214%
12	CET1 available after meeting the AI's minimum capital requirements (%)	11.16%	11.04%	10.77%	10.46%	8.69%
<b>Basel III leverage ratio</b>						
13	Total leverage ratio (LR) exposure measure	862,745	848,746	854,259	833,319	833,035
14	LR (%)	9.83%	9.86%	9.89%	10.12%	10.02%
<b>Liquidity Coverage Ratio (LCR)</b>						
15	Total high quality liquid assets (HQLA)	60,377	58,874	59,450	66,808	63,569
16	Total net cash outflows	33,879	38,865	42,086	48,859	42,606
17	LCR (%)	180.47%	152.98%	144.80%	137.80%	151.66%
<b>Net Stable Funding Ratio (NSFR)</b>						
18	Total available stable funding	538,482	527,549	523,942	514,006	N/A
19	Total required stable funding	458,754	457,841	452,299	442,450	N/A
20	NSFR (%)	117.38%	115.23%	115.84%	116.17%	N/A

### Template OV1: Overview of RWA

The following table provides an overview of capital requirements in terms of a detailed breakdown of RWAs for various risks as at 31<sup>st</sup> December 2018 and 30<sup>th</sup> September 2018 respectively:

(HK\$ million)		(a)	(b)	(c)
		RWA		Minimum capital requirements
		December 2018	September 2018	December 2018
1	<b>Credit risk for non-securitization exposures</b>	<b>370,571</b>	<b>364,027</b>	<b>31,168</b>
2	Of which STC approach	53,352	40,205	4,268
3	Of which foundation IRB approach	295,005	302,383	25,016
4	Of which supervisory slotting criteria approach	22,214	21,439	1,884
6	<b>Counterparty default risk and default fund contributions</b>	<b>4,428</b>	<b>5,177</b>	<b>369</b>
7a	Of which CEM	3,116	3,852	263
7b	Of which CEM (such a risk to CCPs which is not included in row 7a)	281	335	22
9	Of which others	1,031	990	84
10	CVA risk	1,164	1,302	93
11	Equity positions in banking book under the simple risk-weight method and internal models method	14,737	15,697	1,250
15	Settlement risk	0	0	0
16	<b>Securitization exposures in banking book</b>	<b>37</b>	<b>86</b>	<b>3</b>
17	Of which SEC-IRBA	0	0	0
18	Of which SEC-ERBA	37	86	3
19	Of which SEC-SA	0	0	0
19a	Of which SEC-FBA	0	0	0
20	<b>Market risk</b>	<b>18,671</b>	<b>20,236</b>	<b>1,494</b>
21	Of which STM approach	3,758	4,999	301
22	Of which IMM approach	14,913	15,237	1,193
24	Operational risk	31,934	31,805	2,555
25	Amounts below the thresholds for deduction (subject to 250% RW)	16,355	15,865	1,387
26	Capital floor adjustment	0	0	0
26a	<b>Deduction to RWA</b>	<b>3,274</b>	<b>3,238</b>	<b>262</b>
26b	Of which portion of regulatory reserve for general banking risks and collective provisions which is not included in Tier 2 Capital	169	169	14
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	3,105	3,069	248
27	<b>Total</b>	<b>454,623</b>	<b>450,957</b>	<b>38,057</b>

The minimum capital requirements presented in this template are after application of the 1.06 scaling factor, where applicable.

### Template PV1: Prudent valuation adjustments

The following table shows a detailed breakdown of the constituent elements of valuation adjustment that have not been taken into account in the calculation of the amount of the Group's retained earnings or other disclosed reserves as at 31<sup>st</sup> December, 2018:

(HK\$ million)		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
		Equity	Interest rates	FX	Credit	Commodities	Total	Of which: In the trading book	Of which: In the banking book
1	Close-out uncertainty, of which:	9	-	-	-	-	9	9	-
2	<i>Mid-market value</i>	-	-	-	-	-	-	-	-
3	<i>Close-out costs</i>	-	-	-	-	-	-	-	-
4	<i>Concentration</i>	9	-	-	-	-	9	9	-
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	<b>Total adjustments</b>	9	-	-	-	-	9	9	-

Valuation adjustments are made for assets measured at fair value either through marked to market or marked to model, including non-derivative and derivative instruments. The Group has taken the following elements of valuation adjustment into consideration and makes adjustments, if any, in accordance with the Group's valuation process:

- Mid-market value – covering bid-offer adjustment on equity derivatives, interest rate swap and credit derivatives
- Close-out costs – covering bid-offer adjustment on futures contracts and foreign exchange contracts
- Concentration – covering liquidity valuation adjustment on equities, bonds and credit derivatives
- Model risk – covering valuation adjustment on structured products

Currently, the other elements of valuation adjustment are not considered in the valuation process in the view that the risk and financial impact involved are considered to be insignificant when compared to the market valuation adjustments mentioned above.

**Template 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.

	(a)	(b)	(c)	(d)	(e)	(f)	(g)
	Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation	Carrying values of items at 31 December 2018:				not subject to capital requirements or subject to deduction from capital
			subject to credit risk framework	subject to counterparty credit risk framework	subject to the securitization framework	subject to market risk framework	
(HK\$ million)							
<b>Assets</b>							
Cash and balances with banks and other financial institutions	48,106	48,049	48,049	-	-	-	-
Placements with banks and other financial institutions	60,373	60,336	60,336	-	-	-	-
Trade bills	14,646	14,646	14,646	-	-	-	-
Trading assets	3,483	3,483	-	-	-	3,483	-
Derivative assets (Note)	10,211	10,211	-	10,211	-	8,650	-
Loans and advances to customers	498,284	498,125	498,125	-	-	-	-
Investment securities	144,729	126,830	126,742	-	88	-	-
Investments in subsidiaries	-	3,504	3,504	-	-	-	-
Investments in associates	9,129	5,163	5,163	-	-	-	-
<b>Fixed assets</b>							
- Investment properties	5,249	5,119	5,119	-	-	-	-
- Other property and equipment	7,916	7,664	7,664	-	-	-	-
Goodwill and intangible assets	1,940	1,474	-	-	-	-	1,474

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

(HK\$ million)	(a)	(b)	(c)	(d)	(e)	(f)	(g)
	Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation	Carrying values of items at 31 December 2018:				
			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
Deferred tax assets	481	481	-	-	-	-	481
Other assets	34,904	33,485	33,382	103	-	-	-
<b>Total assets</b>	<b>839,451</b>	<b>818,570</b>	<b>802,730</b>	<b>10,314</b>	<b>88</b>	<b>12,133</b>	<b>1,955</b>
<b>Liabilities</b>							
Deposits and balances of banks and other financial institutions	27,490	27,490	-	-	-	-	27,490
Deposits from customers	574,114	574,114	-	-	-	-	574,114
Derivatives liabilities	9,496	9,485	-	-	-	-	9,485
Certificates of deposit issued	58,490	58,490	-	-	-	-	58,490
Current taxation	1,437	1,432	-	-	-	-	1,432
Debt securities issued	564	564	-	-	-	-	564
Deferred tax liabilities	483	297	-	-	-	-	297
Other liabilities	51,444	35,726	-	-	-	-	35,726
Loan capital - at amortised cost	12,358	12,358	-	-	-	-	12,358
<b>Total liabilities</b>	<b>735,876</b>	<b>719,956</b>	-	-	-	-	<b>719,956</b>

Note: As the exposures arising from derivative contracts under the trading book are marked to market and subject to the risk that the counterparty may default its contractual obligations, the exposures are subject to both the market risk capital charge and the counterparty credit risk capital charge. Therefore, the amount shown in column (b) does not equal to the sum of the amounts shown in columns (d) and (f).

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

The following table shows the main sources of differences between the carrying values in financial statements and the exposure amounts used for the calculation of regulatory capital in respect of the assets and liabilities based on the scope of regulatory consolidation:

At 31 December 2018:

		(a)	(b)	(c)	(d)	(e)
		Total	Items subject to:			
(HK\$ million)			credit risk framework	securitization framework	counterparty credit risk framework	market risk framework
1	<b>Asset carrying value amount under scope of regulatory consolidation (as per template LI1)</b>	816,615	802,730	88	10,314	12,133
2	- Liabilities carrying value amount under regulatory scope of consolidation (as per template LI1)	-	-	-	-	-
3	Total net amount under regulatory scope of consolidation	816,615	802,730	88	10,314	12,133
4	Off-balance sheet amounts	196,496	68,289	-	-	-
5	Differences due to consideration of provisions		2,398	-	-	-
6	Differences due to credit risk mitigation		(11,588)	-	-	-
7	Differences due to potential exposures for counterparty credit risk		-	-	18,641	-
8	<b>Exposure amounts considered for regulatory purposes</b>	903,005	861,829	88	28,955	12,133

**Template LIA: Explanations of differences between accounting and regulatory exposure amounts**

The following table describes the sources of differences from financial statements amounts to regulatory exposure amounts, as displayed in templates LI1 and LI2:

(a) Differences between the amounts in columns (a) and (b) in template LI1	The basis of consolidation for regulatory purposes is different from the basis of consolidation for accounting purposes. Subsidiaries included in consolidation for regulatory purposes are specified in a notice from the HKMA in accordance with Section 3C of the Capital Rules. Subsidiaries not included in consolidation for regulatory purposes are non-financial companies and the securities and insurance companies that are authorised and supervised by a regulator and are subject to supervisory arrangements regarding the maintenance of adequate capital to support business activities comparable to those prescribed for authorized institutions under the Capital Rules and the Banking Ordinance.
(b) The main drivers for the differences between accounting values and amounts considered for regulatory purposes shown in template LI2	The differences are mainly attributable to the following factors: <ul style="list-style-type: none"> <li>- The carrying values reported in the financial statement are after deduction of impairment allowances while the exposure amounts for regulatory purposes are before deducting impairment allowances (except for exposures under Standardised Approach of credit risk from which impairment allowances at Stage 3 made against the exposures are deducted);</li> <li>- The exposure amounts for regulatory purposes are after the adjustment for the capital effect of recognized credit risk mitigation on the principal amounts;</li> <li>- Counterparty credit risk exposures for regulatory purposes consist of both the current exposures and the potential exposures which are derived by applying the credit conversion factor (CCF) to the notional principal of the transactions or contracts.</li> </ul>
(c) Systems and controls applied to assets valuation	<p>In order to ensure that the valuation estimates are prudent and reliable, the Group has implemented the following valuation processes and methodologies:</p> <p><u>Independent Price Verification</u></p> <p>As part of the control process, market prices or model inputs used in the valuation process are either determined or validated by an independent function. Fair values of financial instruments are determined with reference to external quoted market prices or observable model inputs and validated against secondary sources when appropriate. For fair values that are determined through valuation models, the control process may include validation of the logics, inputs, and outputs by an independent function, and evaluation of any adjustments required on top of the valuation models.</p> <p>Fair value estimates are generally subjective in nature, and are made as of a specific point in time based on the characteristics of the financial instruments and relevant market information. The Group measures fair values using the following hierarchy of methods:</p> <ul style="list-style-type: none"> <li>Level 1 – Quoted market price in an active market for an identical instrument.</li> <li>Level 2 – Valuation techniques based on observable input. This category includes instruments valued using: quoted market prices in active markets for similar instruments; quoted prices for similar instruments in markets that are considered less than active; or other valuation techniques where all significant inputs are directly or indirectly observable from market data.</li> <li>Level 3 – Valuation techniques using significant unobservable inputs. This category includes all instruments where the valuation technique includes inputs not based on observable data and the unobservable inputs could have a significant effect on the instrument’s valuation. This category includes instruments that are valued based on quoted prices for similar instruments where significant unobservable adjustments or assumptions are required to reflect differences between the instruments.</li> </ul>

**Template LIA: Explanations of differences between accounting and regulatory exposure amounts** (continued)

	<p><u>Valuation adjustments</u></p> <p>Valuation adjustment will be applied on instruments that are subject to fair value measurement with residual market risk, where significant valuation uncertainty and financial impact may arise. The bank considers that the following valuation adjustments are relevant.</p> <p>(i) Bid offer adjustment:</p> <p>For the fixed income, credit derivatives and interest rate derivatives portfolio, two types of instruments, namely interest rate futures and credit default swap, would be adjusted to the prudent side of the bid offer close-out price. Regarding other types of instruments such as interest rate swap and cross currency swap which have no specific hedging purpose, the adjustment would be derived from the duration.</p> <p>For the equities and equity derivatives portfolio, bid offer adjustment would be applied to volatility dependent derivatives instruments based on the outstanding Vega position. Adjustments are made per underlying equity, based on the bid offer spread of implied volatility observed from the listed derivatives market. Bid offer adjustment is not performed for cash equity instruments in the dynamic hedging portfolio that are being marked at the exchange closing price given the generally insignificant net Delta position per underlying equity. Adjustment is not required for other cash equity instruments held, as they are already being marked at the market bid price.</p> <p>For the currency option portfolio, bid offer adjustment is not being performed due to the insignificant outstanding position. Delta and Vega position will be periodically reviewed to determine whether adjustment is required.</p> <p>In general, bid offer adjustment would not be required if the position is marked to the more prudent side of the bid offer rate or price, such as foreign exchange spot, forward, currency futures and cash equities.</p> <p>(ii) Liquidity valuation adjustment:</p> <p>Liquidity valuation adjustment would be applied to level 2 and level 3 financial instruments only.</p> <p>For the fixed income, credit derivatives and interest rate derivatives portfolio, liquidity valuation adjustment is being performed for less liquid position based on the product specific nature. Adjustment for interest rate swap and cross currency swap would be derived from the duration if the interest rate yield curve has wide bid-ask spread. Adjustment for debt securities would be derived from bid-offer spread if significant position of an illiquid instrument is held by the Bank. For credit default swap and credit linked note, adjustment would be derived from bid offer spread of its reference obligation if the counterparty or its reference obligation does not have an investment grade credit rating as instruments linked with a non-investment grade counterparty or reference obligation usually are not liquid in the market. For convertible asset swap, adjustment would not be required as the instrument is expected to be held until maturity and not expected to be sold in the secondary market. For interest rate futures, the adjustment is determined by the price difference between the day high and day low if significant position is held relative to open interest of the futures.</p> <p>For the equity derivatives portfolio, liquidity valuation adjustment is not being performed for level 2 and 3 equity derivatives instruments considering that the outstanding positions largely originate from dynamic hedging of callable bull / bear contracts and warrants issued and the Bank is the market maker for such products. For other customer derivatives products such as equity linked deposit, since customers are normally not allowed or expected to early terminate the contracts, thus the associated hedging positions would be held to expiration by the Bank at the same time. Moreover, the Bank has established progressively stringent individual position limits according to the underlying equity's average turnover and market capitalization. As a result, any residual positions would be insignificant relative to market liquidity and would not cause any material adverse impact to the overall valuation.</p> <p>For the foreign exchange portfolio, liquidity valuation adjustment of spot and forward is not</p>
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**Template LIA: Explanations of differences between accounting and regulatory exposure amounts** (continued)

	<p>being performed due to the highly liquid market and insignificant positions on minor currencies. Liquidity valuation adjustment for currency futures would be applied if significant position is held relative to open interest of the futures, and would be determined by the price difference between the day high and day low.</p> <p>For the currency option portfolio, liquidity valuation adjustment is not being performed due to insignificant position. Delta and Vega position will be periodically reviewed to determine whether adjustment is required.</p> <p>(iii) Model risk adjustment:</p> <p>Model risk adjustment would be considered for structured products that are priced by simulation technique. The adjustment would be based on the alternate model if there is a significant variance between the original valuation and the price derived from alternate model.</p> <p>(iv) Credit valuation adjustment:</p> <p>Credit value adjustment would be considered for both positive exposure and negative exposure on derivatives. The adjustment for positive exposure on derivatives (i.e. credit valuation adjustment) would be based on the positive fair value of derivatives and the counterparties' probability of default and loss given default and the adjustment for negative exposure on derivatives (i.e. debit valuation adjustment) would be based on the negative fair value of derivatives and the bank's credit spread.</p>
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**Template CC1: Composition of regulatory capital**

At 31 December 2018		Amount (HK\$ Million)	Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation
<b>CET1 capital: instruments and reserves</b>			
1	Directly issued qualifying CET1 capital instruments plus any related share premium	39,925	(10) + (14)
2	Retained earnings	27,494	(11)
3	Disclosed reserves	19,808	(15) + (16) + (17)
4	<i>Directly issued capital subject to phase-out arrangements from CET1 (only applicable to non-joint stock companies)</i>	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)	0	
6	<b>CET1 capital before regulatory adjustments</b>	87,227	
<b>CET1 capital: regulatory deductions</b>			
7	Valuation adjustments	9	
8	Goodwill (net of associated deferred tax liabilities)	1,460	(5)
9	Other intangible assets (net of associated deferred tax liabilities)	14	(6)
10	Deferred tax assets (net of associated deferred tax liabilities)	481	(7)
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	(7)	(8) + (9)
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	
21	Deferred tax assets arising from temporary differences (net of associated deferred tax liabilities)	Not applicable	
22	Amount exceeding the 15% threshold	Not applicable	
23	of which: significant investments in the ordinary share of financial sector entities	Not applicable	

**Template CC1: Composition of regulatory capital** (continued)

At 31 December 2018

		Amount (HK\$ Million)	Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation
24	of which: mortgage servicing rights	Not applicable	
25	of which: deferred tax assets arising from temporary differences	Not applicable	
26	National specific regulatory adjustments applied to CET1 capital	10,757	
26a	Cumulative fair value gains arising from the revaluation of land and buildings (own-use and investment properties)	5,645	(3) + (4)
26b	Regulatory reserve for general banking risks	5,112	(12)
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	<b>Total regulatory deductions to CET1 capital</b>	12,714	
29	<b>CET1 capital</b>	74,513	
<b>AT1 capital: instruments</b>			
30	Qualifying AT1 capital instruments plus any related share premium	8,894	(18)
31	of which: classified as equity under applicable accounting standards	8,894	
32	of which: classified as liabilities under applicable accounting standards	0	
33	<i>Capital instruments subject to phase-out arrangements from AT1 capital</i>	1,418	HK\$3,544 Mn (as of 31 Dec 2012)x 40%
34	AT1 capital instruments issued by consolidated bank subsidiaries and held by third parties (amount allowed in AT1 capital of the consolidation group)	0	
35	<i>of which: AT1 capital instruments issued by subsidiaries subject to phase-out arrangements</i>	0	
36	<b>AT1 capital before regulatory deductions</b>	10,312	
<b>AT1 capital: regulatory deductions</b>			
37	Investments in own AT1 capital instruments	0	
38	Reciprocal cross-holdings in AT1 capital instruments	0	
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)	0	
40	Significant capital investments in AT1 capital instruments issued by financial sector entities that are outside the scope of regulatory consolidation	0	
41	National specific regulatory adjustments applied to AT1 capital	0	
42	Regulatory deductions applied to AT1 capital due to insufficient Tier 2 capital to cover deductions	0	

**Template CC1: Composition of regulatory capital** (continued)

At 31 December 2018

		Amount (HK\$ Million)	Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation
43	<b>Total regulatory deductions to AT1 capital</b>	0	
44	<b>AT1 capital</b>	10,312	
45	<b>Tier 1 capital (T1 = CET1 + AT1)</b>	84,825	
	<b>Tier 2 capital: instruments and provisions</b>		
46	Qualifying Tier 2 capital instruments plus any related share premium	7,817	
47	<i>Capital instruments subject to phase-out arrangements from Tier 2 capital</i>	938	
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	<i>of which: capital instruments issued by subsidiaries subject to phase-out arrangements</i>	-	
50	Collective provisions and regulatory reserve for general banking risks eligible for inclusion in Tier 2 capital	2,907	(1) + (2) - (13)
51	<b>Tier 2 capital before regulatory deductions</b>	11,662	
	<b>Tier 2 capital: regulatory deductions</b>		
52	Investments in own Tier 2 capital instruments	0	
53	Reciprocal cross-holdings in Tier 2 capital instruments	0	
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)	0	
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)	0	
56	National specific regulatory adjustments applied to Tier 2 capital	(2,540)	
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	(2,540)	[(3) + (4)] X 45%
57	<b>Total regulatory adjustments to Tier 2 capital</b>	(2,540)	
58	<b>Tier 2 capital (T2)</b>	14,202	
59	<b>Total regulatory capital (TC = T1 + T2)</b>	99,027	
60	<b>Total RWA</b>	475,714	
	<b>Capital ratios (as a percentage of RWA)</b>		
61	<b>CET1 capital ratio</b>	15.66%	
62	<b>Tier 1 capital ratio</b>	17.83%	
63	<b>Total capital ratio</b>	20.82%	
64	<b>Institution-specific buffer requirement (capital conservation buffer plus countercyclical capital buffer plus higher loss absorbency requirements)</b>	3.399%	
65	of which: capital conservation buffer requirement	1.875%	
66	of which: bank specific countercyclical capital buffer requirement	0.774%	

**Template CC1: Composition of regulatory capital** (continued)

At 31 December 2018

		<b>Amount (HK\$ Million)</b>	<b>Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation</b>
67	of which: higher loss absorbency requirement	0.75%	
68	CET1 (as a percentage of RWA) available after meeting minimum capital requirements	11.16%	
	<b>National minima (if different from Basel 3 minimum)</b>		
69	National CET1 minimum ratio	Not applicable	
70	National Tier 1 minimum ratio	Not applicable	
71	National Total capital minimum ratio	Not applicable	
	<b>Amounts below the thresholds for deduction (before risk weighting)</b>		
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	3,751	
73	Significant capital investments in CET1 capital instruments issued by financial sector entities that are outside the scope of regulatory consolidation	6,542	
74	Mortgage servicing rights (net of associated deferred tax liabilities)	Not applicable	
75	Deferred tax assets arising from temporary differences (net of associated deferred tax liabilities)	Not applicable	
	<b>Applicable caps on the inclusion of provisions in Tier 2 capital</b>		
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)	839	
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	671	
78	Provisions eligible for inclusion in Tier 2 in respect of exposures subject to the IRB approach and SEC-IRBA (prior to application of cap)	2,236	
79	Cap for inclusion of provisions in Tier 2 under the IRB approach and SEC-IRBA	2,236	
	<b>Capital instruments subject to phase-out arrangements (only applicable between 1 Jan 2018 and 1 Jan 2022)</b>		
80	<i>Current cap on CET1 capital instruments subject to phase-out arrangements</i>	Not applicable	
81	<i>Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities)</i>	Not applicable	
82	<i>Current cap on AT1 capital instruments subject to phase-out arrangements</i>	1,418	
83	<i>Amount excluded from AT1 capital due to cap (excess over cap after redemptions and maturities)</i>	1,075	
84	<i>Current cap on Tier 2 capital instruments subject to phase-out arrangements</i>	938	
85	<i>Amount excluded from Tier 2 capital due to cap (excess over cap after redemptions and maturities)</i>	-	

**Template CC1: Composition of regulatory capital** (continued)

Notes to the Template

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

	Description	Hong Kong basis (HK\$ Million)	Basel III basis (HK\$ Million)
9	<b>Other intangible assets (net of associated deferred tax liabilities)</b>	14	14
	<p><u>Explanation</u></p> <p>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.</p>		
10	<b>Deferred tax assets (net of associated deferred tax liabilities)</b>	481	(1)
	<p><u>Explanation</u></p> <p>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.</p>		
18	<b>Insignificant capital investments in CET1 capital instruments issued by financial sector entities that are outside the scope of regulatory consolidation (amount above 10% threshold)</b>	0	0
	<p><u>Explanation</u></p> <p>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.</p>		

**Template CC1: Composition of regulatory capital** (continued)

Notes to the Template (continued)

	Description	Hong Kong basis (HK\$ Million)	Basel III basis (HK\$ Million)
19	<b>Significant capital investments in CET1 capital instruments issued by financial sector entities that are outside the scope of regulatory consolidation (amount above 10% threshold)</b>	0	0
	<p><u>Explanation</u></p> <p>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.</p>		
39	<b>Insignificant capital investments in AT1 capital instruments issued by financial sector entities that are outside the scope of regulatory consolidation (amount above 10% threshold)</b>	0	0
	<p><u>Explanation</u></p> <p>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.</p>		
54	<b>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)</b>	0	0
	<p><u>Explanation</u></p> <p>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.</p>		
<p>Remarks:</p> <p>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.</p>			

Abbreviations:

CET1: Common Equity Tier 1

AT1: Additional Tier 1

**Template CC2: Reconciliation of regulatory capital to balance sheet**

Balance Sheet Reconciliation	Balance sheet as in published financial statements	Under regulatory scope of consolidation	Cross reference to Definition of Capital Components
	31/12/2018 HK\$ Mn	31/12/2018 HK\$ Mn	
<b>Assets</b>			
Cash and balances with banks and other financial institutions	48,106	48,049	
Placements with banks and other financial institutions	60,373	60,336	
Trade bills	14,646	14,646	
Trading assets	3,483	3,483	
Financial assets designated at fair value through profit or loss	-	-	
Derivative assets	10,211	10,211	
Loans and advances to customers	498,284	498,125	
of which: collective impairment allowances reflected in regulatory capital		(176)	(1)
Excess of total EL amount over total eligible provisions under the IRB Approach		(2,236)	(2)
Investment securities	144,729	126,830	
Investments in subsidiaries	-	3,504	
Investments in associates	9,129	5,163	
Fixed assets			
- Investment properties	5,249	5,119	
of which: Cumulative fair value gains arising from the revaluation of land and buildings		3,893	(3)
- Other property and equipment	7,916	7,664	
of which: Cumulative fair value gains arising from the revaluation of land and buildings		1,752	(4)
Goodwill and intangible assets	1,940	1,474	
of which: goodwill		1,460	(5)
intangible assets		14	(6)
Deferred tax assets	481	481	
of which: deferred tax assets		481	(7)
Other assets	34,904	33,485	
<b>Total assets</b>	<b>839,451</b>	<b>818,570</b>	
<b>Liabilities</b>			
Deposits and balances of banks and other financial institutions	27,490	27,490	
Deposits from customers	574,114	574,114	
Trading liabilities	-	-	
Derivative liabilities	9,496	9,485	
Certificates of deposit issued			
- At fair value through profit or loss	9,462	9,462	
of which: losses due to changes in own credit risk on fair valued liabilities		(5)	(8)
- At amortised cost	49,028	49,028	
Current taxation	1,437	1,432	
Debt securities issued			
- At fair value through profit or loss	407	407	
of which: losses due to changes in own credit risk on fair valued liabilities		(2)	(9)
- At amortised cost	157	157	
Deferred tax liabilities	483	297	
Other liabilities	51,444	35,726	
Loan capital - at amortised cost	12,358	12,358	
of which: subordinated debt not eligible for inclusion in regulatory capital		12,358	
<b>Total liabilities</b>	<b>735,876</b>	<b>719,956</b>	
<b>Shareholders' Equity</b>			
Share capital	39,925	39,925	
of which: paid-in share capital		39,925	(10)
Reserves	51,901	47,302	
of which: retained earnings		27,494	(11)
of which: regulatory reserve earmarked		5,112	(12)
regulatory reserve for general banking risks		495	(13)
share premium		-	(14)
accumulated other comprehensive income		2,506	(15)
forex unrealised gains		(708)	(16)
other reserves		18,010	(17)
Additional equity instruments	8,894	8,894	(18)
Non-controlling interests	2,855	2,493	
of which: portion not eligible for inclusion in regulatory capital		2,493	
<b>Total shareholders' equity</b>	<b>103,575</b>	<b>98,614</b>	
<b>Total liabilities and shareholders' equity</b>	<b>839,451</b>	<b>818,570</b>	

**Table CCA: Main features of regulatory capital instruments**

		Ordinary Shares	US\$318.3 million Hybrid Tier 1	US\$650 million Additional Tier 1	US\$500 million Additional Tier 1	US\$600 million Tier 2 due 2020	US\$500 million Tier 2 due 2024	US\$500 million Tier 2 due 2026
1	Issuer	The Bank of East Asia, Limited ("BEA")	1. Notes issued by BEA. 2. Preference shares issued by Innovate Holdings Limited ("Innovate"), a wholly-owned subsidiary of BEA	BEA	BEA	BEA	BEA	BEA
2	Unique identifier - ISIN	HK0023000190	1. Stapled unit (notes as component part of the unit) : XS0462883603 2. Preference shares : XS0462885053	XS1326527246	XS1615078141	XS0521073428	XS1138687162	XS1508842256
3	Governing law(s) of the instrument	Hong Kong	1. Notes: England (subordination governed by Hong Kong laws) 2. Preference shares : British Virgin Islands	England (Subordination governed by Hong Kong laws)	England (Subordination governed by Hong Kong laws)	England (subordination governed by Hong Kong laws)	England (subordination governed by Hong Kong laws)	England (subordination governed by Hong Kong laws)
<i>Regulatory treatment</i>								
4	Transitional Basel III rules#	N.A.	Additional Tier 1	N.A.	N.A.	Tier 2	N.A.	N.A.
5	Post-transitional Basel III rules+	Common Equity Tier 1	Ineligible	Additional Tier 1	Additional Tier 1	Ineligible	Tier 2	Tier 2
6	Eligible at solo*/group/group & solo	Solo and group	Solo and group	Solo and group	Solo and group	Solo and group	Solo and group	Solo and group
7	Instrument type	Ordinary shares	Stapled instrument : Tier 2 notes and perpetual non-cumulative preference share	Perpetual non-cumulative Additional Tier 1 capital securities	Perpetual non-cumulative Additional Tier 1 capital securities	Tier 2 notes	Tier 2 notes	Tier 2 notes
8	Amount recognised in regulatory capital	HK\$39,925 Mn	HK\$1,418 Mn	HK\$5,016 Mn	HK\$3,878 Mn	Total for Tier 2 instruments : HK\$8,755 Mn		
9	Par value of instrument	N.A.	Issue price : US\$500 million: 100%	Issue price: US\$650 million : 100%	Issue price: US\$500 million : 100%	Issue price : US\$450 million: 99.04% US\$150 million: 100.102%	Issue price : US\$500 million: 99.608%	Issue price : US\$500 million: 99.838%
10	Accounting classification	Equity	Solo level: Liability – fair value option Group level: Non-controlling interest	Equity	Equity	Liability – amortised cost	Liability – amortised cost	Liability – amortised cost
11	Original date of issuance	Since incorporation	5th November, 2009	2nd December, 2015	18th May, 2017	US\$450 million: 16th July, 2010 US\$150 million: 23rd July, 2010	20th November, 2014	3rd November, 2016
12	Perpetual or dated	N.A.	Notes : dated  Preference shares : perpetual	Perpetual	Perpetual	Dated	Dated	Dated

Table CCA: Main features of regulatory capital instruments (continued)

		Ordinary Shares	US\$318.3 million Hybrid Tier 1	US\$650 million Additional Tier 1	US\$500 million Additional Tier 1	US\$600 million Tier 2 due 2020	US\$500 million Tier 2 due 2024	US\$500 million Tier 2 due 2026
13	Original maturity date	N.A.	Notes : 5th November, 2059  Preference shares : No maturity	No maturity	No maturity	16th July, 2020	20th November, 2024	3rd November, 2026
14	Issuer call subject to prior supervisory approval	No	Yes	Yes	Yes	No	Yes	Yes
15	Optional call date, contingent call dates and redemption amount	N.A.	First call date : 5th November, 2019  Included tax and regulatory call options  Redemptions in whole at 100% with accrued and unpaid dividends	First call date : 2nd December, 2020  Included tax and regulatory call options  Redemptions in whole at 100% with accrued dividends	First call date : 18th May, 2022  Included tax and regulatory call options  Redemptions in whole at 100% with accrued dividends	No issuer call option  Included tax and regulatory call options  Redemptions in whole at 100% with accrued interests	One-off call date: 20th November, 2019  Included tax and regulatory call options  Redemptions in whole at 100% with accrued interests, final amount subject to adjustment following occurrence of a Non-Viability Event	One-off call date: 3rd November, 2021  Included tax and regulatory call options  Redemptions in whole at 100% with accrued interests, final amount subject to adjustment following occurrence of a Non-Viability Event
16	Subsequent call dates, if applicable	N.A.	Any payment dates thereafter first call date	Any payment dates thereafter first call date	Any payment dates thereafter first call date	N.A.	N.A.	N.A.
<i>Coupons / dividends</i>								
17	Fixed or floating dividend/coupon	N.A.	Fixed to floating	Fixed	Fixed	Fixed	Fixed	Fixed
18	Coupon rate and any related index	N.A.	Up to 4th Nov., 2019 : 8.5% p.a.  Thereafter : 3-month U.S. LIBOR + 7.3605% p.a.	Up to 1st December, 2020 : 5.5% p.a. Thereafter and every 5 years thereafter reset at : 5-year U.S. Treasury + 3.834%	Upto 17th May, 2022 : 5.625% p.a. Thereafter and every 5 years thereafter reset at : 5-year U.S. Treasury + 3.682%	6.125% p.a.	Up to 19th Nov, 2019: 4.25% p.a. Thereafter reset at : 5-year U.S. Treasury + 2.7%	Up to 2nd Nov, 2021: 4% p.a. Thereafter reset at : 5-year U.S. Treasury + 2.7%
19	Existence of a dividend stopper	No	No	Yes	Yes	No	No	No
20	Fully discretionary, partially discretionary or mandatory	N.A.	Both the interest on notes and the dividend on preference shares are partially discretionary	Fully discretionary	Fully discretionary	Mandatory	Mandatory	Mandatory
21	Existence of step up or other incentive to redeem	No	Yes	No	No	No	No	No
22	Noncumulative or cumulative	Non-cumulative	Interest on notes : cumulative  Dividend on preference shares : non-cumulative	Non-cumulative	Non-cumulative	Cumulative	Cumulative	Cumulative
23	Convertible or non-convertible	Non-convertible	Convertible	Non-convertible	Non-convertible	Non-convertible	Non-convertible	Non-convertible
24	If convertible, conversion trigger (s)	N.A.	In case of substitution events, the notes will be transferred to Innovate whereas the preference shares will be converted into preference shares of BEA	N.A.	N.A.	N.A.	N.A.	N.A.

Table CCA: Main features of regulatory capital instruments (continued)

		Ordinary Shares	US\$318.3 million Hybrid Tier 1	US\$650 million Additional Tier 1	US\$500 million Additional Tier 1	US\$600 million Tier 2 due 2020	US\$500 million Tier 2 due 2024	US\$500 million Tier 2 due 2026
25	If convertible, fully or partially	N.A.	Fully	N.A.	N.A.	N.A.	N.A.	N.A.
26	If convertible, conversion rate	N.A.	1 : 1	N.A.	N.A.	N.A.	N.A.	N.A.
27	If convertible, mandatory or optional conversion	N.A.	Mandatory	N.A.	N.A.	N.A.	N.A.	N.A.
28	If convertible, specify instrument type convertible into	N.A.	Additional Tier 1	N.A.	N.A.	N.A.	N.A.	N.A.
29	If convertible, specify issuer of instrument it converts into	N.A.	BEA	N.A.	N.A.	N.A.	N.A.	N.A.
30	Write-down feature	No	No	Yes	Yes	No	Yes	Yes
31	If write-down, write-down trigger(s)	N.A.	N.A.	Occurrence of a "Non-Viability Event", which means the earlier of: (i) the HKMA notifying BEA in writing that the HKMA is of the opinion that a write-off or conversion is necessary, without which BEA would become non-viable; and (ii) the HKMA notifying BEA in writing that a decision has been made by the government body, a government officer or other relevant regulatory body with the authority to make such a decision, that a public sector injection of capital or equivalent support is necessary, without which BEA would become non-viable.	Occurrence of a "Non-Viability Event", which means the earlier of: (i) the HKMA notifying BEA in writing that the HKMA is of the opinion that a write-off or conversion is necessary, without which BEA would become non-viable; and (ii) the HKMA notifying BEA in writing that a decision has been made by the government body, a government officer or other relevant regulatory body with the authority to make such a decision, that a public sector injection of capital or equivalent support is necessary, without which BEA would become non-viable.	N.A.	Occurrence of a "Non-Viability Event", which means the earlier of: (i) the HKMA notifying BEA in writing that the HKMA is of the opinion that a write-off or conversion is necessary, without which BEA would become non-viable; and (ii) the HKMA notifying BEA in writing that a decision has been made by the government body, a government officer or other relevant regulatory body with the authority to make such a decision, that a public sector injection of capital or equivalent support is necessary, without which BEA would become non-viable.	Occurrence of a "Non-Viability Event", which means the earlier of: (i) the HKMA notifying BEA in writing that the HKMA is of the opinion that a write-off or conversion is necessary, without which BEA would become non-viable; and (ii) the HKMA notifying BEA in writing that a decision has been made by the government body, a government officer or other relevant regulatory body with the authority to make such a decision, that a public sector injection of capital or equivalent support is necessary, without which BEA would become non-viable.
32	If write-down, full or partial	N.A.	N.A.	Partial	Partial	N.A.	Partial	Partial
33	If write-down, permanent or temporary	N.A.	N.A.	Permanent	Permanent	N.A.	Permanent	Permanent
34	If temporary write-down, description of write-up mechanism	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
35	Position in subordination hierarchy in liquidation	N.A.	Immediately subordinated to unsecured senior notes / indebtedness	Immediately subordinated to unsecured senior notes / indebtedness and subordinated Tier 2 notes / indebtedness	Immediately subordinated to unsecured senior notes / indebtedness and subordinated Tier 2 notes / indebtedness	Immediately subordinated to unsecured senior notes / indebtedness	Immediately subordinated to unsecured senior notes / indebtedness	Immediately subordinated to unsecured senior notes / indebtedness
36	Non-compliant transitioned features	No	Yes	No	No	Yes	No	No
37	If yes, specify non-compliant features	N.A.	Coupon step-up and absence of non-viability loss absorption criteria	N.A.	N.A.	Absence of non-viability loss absorption criteria	N.A.	N.A.

Footnote:

- # Regulatory treatment of capital instruments subject to transitional arrangements provided for in Schedule 4H of the Banking (Capital) Rules  
+ Regulatory treatment of capital instruments not subject to transitional arrangements provided for in Schedule 4H of the Banking (Capital) Rules  
\* Include solo-consolidated

**Template CCyB1: Geographical distribution of credit exposures used in countercyclical capital buffer (“CCyB”)**

The following table presents the geographical breakdown of risk-weighted amounts (RWA) in relation to private sector credit exposures as at 31<sup>st</sup> December 2018:

		a	c	d	e
	Geographical breakdown by Jurisdiction (J)	Applicable JCCyB ratio in effect	RWA used in computation of CCyB ratio	AI-specific CCyB ratio	CCyB amount (Note)
		(%)	(HK\$ Million)	(%)	(HK\$ Million)
1	Hong Kong SAR	1.875%	142,575		
2	Norway	2.000%	19		
3	United Kingdom	1.000%	15,093		
4	Sweden	2.000%	26		
	Sum of above		157,713		
	Total (including those exposures in jurisdictions with zero JCCyB ratio)		365,154	0.774%	3,682

Note: At 31<sup>st</sup> December 2018, the CCyB amount is the Group's total RWA multiplied by the Group specific CCyB ratio according to the Banking (Disclosure) (Amendment) Rules 2018 implemented on 30<sup>th</sup> June 2018. Prior to 30<sup>th</sup> June 2018, the CCyB amount was the Group's total RWA relating to private sector credit exposures multiplied by the Group specific CCyB ratio. The change has no impact on the Group's capital requirements.

**Template LR1: Summary comparison of accounting assets against Leverage Ratio (“LR”) exposure measure**

		At 31 December 2018
	Item	Value under Leverage Ratio framework (HK\$ Million)
1	Total consolidated assets as per published financial statements	839,451
2	Adjustment for investments in banking, financial, insurance or commercial entities that are consolidated for accounting purposes but outside the scope of regulatory consolidation	(40,925)
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	21,564
5	Adjustment for SFTs (i.e. repos and similar secured lending)	13,043
6	Adjustment for off-balance sheet (“OBS”) items (i.e. conversion to credit equivalent amounts of OBS exposures)	45,098
6a	Adjustment for specific and collective provisions that are allowed to be excluded from exposure measure	(2,766)
7	Other adjustments	(12,720)
8	<b>Leverage ratio exposure measure</b>	<b>862,745</b>

**Template LR2: Leverage ratio (“LR”)**

		(HK\$ Million)	
		At 31 Dec 2018	At 30 Sep 2018
<b>On-balance sheet exposures</b>			
1	On-balance sheet exposures (excluding those arising from derivative contracts and SFTs, but including collateral)	798,526	787,554
2	Less: Asset amounts deducted in determining Basel III Tier 1 capital	(12,720)	(12,623)
3	<b>Total on-balance sheet exposures (excluding derivative contracts and SFTs)</b>	785,806	774,931
<b>Exposures arising from derivative contracts</b>			
4	Replacement cost associated with all derivative contracts (where applicable net of eligible cash variation margin and/or with bilateral netting)	10,214	14,131
5	Add-on amounts for PFE associated with all derivative contracts	12,029	10,426
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	(796)	(907)
8	Less: Exempted CCP leg of client-cleared trade exposures	-	-
9	Adjusted effective notional amount of written credit derivative contracts	117	117
10	Less: Adjusted effective notional offsets and add-on deductions for written credit derivative contracts	-	-
11	<b>Total exposures arising from derivative contracts</b>	21,564	23,767
<b>Exposures arising from securities financing transactions (SFTs)</b>			
12	Gross SFT assets (with no recognition of netting), after adjusting for sale accounting transactions	13,041	5,858
13	Less: Netted amounts of cash payables and cash receivables of gross SFT assets	-	-
14	CCR exposure for SFT assets	2	1
15	Agent transaction exposures	-	-
16	<b>Total exposures arising from SFTs</b>	13,043	5,859
<b>Other off-balance sheet exposures</b>			
17	Off-balance sheet exposure at gross notional amount	196,496	208,261
18	Less: Adjustments for conversion to credit equivalent amounts	(151,398)	(161,352)
19	<b>Off-balance sheet items</b>	45,098	46,909
<b>Capital and total exposures</b>			
20	<b>Tier 1 capital</b>	84,825	83,720
20a	<b>Total exposures before adjustments for specific and collective provisions</b>	865,511	851,467
20b	<b>Adjustments for specific and collective provisions</b>	(2,766)	(2,721)
21	<b>Total exposures after adjustments for specific and collective provisions</b>	862,745	848,746
<b>Leverage ratio</b>			
22	<b>Leverage ratio</b>	<b>9.83%</b>	<b>9.86%</b>

### **Table LIQA: Liquidity risk management**

Liquidity risk is the risk that the Group may not be able to meet its obligations as they come due because of an inability to obtain adequate funding (funding liquidity risk); or that the Group cannot easily liquidate assets quickly without significantly lowering market prices because of inadequate market depth or market disruptions (market liquidity risk).

The purpose of liquidity risk management is to ensure sufficient cash flows to meet all financial commitments and to capitalise on opportunities for business expansion. This includes the Group's ability to meet deposit withdrawals either on demand or at contractual maturity, to repay borrowings as they mature, to make new loans and investments as opportunities arise and last but not least, to comply with all the statutory requirements for liquidity risk management, including Liquidity Coverage Ratio ("LCR") and Net Stable Funding Ratio ("NSFR").

The Group reviews the risk profile through regular assessments of both qualitative and quantitative risk factors to determine its tolerance of prevailing risk levels against applicable risk appetites statement for liquidity risk annually approved by the Board. The Asset and Liability Management Committee is delegated by the Board to oversee the Group's liquidity risk management. The Asset and Liability Management Committee is composed of balanced representation of senior staff from various business units, Treasury, Risk Management and Finance to jointly formulate adequate funding strategies. The Asset and Liability Management Committee sets the strategy, policy, and limits for managing liquidity risk and the means for ensuring that such strategy and policy are implemented. Regular meetings are held to review the compliance status of the monitoring matrix established and the need for any change in strategy and policy. Liquidity is managed daily by the Capital Markets & Liquidity Management Department under the Treasury Markets Division of the Group within the set limits. The Asset & Liability Management Department under the Risk Management Division of the Group is responsible for monitoring the activities relating to liquidity risk. The Internal Audit Division performs periodic reviews to ensure that the liquidity risk management functions are carried out effectively.

The implementation of LCR and NSFR imposes a more stringent regulatory regime for liquidity risk management on the Group. To ensure compliance with the enhanced regulatory requirement, internal targets for LCR and NSFR have been set above regulatory required levels, making reference to the Group's liquidity risk appetite. In addition, material changes in the LCR and NSFR will be reviewed regularly by the Asset and Liability Management Committee together with proposed mitigation actions to cope with adverse changes arising from, but not limited to, composition of the deposit base and remaining tenor to maturity, lending activities with respect to different maturity tenors, and the Group's asset and liability mix strategy. In planning the asset and liability mix strategy, the Group assesses the impact of asset growth and funding structure on the LCR and NSFR with support from relevant business units for the Asset and Liability Management Committee's review and decision.

In 2018, the Group is required to calculate LCR and NSFR in accordance with the regulatory requirements, and to maintain these ratios not less than 90% for LCR and 100% for NSFR on a consolidated basis. As at 31<sup>st</sup> December, 2018, the ratios are reported as follows:

	<b>As at 31<sup>st</sup> December 2018</b>
<b>Liquidity Coverage Ratio</b>	188%
<b>Net Stable Funding Ratio</b>	117%

As part of Group efforts to manage the LCR and NSFR effectively, emphasis is placed on strengthening the deposit base by retaining loyal customers and maintaining customer relationships. The Group balances funding among retail, small business, and wholesale funding to avoid concentration in any one source. The Group also diversifies its tenors of funding over various time horizons to avoid significant maturity mismatch in any time bucket. Professional markets are accessed through the issuance of certificates of deposit, medium-term notes, subordinated debt, money market placement and borrowing for the purposes of providing additional funding, maintaining a presence in local money markets, and optimising asset and liability maturities.

The Bank of East Asia, Limited  
東亞銀行有限公司

**Table LIQA: Liquidity risk management** (continued)

The table below shows the Group's concentration of sources of funding as at 31<sup>st</sup> December, 2018. There was no outstanding deposit balance from a single customer exceeding 1% of total liabilities on the Group level.

	<b>As a percentage of Total Available Stable Funding (exclude Capital)</b>
<b>Deposits from Retail Customers</b>	43.4%
<b>Deposits from Small Business</b>	4.2%
<b>Deposits from Corporate Customers</b>	33.1%
<b>Funding provided by Financial Institutions</b>	8.9%
<b>Debt securities or prescribed instruments issued</b>	8.8%
<b>Other liabilities exclude capital instruments</b>	1.6%
<b>Total</b>	<b>100.0%</b>

In addition to observing the statutory LCR and NSFR, the Group has established different liquidity metrics – including but not limited to the loan-to-deposit ratio, cumulative maturity mismatch ratio, funding concentration ratio, intra-group exposure threshold, and cross currency funding ratio – to measure and analyse the Group's liquidity risks. As at 31<sup>st</sup> December 2018, the loan-to-deposit ratio of the Group was 79.1%. The Group maintains sufficient high quality liquid assets ("HQLAs") as a liquidity cushion that can be accessed in times of stress. The HQLAs for fulfilling the LCR consist of cash, exchange fund bills and notes, high quality government debt securities and other equivalent liquid marketable assets.

The composition of the Group's HQLAs is shown as below table. The majority of HQLAs are denominated in Hong Kong dollars. Contingent funding sources are maintained to provide strategic liquidity to meet unexpected and material cash outflows. As of 31<sup>st</sup> December 2018, the Group's holdings of level 2 assets by industry (except Sovereign, Central Banks and Public Sector Entities) were less than 10% of the total HQLAs amount.

	<b>As a percentage of total HQLA (unweighted)</b>
<b>- Level 1</b>	
<b>Cash and Withdrawable Central Bank Reserves</b>	29.5%
<b>Exchange fund bills and notes</b>	24.9%
<b>Marketable debt securities:-</b>	
Issued by Sovereigns or Governments	19.0%
Issued by Central Banks	6.0%
Issued by Multilateral Development Banks	1.0%
<b>- Level 2A</b>	
<b>Marketable debt securities:-</b>	
Issued by Sovereigns or Governments	7.2%
Issued by Corporates	0.4%
Others	0.6%
<b>- Level 2B</b>	
<b>Marketable debt securities:-</b>	
Issued by Corporates	11.4%
<b>Total</b>	<b>100%</b>

The Bank of East Asia, Limited  
東亞銀行有限公司

**Table LIQA: Liquidity risk management** (continued)

Internally, intra-group funding transactions are carried out at arm's length and treated in a manner in line with other third party transactions, with regular monitoring and appropriate control. Head Office is a net funding provider to overseas branches and subsidiary. As at 31<sup>st</sup> December 2018, funding needs arising from respective branches and subsidiary are shown as follows:

(HK\$ million)	As at 31 <sup>st</sup> December 2018
<b>The Bank of East Asia (China) Limited</b>	12,235
<b>Overseas branches</b>	
- Labuan	1,055
- Los Angeles	5,535
- Macau	2,760
- New York	4,616
- Singapore	6,093
- Taipei	266
- London	8,080

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 Bank'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<sup>st</sup> December 2018 is shown as follows:

(HK\$ million)	Repayable on demand	Within 1 month	3 months or less but over 1 month	1 year or less but over 3 months	5 years or less but over 1 year	Over 5 years	Undated or overdue
Currency notes and coins	1,284	-	-	-	-	-	-
Placements with banks and other financial institutions	38,865	31,511	11,943	2,625	78	-	18,185
Advances to customers, acceptances and bills of exchange held	10,335	60,384	39,685	118,539	192,707	104,730	4,188
Debt securities, prescribed instruments and structured financial instruments held	123,031	4,958	2,178	3,776	2,815	205	-
Other assets	15,483	7,385	393	7	3	254	26,514
<b>Total on-balance sheet assets</b>	<b>188,998</b>	<b>104,238</b>	<b>54,199</b>	<b>124,947</b>	<b>195,603</b>	<b>105,189</b>	<b>48,887</b>
<b>Total off-balance sheet claims</b>	<b>798</b>	<b>4,470</b>	<b>6,375</b>	<b>4,535</b>	<b>7,248</b>	<b>1,893</b>	<b>345</b>
Deposits and balance of banks and other financial institutions	4,741	7,337	6,128	3,708	-	-	-
Deposits from customers	214,258	111,772	147,213	89,513	17,375	1	-
Debt securities, prescribed instruments and structured financial instruments issued	211	6,628	25,526	48,443	157	-	-
Other liabilities and capital	17,867	3,973	75	983	4,886	19,314	87,427
<b>Total on-balance sheet liabilities</b>	<b>237,077</b>	<b>129,710</b>	<b>178,942</b>	<b>142,647</b>	<b>22,418</b>	<b>19,315</b>	<b>87,427</b>
<b>Total off-balance sheet obligations</b>	<b>9,915</b>	<b>20,494</b>	<b>7,502</b>	<b>12,940</b>	<b>17,334</b>	<b>3,486</b>	<b>2,438</b>
<b>Contractual maturity mismatch</b>	<b>(57,196)</b>	<b>(41,496)</b>	<b>(125,870)</b>	<b>(26,105)</b>	<b>163,099</b>	<b>84,281</b>	<b>(40,633)</b>
<b>Cumulative contractual maturity mismatch</b>	<b>(57,196)</b>	<b>(98,692)</b>	<b>(224,562)</b>	<b>(250,667)</b>	<b>(87,568)</b>	<b>(3,287)</b>	<b>(43,920)</b>

**Table LIQA: Liquidity risk management (continued)**

The Group also conducts stress testing regularly to analyse liquidity risk. Both on and off-balance sheet items and their impact on cash flow are considered, together with applicable hypothetical and historical assumptions. The assessment and review of market liquidity risk are included in the various control processes, including investment/ trading strategy, market risk monitoring, valuation, and portfolio review.

Three stress scenarios – namely an institution-specific crisis, a general market crisis, and a crisis involving a combination of the two – are adopted with minimum survival period defined according to the HKMA's Supervisory Policy Manual LM-2, "Sound Systems and Controls for Liquidity Risk Management".

With reference to the stress-testing results, the Group identifies potential vulnerabilities within the Group, establishes internal limits, and formulates a contingency funding policy that sets out the Group's strategy for dealing with any liquidity problem and the procedures for making up cash flow deficits in emergency situations.

The contingency funding policy is designed to be pro-active and pre-emptive, and stipulates the following three stages:

1. The Group utilises early warning indicators, which cover both qualitative and quantitative measures, and monitors both internal and external factors. Should there be any early signs of significant impact on the Group's liquidity position, the Asset and Liability Management Committee is informed. The Asset and Liability Management Committee will consider appropriate remedial actions and will consider employing crisis management if the situation warrants.
2. A Crisis Management Committee, which is chaired by the Chairman & Chief Executive, is formed to handle the crisis. Strategy and procedures for obtaining contingency funding, as well as roles and responsibilities of the parties concerned, are clearly stated.
3. In the final stage, a post-crisis review is carried out to recommend necessary improvements to avoid incidents of a similar nature in the future.

An annual drill test is conducted and the contingency funding policy is subject to regular review in order to accommodate any changes in the business environment. Any significant changes to the contingency funding policy are approved by the Board.

**Template LIQ1: Liquidity Coverage Ratio (“LCR”)**

(HK\$ Million)		Quarter ending on 31 December 2018 : (75 data points)		Quarter ending on 30 September 2018 : (76 data points)	
Basis of disclosure: consolidated		UNWEIGHTED AMOUNT (Average Value)	WEIGHTED AMOUNT (Average Value)	UNWEIGHTED AMOUNT (Average Value)	WEIGHTED AMOUNT (Average Value)
<b>A. HIGH QUALITY LIQUID ASSETS</b>					
1	Total high quality liquid assets (HQLA)		60,377		58,874
<b>B. CASH OUTFLOWS</b>					
2	Retail deposits and small business funding, of which:	305,224	22,309	290,506	21,873
3	Stable retail deposits and stable small business funding	40,952	1,267	39,593	1,225
4	Less stable retail deposits and less stable small business funding	156,557	15,656	162,037	16,204
4a	Retail term deposits and small business term funding	107,715	5,386	88,876	4,444
5	Unsecured wholesale funding (other than small business funding) and debt securities and prescribed instruments issued by the institution, of which:	140,289	75,492	148,575	80,877
6	Operational deposits	0	0	0	0
7	Unsecured wholesale funding (other than small business funding) not covered in row 6	132,812	68,015	139,185	71,487
8	Debt securities and prescribed instruments issued by the institution and redeemable within the LCR period	7,477	7,477	9,390	9,390
9	Secured funding transactions (including securities swap transactions)		1,163		1,196
10	Additional requirements, of which:	84,859	11,603	89,357	12,133
11	Cash outflows arising from derivative contracts and other transactions, and additional liquidity needs arising from related collateral requirements	2,553	2,553	2,902	2,902
12	Cash outflows arising from obligations under structured financing transactions and repayment of funding obtained from such transactions	0	0	0	0
13	Potential drawdown of undrawn committed facilities (including committed credit facilities and committed liquidity facilities)	82,306	9,050	86,455	9,231
14	Contractual lending obligations (not otherwise covered in Section B) and other contractual cash outflows	7,423	7,423	6,746	6,746
15	Other contingent funding obligations (whether contractual or non-contractual)	128,098	2,747	133,580	2,793
16	<b>TOTAL CASH OUTFLOWS</b>		<b>120,737</b>		<b>125,618</b>
<b>C. CASH INFLOWS</b>					
17	Secured lending transactions (including securities swap transactions)	4,891	4,848	6,324	6,200
18	Secured and unsecured loans (other than secured lending transactions covered in row 17) and operational deposits placed at other financial institutions	130,149	77,522	127,847	74,860
19	Other cash inflows	5,614	5,175	6,288	5,877
20	<b>TOTAL CASH INFLOWS</b>	<b>140,654</b>	<b>87,545</b>	<b>140,459</b>	<b>86,937</b>
<b>D. LIQUIDITY COVERAGE RATIO</b>			<b>ADJUSTED VALUE</b>	<b>ADJUSTED VALUE</b>	
21	TOTAL HQLA		60,377		58,874
22	TOTAL NET CASH OUTFLOWS		33,879		38,865
23	LCR (%)		180.47%		152.98%

This is the standard disclosure template that a category 1 institution must use for the purposes of making its liquidity information disclosures under section 16FK or 103A (where applicable) of the Banking (Disclosure) Rules.

### **Template LIQ1: Liquidity Coverage Ratio (“LCR”) (continued)**

#### **Main drivers of LCR results**

The Liquidity Coverage Ratio (“LCR”), which came into effect on 1st January, 2015, promotes the short-term resilience of the Group’s liquidity risk by requiring that the Group hold sufficient high quality liquid assets (“HQLAs”) to survive under a pre-defined stress scenario over a period of 30 days. It is expressed as a percentage, of the amount of a category 1 institution’s HQLAs to the amount of the institution’s “total net cash outflows” over 30 calendar days.

The Banking (Liquidity) Rules require that Group meets the minimum LCR by 2019. During the transitional period, the percentage will increase from 60% in 2015 to 100% in 2019, with 10% added to the regulatory requirement each year from 2016.

The total net cash outflows is the total cash outflows offset by the total cash inflows. Total cash outflows mainly consist of customer deposits which are the Group’s main source of stable funding. Total cash inflows mainly come from maturing assets such as money market placements, loans and securities within 30 calendar days.

The Group’s LCR is well above the regulatory limit of 90% throughout the year of 2018. The average LCR increased from 138% for the first quarter of 2018 to 180% for the fourth quarter of 2018 mainly resulted from comparably higher cash inflows from money market placements and loans with lower cash outflows from customer deposits.

#### **Composition of HQLA**

The HQLAs for fulfilling the LCR consist of cash, exchange fund bills and notes, high quality government debt securities and other equivalent liquid marketable assets. The majority of HQLAs are denominated in Hong Kong dollars. The classification of HQLAs among level 1, 2A or 2B is based on the credit rating of securities and a number of market factors in determining the degree of readiness of monetizing the assets in short period of time. The Group’s liquid assets are predominately classified as level 1 assets.

#### **Concentration of Funding Sources**

The Group has strengthened the deposit base by retaining loyal customers and maintaining customer relationships. The Group balances funding among retail, small business, and wholesale funding to avoid concentration in any one source. Professional markets are accessed through the issuance of certificates of deposit, medium-term notes, subordinated debt, money market placement, and borrowing for the purposes of providing additional funding, maintaining a presence in local money markets, and optimizing asset and liability maturities.

#### **Currency mismatch in the LCR**

Majority of the Group’s customer deposits are denominated in HKD, USD and RMB. The Bank held an amount of HKD-denominated level 1 assets that was not less than 20% of its HKD-denominated total net cash outflows. The Group manages the composition of its HQLA by currency through funding swaps. There is no significant currency mismatch in the Bank’s LCR at respective levels of consolidation.

#### **Degree of centralization of liquidity management**

The Asset and Liability Management Committee is delegated by the Board to oversee the Group’s liquidity risk management. The Asset and Liability Management Committee sets the strategy, policy, and limits for managing liquidity risk and the means for ensuring that such strategy and policy are implemented. Regular meetings are held to review the compliance status of the monitoring matrix established and the need for any change in strategy and policy. Liquidity is managed daily by the Capital Markets & Liquidity Management Department under the Treasury Markets Division of the Group within the set limits. The Asset & Liability Management Department under the Risk Management Division of the Group is responsible for monitoring the activities relating to liquidity risk. The Internal Audit Division performs periodic reviews to ensure that the liquidity risk management functions are carried out effectively.

**Template LIQ2: Net Stable Funding Ratio (“NSFR”)**

(HK\$ Million)		Quarter ended 31 December 2018				
		(a)	(b)	(c)	(d)	(e)
Basis of disclosure: consolidated		<b>Unweighted value by residual maturity</b>				<b>Weighted amount</b>
		No specified term to maturity	<6 months or repayable on demand	6 months to < 12 months	12 months or more	
<b>A. Available stable funding (“ASF”) item</b>						
1	Capital:	97,657	0	6,488	8,617	109,518
2	<i>Regulatory capital</i>	97,657	0	3,910	3,907	103,519
2a	<i>Minority interests not covered by row 2</i>	0	0	0	0	0
3	<i>Other capital instruments</i>	0	0	2,578	4,710	5,999
4	Retail deposits and small business funding:		315,013	5,016	2,546	294,200
5	<i>Stable deposits</i>		72,209	349	9	68,939
6	<i>Less stable deposits</i>		242,804	4,667	2,537	225,261
7	Wholesale funding:		239,967	28,119	17,733	127,023
8	<i>Operational deposits</i>		0	0	0	0
9	<i>Other wholesale funding</i>	0	239,967	28,119	17,733	127,023
10	Liabilities with matching interdependent assets	0	0	0	0	0
11	Other liabilities:	30,057	44,616	15,167	158	7,741
12	<i>Net derivative liabilities</i>	0				
13	<i>All other funding and liabilities not included in the above categories</i>	30,057	44,616	15,167	158	7,741
14	<b>Total ASF</b>					538,482
<b>B. Required stable funding (“RSF”) item</b>						
15	Total HQLA for NSFR purposes	105,310				7,215
16	Deposits held at other financial institutions for operational purposes	0	0	0	0	0
17	Performing loans and securities:	10,805	216,511	68,689	352,745	403,194
18	<i>Performing loans to financial institutions secured by Level 1 HQLA</i>	135	5,898	0	0	725
19	<i>Performing loans to financial institutions secured by non-Level 1 HQLA and unsecured performing loans to financial institutions</i>	0	84,948	8,611	1,845	18,893
20	<i>Performing loans, other than performing residential mortgage, to non-financial corporate clients, retail and small business customers, sovereigns, the Monetary Authority for the account of the Exchange Fund, central banks and PSEs, of which:</i>	9,243	115,047	53,125	192,070	255,202
21	<i>With a risk-weight of less than or equal to 35% under the STC approach</i>	0	182	0	0	91
22	<i>Performing residential mortgages, of which:</i>	0	4,132	3,512	106,374	77,610
23	<i>With a risk-weight of less than or equal to 35% under the STC approach</i>	0	3,242	2,938	83,146	57,135
24	<i>Securities that are not in default and do not qualify as HQLA, including exchange-traded equities</i>	1,427	6,486	3,441	52,456	50,764
25	Assets with matching interdependent liabilities	0	0	0	0	0
26	Other assets:	42,248	21,246	2,353	0	44,178
27	<i>Physical traded commodities, including gold</i>	371				315

The Bank of East Asia, Limited  
東亞銀行有限公司

**Template LIQ2: Net Stable Funding Ratio (“NSFR”) (continued)**

(HK\$ Million)		Quarter ended 31 December 2018				
		(a)	(b)	(c)	(d)	(e)
Basis of disclosure: consolidated		<b>Unweighted value by residual maturity</b>				<b>Weighted amount</b>
		No specified term to maturity	<6 months or repayable on demand	6 months to < 12 months	12 months or more	
28	<i>Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs</i>	576				498
29	<i>Net derivative assets</i>	1,820				1,820
30	<i>Total derivative liabilities before deduction of variation margin posted</i>	9,491				N / A
31	<i>All other assets not included in the above categories</i>	29,990	21,246	2,353	0	41,545
32	Off-balance sheet items		202,736			4,167
33	<b>Total RSF</b>					458,754
34	<b>Net Stable Funding Ratio (%)</b>					117.38%

**Template LIQ2: Net Stable Funding Ratio (“NSFR”) (continued)**

(HK\$ Million)		Quarter ended 30 September 2018				
		(a)	(b)	(c)	(d)	(e)
Basis of disclosure: consolidated		<b>Unweighted value by residual maturity</b>				<b>Weighted amount</b>
		No specified term to maturity	<6 months or repayable on demand	6 months to < 12 months	12 months or more	
<b>A. Available stable funding (“ASF”) item</b>						
1	Capital:	96,341	0	0	15,103	111,444
2	<i>Regulatory capital</i>	96,341	0	0	7,811	104,152
2a	<i>Minority interests not covered by row 2</i>	0	0	0	0	0
3	<i>Other capital instruments</i>	0	0	0	7,292	7,292
4	Retail deposits and small business funding:		296,328	5,375	3,071	277,948
5	<i>Stable deposits</i>		66,366	517	13	63,552
6	<i>Less stable deposits</i>		229,962	4,858	3,058	214,396
7	Wholesale funding:		246,742	23,218	19,695	126,734
8	<i>Operational deposits</i>		71	0	0	36
9	<i>Other wholesale funding</i>	0	246,671	23,218	19,695	126,698
10	Liabilities with matching interdependent assets	0	0	0	0	0
11	Other liabilities:	30,261	38,261	21,639	604	11,423
12	<i>Net derivative liabilities</i>	0				
13	<i>All other funding and liabilities not included in the above categories</i>	30,261	38,261	21,639	604	11,423
14	<b>Total ASF</b>					527,549
<b>B. Required stable funding (“RSF”) item</b>						
15	Total HQLA for NSFR purposes		98,620			7,073
16	Deposits held at other financial institutions for operational purposes	0	34	0	0	17
17	Performing loans and securities:	10,958	208,454	66,624	354,742	401,775
18	<i>Performing loans to financial institutions secured by Level 1 HQLA</i>	147	390	0	0	186
19	<i>Performing loans to financial institutions secured by non-Level 1 HQLA and unsecured performing loans to financial institutions</i>	0	89,064	9,174	1,830	19,778
20	<i>Performing loans, other than performing residential mortgage, to non-financial corporate clients, retail and small business customers, sovereigns, the Monetary Authority for the account of the Exchange Fund, central banks and PSEs, of which:</i>	8,946	105,103	49,974	198,375	254,416
21	<i>With a risk-weight of less than or equal to 35% under the STC approach</i>	0	131	1	20	79
22	<i>Performing residential mortgages, of which:</i>	0	4,362	3,424	105,009	76,917
23	<i>With a risk-weight of less than or equal to 35% under the STC approach</i>	0	3,432	2,884	81,382	56,056
24	<i>Securities that are not in default and do not qualify as HQLA, including exchange-traded equities</i>	1,865	9,535	4,052	49,528	50,478
25	Assets with matching interdependent liabilities	0	0	0	0	0
26	Other assets:	46,041	19,282	2,931	0	44,635
27	<i>Physical traded commodities, including gold</i>	69				59

The Bank of East Asia, Limited

東亞銀行有限公司

**Template LIQ2: Net Stable Funding Ratio (“NSFR”) (continued)**

(HK\$ Million)		Quarter ended 30 September 2018				
		(a)	(b)	(c)	(d)	(e)
Basis of disclosure: consolidated		<b>Unweighted value by residual maturity</b>				<b>Weighted amount</b>
		No specified term to maturity	<6 months or repayable on demand	6 months to < 12 months	12 months or more	
28	<i>Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs</i>	513				444
29	<i>Net derivative assets</i>	3,397				3,397
30	<i>Total derivative liabilities before deduction of variation margin posted</i>	11,740				N / A
31	<i>All other assets not included in the above categories</i>	30,322	19,282	2,931	0	40,735
32	Off-balance sheet items				216,760	4,341
33	<b>Total RSF</b>					457,841
34	<b>Net Stable Funding Ratio (%)</b>					115.23%

### **Table IRRBB: Interest rate exposures in banking book**

Interest rate risk is the risk resulting from adverse movement in interest rates. It primarily results from the timing differences in the re-pricing of interest-bearing assets, liabilities, and off-balance sheet items in the banking book.

In determining the level of interest rate risk, assessments are made for the repricing risk, basis risk, options risk, and yield curve risk. The Group manages the interest rate risk on the banking book primarily by focusing on re-pricing mismatches. Gap analysis provides a static view of the maturity and re-pricing characteristics of the Group's assets, liabilities, and off-balance sheet positions. Re-pricing gap limits are set to control the Group's interest rate risk.

The Group uses sensitivity analysis to measure the potential effect of changes in interest rates on our net interest income and economic value change. Sensitivity analysis in relation to the impact of changes in interest rates on earnings and economic value is assessed through a hypothetical interest rate shock of 200 basis points across the yield curve on the Group's assets, liabilities, and off-balance sheet positions and is performed on a monthly basis. This sensitivity analysis, which is based on a static interest rate risk profile of assets and liabilities, is used for risk management purposes only. The analysis is based on the following assumptions:

- (i) there is a parallel shift in the yield curve and in interest rates;
- (ii) there are no other changes to the portfolio;
- (iii) no loan prepayment is assumed as the majority of loans is on a floating rate basis; and
- (iv) deposits without fixed maturity dates are assumed to be repriced on the next day.

Sensitivity limits are set to control the Group's interest rate risk exposure under both earnings and economic value perspectives. The results are reported to the Asset and Liability Management Committee on a regular basis.

Sensitivity Analysis for 2018 and 2017:

	2018				2017			
	HKD	USD	RMB	GBP	HKD	USD	RMB	GBP
	HK\$ Mn							
Impact on earnings over the next 12 months if interest rates rise by 200 basis points	1077	237	277	39	1,064	158	376	57
Impact on economic value if interest rates rise by 200 basis points	(278)	191	(301)	18	(334)	145	68	30

The overall impact on net interest income of the above currencies is positive in 2018, which is mainly because of the HKD non-interest bearing funding.

Due to the assumption of a parallel shift up of 200 basis points in the yield curve, the present value of debt securities would be expected to reduce and hence the economic value would have been reduced.

The reduction of economic value is increased compared with 2017, which is mainly because the size of debt securities portfolio in banking book is increased.

## **Table REMA: Remuneration policy**

### **Disclosure of Remuneration Policy**

In accordance with the “Guideline on a Sound Remuneration System” (the “Guideline”) issued by the HKMA in March 2010 and its revision effective March 2015, the Bank has reviewed and revised its remuneration policy for employees of the Group, including its overseas branches and subsidiaries. The remuneration policy covers all categories of employees, including the 4 described in paragraph 2.1.1 of the Guideline. The RC, Group Chief Risk Officer and Group Chief Compliance Officer annually reviews the Bank’s remuneration policy, including a reassessment of the principles applied in determining remuneration packages, as well as the structure and amount of compensation ultimately awarded.

The remuneration policy was reviewed and endorsed by RC in 2018. The major changes were to include the review of collective Material Risk Takers (“MRTs”), in addition of individual MRTs, as part of the responsibilities of the RC and to strengthen the governance on variable remuneration plans.

### **General Principles**

The remuneration policy of the Group promotes effective risk management, and is designed to encourage employee behaviour that supports the Group’s business objectives, long-term financial soundness, risk tolerance, and risk management framework.

### **Remuneration Structure**

Employee remuneration packages may consist of a combination of fixed and variable remuneration. The appropriate proportion of fixed and variable remuneration shall vary according to an employee’s seniority, role, responsibilities, and activities within the Group, among other things.

Fixed remuneration refers to an employee’s annual salary (including year-end pay), while variable remuneration – comprising cash bonus payments and/or share options – is awarded based on the employee’s performance with a view to better aligning incentives with risk and longer-term value creation. Variable remuneration, which is awarded in the form of cash bonus payments and/or share options, is determined taking into account an employee’s seniority, role and responsibilities, and the actual or potential risks that the employee’s activities may create for the Group and the extent to which they may affect its overall performance. In general, share options will be granted to staff at General Manager grade or above only.

Separate bonus schemes apply to risk control personnel, whose awards are not linked to the performances of the business units that they oversee.

### **Employees’ Performance Measurements and the Award of Variable Remuneration**

The RC determines the measures and the corresponding target levels of the Group’s performance with reference to corporate goals and objectives at the beginning of each financial year and when necessary.

The performance of business units will be assessed by a combination of financial and non-financial factors (including compliance and risk management) which are determined by senior management with reference to the relevant corporate goals and the functional responsibilities of the business units.

Score-cards comprised of a set of pre-defined and assessable criteria are used to assess the performance of individual employees. The criteria are determined according to the individual’s areas of responsibility, as well as relevant financial and non-financial factors. In 2018, the Bank has increased the weighting of non-financial factors in order to avoid over-reliance on financial measures and to align with HKMA’s expectation on Bank culture reform. To help ensure a balanced evaluation, a series of compliance and risk management ratings are also taken into account. The major types of risks covered are market, credit, interest rate, liquidity and operational risks. Other risks including legal, reputation, technology, strategic, compliance, business continuity, and new product and business risks are closely monitored at Bank level by various Management Committees and adjustment will be made to an individual’s variable remuneration when appropriate. The award of variable remuneration to an employee is based on the overall performance of the Group, as well as the performance of the relevant business unit, and that individual employee. Poor

**Table REMA: Remuneration policy (continued)**

performance (either financial or non-financial) will result in a reduction or elimination of variable remuneration. Moreover, performance in relation to non-financial factors, including risk, compliance and adherence to corporate values, forms a significant part of the employee performance appraisal exercise, given that poor performance in these areas can be indicative of significant risks to the Group. Adverse performance in non-financial factors, where appropriate, should override outstanding financial achievements. The overall quality of an employee's performance – as opposed to solely his/her financial performance – can therefore be accurately determined as an integral part of the assessment. This ultimately helps mitigate risk to the Group and ensures the deployment of suitable personnel based on competence.

**Senior Executive Compensation**

The RC annually reviews the remuneration packages of the Senior Management (including the Chief Executive and Deputy Chief Executives of the Bank), and Key Personnel (including 16 Division Heads, the Executive Director & Chief Executive of BEA China, the Head of Capital Markets & Liquidity Management Department and the Head of Fixed Income Capital Market Department). In determining the remuneration packages of the Senior Management and Key Personnel, the RC takes into account individual performances, performances of respective divisions and departments, and the Group's overall business goals and objectives. In 2018, the Bank reviewed the BEA's performance scorecard and the Senior Executive Bonus Scheme. External consultants, Ernst & Young and Willis Towers Watson were engaged to conduct the review.

The aggregate payouts for these senior executives for 2018 are shown in the table below in accordance with the disclosure requirement 3.3 of the Guideline.

**Deferral Arrangements**

The award of variable remuneration to the Senior Management and Key Personnel is subject to deferment in such a manner as determined by the RC. In general, the proportion of variable remuneration which is subject to deferment will increase in line with the seniority, scope of responsibilities, and other relevant factors pertinent to the Senior Management and Key Personnel.

The award of deferred remuneration is subject to a minimum vesting period and pre-defined vesting conditions as determined by the RC and communicated to all relevant employees. Deferred remuneration is awarded in such a manner so as to align employees' incentive awards with long-term value creation and the time horizons of risk. The future performance (both financial and non-financial) of the Group, relevant business units, and individual employees, as well as the creation of value for our shareholders, are taken into consideration when determining vesting conditions. Vesting and payment of deferred remuneration will be made gradually over a period of 3 years and no faster than on a pro-rata basis.

In circumstances where it is later established that any performance measurement for a particular year was based on data that is later proven to have been manifestly misstated, or it is later established that the relevant employee has committed fraud, malfeasance, or a violation of internal control policies, any unvested portions (i.e. both cash bonuses and/or share option tranches that have yet to be vested) of deferred variable remuneration (relating to that particular year in question) should be forgone, either in part or in whole, as determined by the RC. In certain circumstances, claw back of vested portion of the deferred variable remuneration of that particular year may apply.

**Template REM1: Remuneration awarded during financial year**

Total value of remuneration in 2018

	2018		2017	
	Non-deferred (HK\$)	Deferred (HK\$)	Non-deferred (HK\$)	Deferred (HK\$)
Total value of remuneration awards for the current financial year				
(i) Senior Management				
Number of employees	5		5	
Fixed remuneration				
• Cash-based	27,594,730	-	26,719,930	-
Variable remuneration				
• Cash-based	25,721,486	16,692,529	26,892,189	16,224,428
• Share Options	0	14,861,637	0	16,738,827
(ii) Key Personnel				
Number of employees	20		18	
Fixed remuneration				
• Cash-based	54,156,659	-	48,969,160	-
Variable remuneration				
• Cash-based	27,733,172	12,369,707	27,305,282	11,107,542
• Share Options	-	6,623,306	-	7,595,873
<b>Total Remuneration</b>	<b>135,206,047</b>	<b>50,547,179</b>	<b>129,886,561</b>	<b>51,666,670</b>

For indication purpose only, the value of share options is calculated based on the fair value of the Bank's shares on 18<sup>th</sup> January, 2019 for 2018 and 19<sup>th</sup> January, 2018 for 2017 respectively.

The remuneration of Key Personnel for 2018 included the remuneration of one Key Personnel who retired from the Group on 1<sup>st</sup> May 2018 and two Key Personnel who joined the Group on 5<sup>th</sup> March 2018 and 20<sup>th</sup> April 2018 respectively.



The Bank of East Asia, Limited  
東亞銀行有限公司

**Template REM2: Special payments**

In 2018, an aggregate amount of HK\$1,600,000 sign-on payment was made to two Key Personnel while no guaranteed bonuses or severance payments were made. In 2017, no guaranteed bonuses, sign-on, or severance payments were made to the Senior Management and Key Personnel of the Group.

### **Template REM3: Deferred remuneration**

Total outstanding deferred remuneration in 2018

Outstanding deferred remuneration	Vested portion during the year 2018 (HK\$)	Unvested portion as at the end of 2018 (HK\$)	Performance adjustments to Vested portion during the year 2018 (HK\$)	Performance adjustments to Unvested portion as at the end of 2018 (HK\$)
(i) Senior Management				
• Cash-based	2,662,886	13,053,081	-	-
• Share Options	23,334,819	50,812,963	-	-
(ii) Key Personnel				
• Cash-based	4,423,492	13,655,744	865,243	-
• Share Options	8,192,641	20,977,531	296,665	-

Remarks:

- (i) The values of share options are calculated based on the fair value on the respective Grant Dates.
- (ii) The vested cash bonuses and share options relate to the 2014 variable remuneration award granted in 2015 and vested in 2018, the 2015 variable remuneration award granted in 2016 and vested in 2018 and the 2016 variable remuneration award granted in 2017 and vested in 2018. The total number of share options granted in 2015, 2016 and 2017 are 6,100,000 shares, 6,262,500 shares and 6,400,000 shares respectively.
- (iii) The unvested cash bonuses and share options relate to the 2015, 2016 and 2017 variable remunerations.
- (iv) The outstanding deferred remuneration of Key Personnel in 2018 included the vested and unvested cash bonuses and share options of one Key Personnel who retired from the Group on 1st May, 2018.

Total outstanding deferred remuneration in 2017

Outstanding deferred remuneration	Vested portion during the year 2017 (HK\$)	Unvested portion as at the end of 2017 (HK\$)	Performance adjustments to Vested portion during the year 2017 (HK\$)	Performance adjustments to Unvested portion as at the end of 2017 (HK\$)
(i) Senior Management				
• Cash-based	6,788,256	2,662,886	-	-
• Share Options	23,954,919	50,462,218	-	-
(ii) Key Personnel				
• Cash-based	6,267,785	9,572,379	340,000	133,334
• Share Options	8,037,024	18,718,584	-	-

Remarks:

- (i) The values of share options are calculated based on the fair value on the respective Grant Dates.
- (ii) The vested cash bonuses and share options relate to the 2013 variable remuneration award granted in 2014 and vested in 2017, the 2014 variable remuneration award granted in 2015 and vested in 2017 and the 2015 variable remuneration award granted in 2016 and vested in 2017. The total number of share options granted in 2014, 2015 and 2016 are 5,987,500 shares, 6,100,000 shares and 6,262,500 shares respectively.
- (iii) The unvested cash bonuses and share options relate to the 2014, 2015 and 2016 variable remunerations.
- (iv) The outstanding deferred remuneration of Key Personnel in 2017 included the vested cash bonuses of one Key Personnel who left the Group on 1st October, 2013.

The Bank of East Asia, Limited  
東亞銀行有限公司

## **Table CRA: General information about credit risk**

### **Overview**

Credit risk is the risk of loss arising from a borrower or counterparty failing to meet its obligations. Credit risk exists in the trading book and banking book, as well as from on- and off-balance sheet transactions of the Group. It arises principally from lending, trade finance and treasury businesses.

For the purpose of this document, any reference to exposures related to “credit risk” is referring to the same scope (i.e. non-securitization exposures excluding counterparty credit risk) unless otherwise specified.

The Group has established policies, procedures, risk profile and rating systems to identify, measure, monitor, control, and report on credit risk. In this connection, guidelines for management of credit risk have been laid down in the Group’s Credit Risk Management Manual which is in line with the business strategy and risk appetite and above all, the regulatory guidelines and statutory requirements. These guidelines stipulate delegated lending authorities, credit underwriting criteria, credit monitoring processes, an internal rating structure, credit recovery procedures and a provisioning policy. They are reviewed and enhanced on an ongoing basis to cater for market changes, statutory requirements, and best practices in risk management processes.

Also, credit risk control limits are set for different levels. Risk, return, and market situation are considered when setting all limits. Active limit monitoring is undertaken.

### **Credit Risk Management**

Pursuant to the establishment of a new framework of Enterprise Risk Management (“ERM”), a “Three Lines of Defence” model has been adopted by the Group as follows:

- The first line of defence: Risk Owners;
- The second line of defence: Risk Controllers; and
- The third line of defence: Internal Audit Division (“IAD”).

Credit risk is one of the major risk types identified by the Group under the ERM framework. The Head of Credit Risk Management Department (“CRMD”) under Risk Management Division (“RMD”) is the Risk Controller of Credit Risk who is responsible for setting out a credit risk management governance framework, monitoring credit risk independently, and supporting the Credit Committee in managing all credit risk-related issues of the Group. Credit Committee receives a variety of reports on the credit risk exposures including asset quality and loan impairment charges, total exposures and RWAs, as well as updates on specific loan portfolios that are considered to have heightened credit risk.

As a prudent measure for the credit environment, CRMD has reviewed its roles, functions and organization structure, in particular, to ensure that under ERM framework, the first line of defence holds frontline positions in identification, assessment, management and reporting of risk exposures, having regard to the Group’s risk appetite, policies, procedures and controls.

Being the third line of defence, IAD is responsible for providing assurance on the effectiveness of the Group’s risk management framework including risk governance arrangements.

**Template CR1: Credit quality of exposures**

The table below provides an overview of the credit quality of on- and off-balance sheet exposures as at 31<sup>st</sup> December 2018:

(HK\$ million)		(a)	(b)	(c)	(d)
		Gross carrying amounts of		Allowances / impairments	Net values
		Defaulted exposures	Non-defaulted exposures		
1	Loans	3,492	619,935	2,365	621,062
2	Debt securities	0	127,692	89	127,603
3	Off-balance sheet exposures	0	196,219	110	196,109
4	<b>Total</b>	<b>3,492</b>	<b>943,846</b>	<b>2,564</b>	<b>944,774</b>

**Template CR2: Changes in defaulted loans and debt securities**

The table below provides information on the changes in defaulted loans and debt securities, including any changes in the amount of defaulted exposures, movements between non-defaulted and defaulted exposures, and reductions in the defaulted exposures due to write-offs as at 31<sup>st</sup> December 2018 and 30<sup>th</sup> June 2018 respectively:

(HK\$ million)		(a)
		Amount
1	<b>Defaulted loans and debt securities at end of the previous reporting period (30<sup>th</sup> June 2018)</b>	<b>4,632</b>
2	Loans and debt securities that have defaulted since the last reporting period	1,683
3	Returned to non-defaulted status	(37)
4	Amounts written off	(1,533)
5	Other changes*	(1,253)
6	<b>Defaulted loans and debt securities at end of the current reporting period (31<sup>st</sup> December 2018)</b>	<b>3,492</b>

\* Other changes include loan repayment, disposal of the impaired loans and exchange rate difference

### **Table CRB: Additional disclosure related to credit quality of exposures**

The Group classifies the loans and advances in accordance with the loan classification system required to be adopted for reporting to the HKMA.

Under HKFRS9, the Group adopts the criteria of stage allocation as follows:

HKMA's 5-Grade Asset		Stage allocation
Pass	General (i.e. do not meet the Bank's criteria of "Significant Increase of Credit Risk")	1
	Meet the Bank's criteria of "Significant Increase of Credit Risk"	2
Special Mention		2
Substandard		3
Doubtful		
Loss		

The criteria of "significant increase of credit risk" has taken into consideration of two key factors:-

- The exposure has a significant deterioration of internal or external rating as compared with the rating at the time when the exposure was originated; and
- The rating of the exposure falls out of the "Low-Credit Risk Threshold" that equivalent to the globally understood definition of "investment grade"

The Group measures impairment allowances for 12-month or lifetime expected credit losses ("ECL") using a 3-stage approach as follows:-

Stage	Description	Impairment Loss
1	Performing	12-month ECL
2	Performing but with credit risk increased significantly at reporting date since its initial recognition	Lifetime ECL
3	Non-Performing	Lifetime ECL

- 12-month ECL are the portion of ECL that result from default events on a financial instrument that are possible within the 12 months after the reporting date.
- Lifetime ECL are the expected losses that result from all possible default events over the expected life of financial instrument.

At each reporting date, the Group assesses whether financial assets carried at amortised cost and debt financial assets carried at FVOCI are credit-impaired. A financial asset is 'credit-impaired' when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred.

Evidence that a financial asset is credit-impaired includes but not limited to the following observable data:

- significant financial difficulty of the borrower or issuer;
- a breach of contract such as a default or past due event;
- the restructuring of a loan or advance by the Group on terms that the Group would not consider otherwise; or
- it is becoming probable that the borrower will enter bankruptcy or other financial reorganization.

Loans and advances with a specific repayment date are classified as overdue when the principal or interest is overdue and remains unpaid at the period-end. Loans repayable by regular instalments are treated as overdue when an instalment payment is overdue and remains unpaid at period-end. Loans repayable on demand are classified as overdue either when a demand for repayment has been served on the borrower but repayment has not been made in accordance with the demand notice, and/or when the loans have remained continuously outside the approved limit advised to the borrower for more than the overdue period in question. In addition, a loan that is overdue for 90 days or more is considered impaired. Loans and advances that are past due for more than 90 days but are not impaired amounted to HK\$0 as at 31st December, 2018.

The debt has been restructured or renegotiated due to financial difficulty of the borrower or the revised repayment terms are non-commercial to the Bank, such loan will be regarded as "rescheduled loan".

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

A loan that has been renegotiated due to deterioration in the borrower's condition is usually considered to be credit-impaired unless there is evidence that the risk of not receiving contractual cash flows has reduced significantly and there are no other indicators of impairment.

The Group has laid down guidelines for determining the impairment loss allowances.

The approach and treatment of impairment allowance for ECL on the following financial instruments that are not measured at FVTPL:-

- Financial assets that are debt instruments;
- Lease receivables;
- Financial guarantee contracts issued;
- Loan commitments issued; and
- Contract assets

are elaborated in the Group's impairment allowance policy.

The quality of loans and advances to customers can be analysed as follows:-

Total Advances to Customers (HK\$ million)	12-month ECL	Lifetime ECL not credit-impaired	Lifetime ECL credit-impaired
Pass	465,726	25,413	-
Special Mention	-	5,747	-
Substandard	-	-	1,226
Doubtful	-	-	1,718
Loss	-	-	547
<b>Total</b>	<b>465,726</b>	<b>31,160</b>	<b>3,491</b>

(i) Exposure by geographical area

(HK\$ million)	Total Advances to Customers	Advances Overdue for Over Three Months	Impaired Advances to Customers	Impairment Provision for Stage 3	Write-off
Hong Kong	225,406	367	559	224	521
Mainland China	203,374	2,405	2,515	776	1,005
Other Asian Countries & Regions	27,633	121	397	61	1
Others	43,964	0	20	0	6
<b>Total</b>	<b>500,377</b>	<b>2,893</b>	<b>3,491</b>	<b>1,061</b>	<b>1,533</b>

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

(ii) Exposure by industry sector

Industry Sector (HK\$ million)	Total Advances to Customers	Impaired Advances to Customers	Impairment Provision for Stage 3	Write-off
Property investment	95,953	150	94	264
Property development	85,950	749	-	50
Wholesale and retail trade	18,434	507	236	491
Hotel	10,266	914	189	32
Loans for purchase of residential properties	75,151	278	8	8
Financial Concern	53,154	-	-	-
Others	161,469	893	534	688
<b>Total</b>	<b>500,377</b>	<b>3,491</b>	<b>1,061</b>	<b>1,533</b>

(iii) Breakdown of exposures by remaining maturity

Total Advances to Customers	(HK\$ million)
Repayable on demand	2,714
Within 1 month	56,942
3 months or less but over 1 month	29,939
1 year or less but over 3 months	100,123
5 years or less but over 1 year	192,017
Over 5 year	115,883
Undated or overdue	2,759
<b>Total</b>	<b>500,377</b>

(iv) The aging analysis of loans and advances to customers that are past due:-

Gross advances overdue for	(HK\$ million)
- 6 months or less but over 3 months	970
- 1 year or less but over 6 months	428
- Over 1 year	1,495
<b>Total</b>	<b>2,893</b>

(v) Rescheduled exposure

Rescheduled exposure	(HK\$ million)
Impaired Exposure	53
Not Impaired Exposure	57
<b>Total</b>	<b>110</b>

### **Table CRC: Qualitative disclosures related to credit risk mitigation**

#### **Process of managing and recognising credit risk mitigation**

In evaluating the credit risk associated with an individual customer or counterparty, financial strength and repayment ability are always the primary considerations. Credit risk may be mitigated by obtaining recognised collateral and guarantees from the customer or counterparty. Meanwhile, recognised netting is not adopted by the Group.

The relevant policies and processes relating to the use of credit risk mitigation are established and approved by Credit Committee, in which guidelines and collateral valuation parameters are subject to regular reviews to ensure their effectiveness over credit risk management.

The Group applies safe custodian of collaterals, regular re-valuation and close monitoring. In particular, the Group monitors the value of the collateral on a sufficiently frequent basis with respect to the nature of collateral and market practice, and at least annually. Marketable securities are marked-to-market on a daily basis whilst valuations on properties are reviewed periodically.

The most common method of mitigating credit risk is to lend against eligible collateral. The extent of collateral coverage over the Group's loans and advances to customer depends on the type of customers and the product offered. Types of collateral include residential properties (in the form of mortgages over property), other properties, other registered securities over assets, cash deposits, standby letters of credit and guarantees. The Group has been monitoring the credit risk concentration of collaterals. In particular, guideline limits have been set for properties and shares to control the collateral concentrations, which are subject to periodically review. While on-going monitoring has been in place, the exposures which pledged with properties and shares are within the pre-set limit so far.

**Template CR3: Overview of recognised credit risk mitigation**

The following table presents the extent of credit risk exposures covered by different types of recognised CRM as at 31<sup>st</sup> December 2018:

		(a)	(b1)	(b)	(d)	(f)
		Exposures unsecured: carrying amount	Exposures to be secured	Exposures secured by recognised collateral	Exposures secured by recognised guarantees	Exposures secured by recognised credit derivative contracts
(HK\$ million)						
1	Loans	317,904	303,158	300,013	3,145	0
2	Debt securities	96,501	31,102	0	31,102	0
<b>3</b>	<b>Total</b>	<b>414,405</b>	<b>334,260</b>	<b>300,013</b>	<b>34,247</b>	<b>0</b>
4	Of which defaulted	520	1,874	1,874	0	0

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

The Group adopts the Standardised approach, which mainly features the risk-weighting of credit risk exposures according to credit ratings provided by External Credit Assessment Institutions (“ECAIs”) recognised by the HKMA, in assessing the capital adequacy of credit risk exposures which do not qualify for or are exempted from the use of an IRB approach.

Credit ratings from Moody’s Investors Service and Standard and Poor’s Ratings Services are used in the Group for risk-weighting credit risk exposures under the following exposure classes:

- Sovereign;
- Public sector entity;
- Bank;
- Securities firm;
- Corporate; and
- Collective investment scheme.

In accordance with the requirements prescribed in Part 4 of the Banking (Capital) Rules in respect of the application of ECAI ratings, for an exposure falling under any of the exposure classes listed above that consists of a debt obligation issued or undertaken by the obligor or an interest in a collective investment scheme which has one or more than one ECAI issue specific rating, the Group would apply the issue specific rating(s) directly in risk-weighting the exposure; while for an exposure falling under one of the first five exposure classes listed above which does not have an ECAI issue specific rating and the obligor of which has an ECAI issuer rating but does not have a long-term ECAI issue specific rating assigned to a debt obligation issued or undertaken by the obligor, the Group would use the ECAI issuer rating in risk-weighting the exposure under any of the following circumstances:

- The use of the ECAI issuer rating would result in the allocation of a risk weight to the exposure that would be equal to, or higher than, the risk weight allocated to the exposure on the basis that the obligor has neither an ECAI issuer rating nor an ECAI issue specific rating assigned to a debt obligation issued or undertaken by the obligor; the ECAI issuer rating is only applicable to unsecured exposures to the obligor as an issuer that are not subordinated to other exposures to that obligor; and the exposure to the obligor ranks equally with, or is subordinated to, the unsecured exposures referred to above.
- The use of the ECAI issuer rating would result in the allocation of a risk weight to the exposure that would be lower than the risk weight allocated to the exposure on the basis that the obligor has neither an ECAI issuer rating nor an ECAI issue specific rating assigned to a debt obligation issued or undertaken by the obligor; the ECAI issuer rating is only applicable to unsecured exposures to the obligor as an issuer that are not subordinated to other exposures to that obligor; and the exposure to the obligor is not subordinated to other exposures to the obligor as an issuer.

**Template CR4: Credit risk exposures and effects of recognised credit risk mitigation – for STC approach**

The following table illustrates the effect of any recognised CRM (including recognised collateral under both comprehensive and simple approaches) on the calculation of credit risk capital requirements under STC approach as at 31<sup>st</sup> December 2018:

Exposure Classes	(a)	(b)	(c)	(d)	(e)	(f)
	Exposures pre-CCF and pre-CRM		Exposures post-CCF and post-CRM		RWA and RWA density	
	On-balance sheet amount (HK\$ Mn)	Off-balance sheet amount (HK\$ Mn)	On-balance sheet amount (HK\$ Mn)	Off-balance sheet amount (HK\$ Mn)	RWA (HK\$ Mn)	RWA density
1 Sovereign exposures	69,608	0	69,608	0	748	1.07%
2 PSE exposures	583	264	676	228	123	13.56%
2a Of which: domestic PSEs	0	193	93	192	70	24.47%
2b Of which: foreign PSEs	583	71	583	36	53	8.52%
3 Multilateral development bank exposures	762	0	762	0	0	0.00%
4 Bank exposures	550	59	550	12	112	20.00%
5 Securities firm exposures	5,299	646	3,868	12	1,940	50.00%
6 Corporate exposures	21,178	4,843	18,573	153	15,756	84.14%
7 CIS exposures	0	0	0	0	0	-
8 Cash items	0	0	0	0	0	-
9 Exposures in respect of failed delivery on transactions entered into on a basis other than a delivery-versus-payment basis	0	0	0	0	0	-
10 Regulatory retail exposures	30,483	10,094	29,646	13	22,244	75.00%
11 Residential mortgage loans	8,827	911	8,492	207	3,889	44.70%
12 Other exposures which are not past due exposures	13,619	2,138	8,367	27	8,394	100.00%
13 Past due exposures	118	0	118	0	146	123.37%
14 Significant exposures to commercial entities	0	0	0	0	0	-
<b>15 Total</b>	<b>151,027</b>	<b>18,955</b>	<b>140,660</b>	<b>652</b>	<b>53,352</b>	<b>37.75%</b>

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

The following table presents a breakdown of credit risk exposures under STC approach by asset classes and by risk weights as at 31<sup>st</sup> December 2018:

(HK\$ million)		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(ha)	(i)	(j)
Risk Weight												Total credit risk exposures amount (post CCF and post CRM)
Exposure Class		0%	10%	20%	35%	50%	75%	100%	150%	250%	Others	
1	Sovereign exposures	65,867	0	3,741	0	0	0	0	0	0	0	69,608
2	PSE exposures	355	0	507	0	42	0	0	0	0	0	904
2a	Of which: domestic PSEs	0	0	243	0	42	0	0	0	0	0	285
2b	Of which: foreign PSEs	355	0	264	0	0	0	0	0	0	0	619
3	Multilateral development bank exposures	762	0	0	0	0	0	0	0	0	0	762
4	Bank exposures	0	0	562	0	0	0	0	0	0	0	562
5	Securities firm exposures	0	0	0	0	3,880	0	0	0	0	0	3,880
6	Corporate exposures	0	0	460	0	5,204	0	13,062	0	0	0	18,726
7	CIS exposures	0	0	0	0	0	0	0	0	0	0	0
8	Cash items	0	0	0	0	0	0	0	0	0	0	0
9	Exposures in respect of failed delivery on transactions entered into on a basis other than a delivery-versus-payment basis	0	0	0	0	0	0	0	0	0	0	0
10	Regulatory retail exposures	0	0	0	0	0	29,659	0	0	0	0	29,659
11	Residential mortgage loans	0	0	0	7,273	0	331	1,095	0	0	0	8,699
12	Other exposures which are not past due exposures	0	0	0	0	0	0	8,394	0	0	0	8,394
13	Past due exposures	0	0	0	0	0	0	63	55	0	0	118
14	Significant exposures to commercial entities	0	0	0	0	0	0	0	0	0	0	0
15	<b>Total</b>	<b>66,984</b>	<b>0</b>	<b>5,270</b>	<b>7,273</b>	<b>9,126</b>	<b>29,990</b>	<b>22,614</b>	<b>55</b>	<b>0</b>	<b>0</b>	<b>141,312</b>

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

The Group mainly adopts the IRB approach and relies on its own internal rating models for assessments of the Group's capital adequacy in relation to credit risk exposures.

**Overview of the Group's Application of IRB Approach**

The Group has been approved by the Hong Kong Monetary Authority pursuant to the Banking (Capital) Rules to use the respective IRB approaches to calculate its credit risk for non-securitisation exposures falling under the following exposure classes:

Exposure class	Description	IRB approach
Corporate	Specialised lending and exposures to small-and-medium sized corporates and other corporates which have sufficient financial information for PD estimation	<u>Specialised lending:</u> Supervisory slotting criteria approach  <u>Other than specialised lending:</u> Foundation IRB approach
Bank	Exposures to banks which have sufficient financial information for PD estimation	Foundation IRB approach
Retail	Qualifying revolving retail exposures, small business retail exposures and other retail exposures to individuals in Hong Kong, and mortgages to individuals and property holding shell companies in Hong Kong and Mainland China	Retail IRB approach
Equity	All direct and indirect equity interests in publicly-traded and private companies	Market-based approach
Other	All cash items and other items	Specific risk-weighting approach

The table below indicates the portion of EAD within the Group covered by the Standardised approach and the respective IRB approaches for each of the exposure classes as at 31<sup>st</sup> December 2018:

Exposure class	Standardised approach	IRB approaches					
		Foundation IRB approach	Supervisory slotting criteria approach	Retail IRB approach	Market-based approach	Specific risk-weighting approach	Other
Sovereign	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Corporate	4.15%	89.45%	6.40%	0.00%	0.00%	0.00%	0.00%
Bank	4.15%	95.85%	0.00%	0.00%	0.00%	0.00%	0.00%
Retail	24.59%	0.00%	0.00%	75.41%	0.00%	0.00%	0.00%
Equity	0.00%	0.00%	0.00%	0.00%	36.14%	0.00%	63.86%
Other	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%

**Control Mechanisms for Internal Models**

Risk Strategy & Governance Department under the Risk Management Division is responsible for the initial design and development, ongoing enhancement and validation of the Group's credit risk internal rating models. To ensure that the internal rating models are robust, they should be reviewed by functions independent from the function in charge of development. For this purpose, the Independent Validation Section has been established within Risk Management Division to validate the internal rating models independently while Internal Audit Division is responsible for reviewing the validation process and estimation of the risk components of the internal rating models. All credit risk internal rating models are subject to the review and approval by the Credit Committee, which has been delegated by the Board of Directors to deal with all credit risk related issues of the Group.

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

To ensure that the Credit Committee has sufficient information to execute the review and approval of the internal rating models, reports with the following information should be submitted by Risk Strategy & Governance Department to the Credit Committee regularly:

- risk profile by grade;
- risk rating migration across grades;
- estimation of relevant parameters per grade;
- comparison of realised default rates (LGDs and EADs where applicable) against expectation;
- changes in regulatory capital due to model enhancement;
- results of credit risk stress-testing; and
- material changes or exceptions from established policies that will materially impact the operations of the internal rating models.

**Main Characteristics of Internal Models**

The Group has developed internal models for estimation of the probability of default (“PD”) of obligors in the bank, corporate and retail exposure classes. In addition, internal models for estimation of the loss given default (“LGD”) and exposure at default (“EAD”) have also been developed for retail exposures. As at 31<sup>st</sup> December 2018, approximately 80% of the Group’s exposures under IRB approach (measured in terms of RWA) are covered by internal models.

Internal Models for non-Retail Portfolios

The scope of application of different PD models is determined according to the nature of counterparties. The Bank PD model is applied to exposures to bank obligors while the Corporate PD model is applied to exposures to obligors that are corporates.

The Bank PD model relies on financial information as the base rating and expert qualitative assessment as exceptional rating adjustment. As internal default data is not available for this low default portfolio, the PDs are estimated with reference to the external credit ratings of the obligors and calibrated to the long-run default rates associated with respective external credit ratings published by ECAs.

The Corporate PD model relies heavily on the statistical analysis of quantitative financial information and expert qualitative assessment of individual obligors. As there are sufficient internal default data for this portfolio, the PDs are estimated with reference to the historical internal default data and calibrated to the long-run default rates from the Group’s internal data.

Under the Foundation IRB approach, the Group applies the supervisory estimates in determining the LGD and EAD for non-retail portfolios.

Internal Models for Retail Portfolio

The retail portfolio has been segmented into various sub-portfolios according to product characteristics with one PD model developed for each of the sub-portfolios. As more sufficient sample is available for retail exposures, the retail PD models are built on a pool basis with reference to the historical internal default data and the PD estimates are calibrated to the long-run default rates from the Group’s internal data.

Under the Retail IRB approach, the Group also generates its own LGD and EAD estimates for retail portfolios with the use of internal models.

The retail LGD models are developed according to the historical data collected during the recovery processes. In determining the time lapse between default event and closure of the exposure in LGD estimation, an exposure is considered to be closed when there is no reasonable prospect of further recovery. All LGD models are calibrated to an economic downturn. For secured retail portfolios, downturn LGDs are estimated by adjusting the LGDs with reference to the highest drop in the corresponding macroeconomic index associated with respective collateral types; whilst for unsecured retail portfolios, downturn LGDs refer to the highest actual LGDs in the last 5 years.

EAD is calculated as the sum of on-balance sheet amount and credit equivalent amount of off-balance sheet items. For the Hong Kong credit card portfolio, two distinctive models for estimation of the credit equivalent amount and hence EAD have been developed taking into consideration the different behaviours of accounts with high and low utilisations respectively. For Hong Kong credit card exposures with high utilisation, the credit equivalent amount is calculated as the product of utilisation ratio and credit limit; while for those with low utilisation, the historical realised further drawdown ratio of unutilised portion in the year prior to default is used in estimating the credit equivalent amount and hence the EAD.

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

For other retail exposures, credit equivalent amounts for performing accounts are estimated with a credit conversion factor of 100% and those for non-performing accounts with a credit conversion factor of 0%.

The main characteristics of individual component models are summarised in the table below:

Portfolio	Component	Number of Material Model(s)	Model Description and Methodology	Regulatory Floor
Bank	PD	1	Statistical model built on financial information as the base rating and expert qualitative assessment as exceptional rating adjustment, and calibrated to the long-run default rates associated with respective external credit ratings published by ECAIs.	0.03%
Corporate	PD	2	Statistical models built by combining financial information and expert qualitative assessment, and calibrated to the long-run default rates from the Group's internal data.  The 2 models are for borrowers operating in Mainland China and for borrowers operating outside Mainland China, respectively.	0.03%
Retail – Hong Kong Credit Card	PD	1	Statistical model built on internal and bureau data, and calibrated to the long-run default rates from the Group's internal data.	0.03%
	LGD	1	Statistical model built on internal loss and recovery data, with the downturn LGD referring to the highest LGD in the last 5 years.	–
	EAD	2	For high utilisation accounts, the credit equivalent amount is calculated as the product of utilisation ratio and credit limit; while for low utilisation accounts, the historical realised further drawdown ratio of unutilised portion in the year prior to default is used in estimating the credit equivalent amount.	–
Retail – Hong Kong Unsecured Overdraft	PD	1	Statistical model built on internal and bureau data, and calibrated to the long-run default rates from the Group's internal data.	0.03%
	LGD	1	Statistical model built on internal loss and recovery data, with the downturn LGD referring to the highest LGD in the last 5 years.	–
	EAD	1	In estimating the credit equivalent amount and hence the EAD, a credit conversion factor of 100% is applied to performing accounts and a credit conversion factor of 0% to non-performing accounts.	–

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

Portfolio	Component	Number of Material Model(s)	Model Description and Methodology	Regulatory Floor
Retail – Hong Kong Revolving Loan	PD	1	Statistical model built on internal and bureau data, and calibrated to the long-run default rates from the Group's internal data.	0.03%
	LGD	1	Statistical model built on internal loss and recovery data, with the downturn LGD referring to the highest LGD in the last 5 years.	–
	EAD	1	In estimating the credit equivalent amount and hence the EAD, a credit conversion factor of 100% is applied to performing accounts and a credit conversion factor of 0% to non-performing accounts.	–
Retail – Hong Kong Other Unsecured Loan	PD	1	Statistical model built on internal and bureau data, and calibrated to the long-run default rates from the Group's internal data.	0.03%
	LGD	1	Statistical model built on internal loss and recovery data, with the downturn LGD referring to the highest LGD in the last 5 years.	–
	EAD	1	In estimating the credit equivalent amount and hence the EAD, a credit conversion factor of 100% is applied to performing accounts and a credit conversion factor of 0% to non-performing accounts.	–
Retail – Hong Kong Residential Mortgage	PD	1	Statistical model built on historical default data with consideration of mortgage scheme type, borrower type and delinquency status, and calibrated to the long-run default rates from the Group's internal data.	0.03%
	LGD	1	Statistical model built on internal loss and recovery data, with the downturn LGD estimated by adjusting the LGD with reference to the historical highest drop in Hong Kong Private Domestic Price Index.	10%
	EAD	1	In estimating the credit equivalent amount and hence the EAD, a credit conversion factor of 100% is applied to performing accounts and a credit conversion factor of 0% to non-performing accounts.	–
Retail – Hong Kong Non-residential Mortgage	PD	1	Statistical model built on historical default data and calibrated to the long-run default rates from the Group's internal data.	0.03%
	LGD	1	Statistical model built on internal loss and recovery data, with the downturn LGD estimated by adjusting the LGD with reference to the historical highest drop in Hong Kong Private Office Price Index.	–
	EAD	1	In estimating the credit equivalent amount and hence the EAD, a credit conversion factor of 100% is applied to performing accounts and a credit conversion factor of 0% to non-performing accounts.	–

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

Portfolio	Component	Number of Material Model(s)	Model Description and Methodology	Regulatory Floor
Retail – Hong Kong Other Secured Loan	PD	1	Statistical model built on historical default data with consideration of collateral type and delinquency status, and calibrated to the long-run default rates from the Group's internal data.	0.03%
	LGD	1	Statistical model built on internal loss and recovery data, with the downturn LGD estimated by adjusting the LGD with reference to the historical highest drop in License Fee of Urban Taxi.	–
	EAD	1	In estimating the credit equivalent amount and hence the EAD, a credit conversion factor of 100% is applied to performing accounts and a credit conversion factor of 0% to non-performing accounts.	–
Retail – China Mortgage Loan	PD	1	Statistical model built on historical default data with consideration of delinquency status, and calibrated to the long-run default rates from the Group's internal data.	0.03%
	LGD	1	Statistical model built on internal loss and recovery data, with the downturn LGD estimated by adjusting the LGD with reference to the historical highest drop in China Property Price Index.	–
	EAD	1	In estimating the credit equivalent amount and hence the EAD, a credit conversion factor of 100% is applied to performing accounts and a credit conversion factor of 0% to non-performing accounts.	–

#### Comparison of Actual Default Rate against Estimated Probability of Default

The following tables present a comparison of the actual percentage of default during the last three reporting periods and the corresponding 1-year probability of default estimated as at the end of the previous financial year-ends.

#### 2018

Exposure class	Actual percentage of default for the year ended 31 <sup>st</sup> December, 2018	Estimated 1-year probability of default at 31 <sup>st</sup> December, 2017
Bank	0.00%	0.29%
Corporate	1.31%	3.78%
Retail – QRRE	0.38%	0.55%
Retail – Residential mortgage exposures	0.15%	0.77%
Retail – Small business retail exposures	0.20%	1.44%
Other retail exposures to individuals	2.24%	3.57%

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

2017

Exposure class	Actual percentage of default for the year ended 31 <sup>st</sup> December, 2017	Estimated 1-year probability of default at 31 <sup>st</sup> December, 2016
Bank	0.00%	0.27%
Corporate	1.20%	4.21%
Retail – QRRE	0.39%	0.56%
Retail – Residential mortgage exposures	0.16%	1.00%
Retail – Small business retail exposures	1.70%	2.45%
Other retail exposures to individuals	2.01%	3.86%

2016

Exposure class	Actual percentage of default for the year ended 31 <sup>st</sup> December, 2016	Estimated 1-year probability of default at 31 <sup>st</sup> December, 2015
Bank	0.00%	0.29%
Corporate	2.62%	3.56%
Retail – QRRE	0.41%	0.58%
Retail – Residential mortgage exposures	0.26%	1.47%
Retail – Small business retail exposures	2.39%	3.64%
Other retail exposures to individuals	1.97%	4.13%

An actual default rate for a particular financial year is “point-in-time” in nature and, as the economy moves above or below cyclical norms, may differ from the corresponding PD estimate which is measured on a “through-the-cycle” basis.

As shown in the above tables, the actual default rates have been lower than the corresponding PD estimates in the last three reporting periods.

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

The following table presents the main parameters of internal models used for the calculation of credit risk capital requirements under the IRB approach at 31<sup>st</sup> December 2018:

	PD Scale	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
		Original on-balance sheet gross exposure (HK\$ Mn)	Off-balance sheet exposure pre-CCF (HK\$ Mn)	Average CCF	EAD post-CRM and post-CCF (HK\$ Mn)	Average PD	Number of obligors	Average LGD	Average maturity	RWA (HK\$ Mn)	RWA density	EL (HK\$ Mn)	Provisions (HK\$ Mn)
Bank	0.00 to <0.15	62,445	542	17.54%	63,291	0.07%	256	46.44%		19,881	31.41%	20	
	0.15 to <0.25	18,123	655	12.93%	18,810	0.22%	64	45.32%		11,635	61.85%	18	
	0.25 to <0.50	23,430	220	44.66%	23,547	0.38%	101	45.00%		17,477	74.22%	41	
	0.50 to <0.75	0	0	-	0	-	0	-		0	-	0	
	0.75 to <2.50	2,460	398	73.53%	2,752	1.06%	23	45.00%		2,873	104.39%	13	
	2.50 to <10.00	608	328	33.13%	716	4.32%	8	45.00%		1,030	143.82%	14	
	10.00 to <100.00	0	0	-	0	-	0	-		0	-	0	
	100.00 (Default)	0	0	-	0	-	0	-		0	-	0	
	<b>Sub-total</b>	<b>107,066</b>	<b>2,143</b>	<b>31.70%</b>	<b>109,116</b>	<b>0.21%</b>	<b>452</b>	<b>45.89%</b>		<b>52,896</b>	<b>48.48%</b>	<b>106</b>	<b>199</b>
Corporate – small-and-medium sized corporates	0.00 to <0.15	14,043	1,056	49.06%	16,674	0.07%	56	38.13%		2,762	16.57%	5	
	0.15 to <0.25	2,902	455	58.22%	3,035	0.19%	53	39.94%		1,047	34.50%	2	
	0.25 to <0.50	7,026	1,884	58.88%	8,809	0.30%	137	39.83%		3,383	38.40%	11	
	0.50 to <0.75	1,765	554	22.69%	1,844	0.54%	93	40.04%		998	54.11%	4	
	0.75 to <2.50	12,103	2,370	30.16%	12,470	1.54%	419	36.41%		8,356	67.01%	68	
	2.50 to <10.00	15,645	3,246	12.25%	15,037	5.16%	811	34.48%		13,436	89.35%	263	
	10.00 to <100.00	745	37	16.09%	657	19.86%	56	35.47%		906	137.78%	47	
	100.00 (Default)	910	0	-	910	100.00%	307	41.93%		3,807	418.49%	116	
	<b>Sub-total</b>	<b>55,139</b>	<b>9,602</b>	<b>32.67%</b>	<b>59,436</b>	<b>3.47%</b>	<b>1,932</b>	<b>37.28%</b>		<b>34,695</b>	<b>58.37%</b>	<b>516</b>	<b>842</b>

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

	PD Scale	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
		Original on-balance sheet gross exposure (HK\$ Mn)	Off-balance sheet exposure pre-CCF (HK\$ Mn)	Average CCF	EAD post-CRM and post-CCF (HK\$ Mn)	Average PD	Number of obligors	Average LGD	Average maturity	RWA (HK\$ Mn)	RWA density	EL (HK\$ Mn)	Provisions (HK\$ Mn)
Corporate – other (including purchased corporate receivables)	0.00 to <0.15	120,576	36,745	44.26%	144,409	0.07%	593	41.71%		33,693	23.33%	44	
	0.15 to <0.25	53,797	16,888	22.91%	61,252	0.18%	317	39.93%		23,570	38.48%	44	
	0.25 to <0.50	57,079	20,343	38.83%	63,328	0.30%	308	38.76%		30,428	48.05%	72	
	0.50 to <0.75	17,989	10,204	8.62%	16,460	0.54%	143	38.53%		11,327	68.82%	35	
	0.75 to <2.50	34,375	16,088	17.76%	35,398	1.27%	321	36.69%		29,918	84.52%	167	
	2.50 to <10.00	24,456	18,135	5.87%	19,085	5.05%	296	30.78%		20,181	105.74%	290	
	10.00 to <100.00	3,274	19	8.49%	1,919	31.14%	25	21.64%		2,162	112.64%	122	
	100.00 (Default)	2,190	0	-	2,190	100.00%	95	40.87%		4,670	213.21%	876	
<b>Sub-total</b>	<b>313,736</b>	<b>118,422</b>	<b>27.73%</b>	<b>344,041</b>	<b>1.36%</b>	<b>2,098</b>	<b>39.46%</b>		<b>155,949</b>	<b>45.33%</b>	<b>1,650</b>	<b>3,946</b>	
Retail – QRRE	0.00 to <0.15	35	10,762	59.41%	6,428	0.14%	468,668	91.87%		470	7.31%	8	
	0.15 to <0.25	38	232	62.84%	184	0.24%	8,121	91.69%		21	11.35%	0	
	0.25 to <0.50	3,052	22,410	60.66%	16,646	0.35%	436,723	91.87%		2,584	15.52%	54	
	0.50 to <0.75	172	1,757	81.56%	1,605	0.59%	53,186	90.58%		369	22.97%	9	
	0.75 to <2.50	555	2,568	67.06%	2,277	1.34%	89,925	90.46%		963	42.27%	27	
	2.50 to <10.00	889	1,519	72.68%	1,993	5.21%	40,383	91.35%		2,224	111.64%	95	
	10.00 to <100.00	14	30	73.06%	36	23.59%	830	91.12%		82	227.98%	8	
	100.00 (Default)	53	1	0.00%	53	100.00%	33,701	91.39%		269	509.72%	27	
<b>Sub-total</b>	<b>4,808</b>	<b>39,279</b>	<b>62.16%</b>	<b>29,222</b>	<b>0.93%</b>	<b>1,131,537</b>	<b>91.65%</b>		<b>6,982</b>	<b>23.89%</b>	<b>228</b>	<b>126</b>	

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

	PD Scale	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
		Original on-balance sheet gross exposure (HK\$ Mn)	Off-balance sheet exposure pre-CCF (HK\$ Mn)	Average CCF	EAD post-CRM and post-CCF (HK\$ Mn)	Average PD	Number of obligors	Average LGD	Average maturity	RWA (HK\$ Mn)	RWA density	EL (HK\$ Mn)	Provisions (HK\$ Mn)
Retail – Residential mortgage exposures (including both to individuals and to property-holding shell companies)	0.00 to <0.15	7,411	148	100.00%	7,559	0.10%	1,929	26.27%		1,620	21.43%	2	
	0.15 to <0.25	48,492	1,203	100.00%	49,695	0.23%	21,032	20.28%		10,318	20.76%	24	
	0.25 to <0.50	41,517	193	100.00%	41,710	0.34%	17,593	13.28%		7,229	17.33%	19	
	0.50 to <0.75	1,442	0	-	1,442	0.64%	1,189	30.07%		403	27.94%	3	
	0.75 to <2.50	1,464	105	100.00%	1,569	1.14%	1,949	11.55%		310	19.74%	2	
	2.50 to <10.00	985	0	100.00%	985	6.98%	779	30.05%		1,148	116.59%	20	
	10.00 to <100.00	1,081	0	-	1,081	16.73%	711	19.39%		1,132	104.73%	41	
	100.00 (Default)	251	0	-	251	100.00%	124	18.81%		487	194.28%	9	
<b>Sub-total</b>	<b>102,643</b>	<b>1,649</b>	<b>100.00%</b>	<b>104,292</b>	<b>0.76%</b>	<b>45,306</b>	<b>18.00%</b>		<b>22,647</b>	<b>21.72%</b>	<b>120</b>	<b>1,293</b>	
Retail – small business retail exposures	0.00 to <0.15	0	0	-	0	-	0	-		0	-	0	
	0.15 to <0.25	71	0	-	71	0.25%	28	30.07%		10	14.01%	0	
	0.25 to <0.50	75	2	100.00%	77	0.34%	39	12.42%		5	7.13%	0	
	0.50 to <0.75	47	11	100.00%	58	0.53%	125	67.81%		30	50.59%	0	
	0.75 to <2.50	569	29	100.00%	598	1.40%	378	22.53%		149	24.99%	2	
	2.50 to <10.00	22	2	100.00%	24	4.00%	40	51.60%		18	73.68%	1	
	10.00 to <100.00	3	0	-	3	11.58%	7	50.53%		3	86.68%	0	
	100.00 (Default)	2	1	0.00%	2	100.00%	5	70.59%		0	0.51%	3	
<b>Sub-total</b>	<b>789</b>	<b>45</b>	<b>98.46%</b>	<b>833</b>	<b>1.51%</b>	<b>622</b>	<b>26.48%</b>		<b>215</b>	<b>25.77%</b>	<b>6</b>	<b>18</b>	

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

	PD Scale	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
		Original on-balance sheet gross exposure (HK\$ Mn)	Off-balance sheet exposure pre-CCF (HK\$ Mn)	Average CCF	EAD post-CRM and post-CCF (HK\$ Mn)	Average PD	Number of obligors	Average LGD	Average maturity	RWA (HK\$ Mn)	RWA density	EL (HK\$ Mn)	Provisions (HK\$ Mn)
Other retail exposures to individuals	0.00 to <0.15	532	8	59.37%	537	0.03%	141	70.07%		39	7.18%	0	
	0.15 to <0.25	164	262	100.00%	426	0.21%	295	67.00%		114	26.70%	1	
	0.25 to <0.50	70	125	71.37%	160	0.36%	233	91.55%		86	53.97%	1	
	0.50 to <0.75	1,753	148	99.42%	1,899	0.54%	985	64.66%		912	48.02%	6	
	0.75 to <2.50	3,900	142	96.38%	4,037	1.59%	12,092	47.66%		2,306	57.11%	32	
	2.50 to <10.00	2,015	70	85.10%	2,075	4.52%	5,997	47.40%		1,450	69.90%	50	
	10.00 to <100.00	113	2	60.26%	114	25.01%	620	56.13%		147	129.68%	16	
	100.00 (Default)	126	0	-	126	100.00%	1,096	59.71%		156	123.88%	64	
<b>Sub-total</b>	<b>8,673</b>	<b>757</b>	<b>92.58%</b>	<b>9,374</b>	<b>3.46%</b>	<b>21,459</b>	<b>54.22%</b>		<b>5,210</b>	<b>55.58%</b>	<b>170</b>	<b>158</b>	
<b>Total (sum of all portfolios)</b>	<b>592,854</b>	<b>171,897</b>	<b>36.92%</b>	<b>656,314</b>	<b>1.28%</b>	<b>1,203,406</b>	<b>39.44%</b>		<b>278,594</b>	<b>42.45%</b>	<b>2,796</b>	<b>6,582</b>	

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

The following table presents the effect of recognised credit derivative contracts on the calculation of credit risk capital requirements under the IRB approach as at 31<sup>st</sup> December 2018:

(HK\$ million)		(a)	(b)
		Pre-credit derivatives RWA	Actual RWA
1	Corporate – Specialised lending under supervisory slotting criteria approach (project finance)	0	0
2	Corporate – Specialised lending under supervisory slotting criteria approach (object finance)	848	848
3	Corporate – Specialised lending under supervisory slotting criteria approach (commodities finance)	0	0
4	Corporate – Specialised lending under supervisory slotting criteria approach (income-producing real estate)	21,366	21,366
5	Corporate – Specialised lending (high-volatility commercial real estate)	0	0
6	Corporate – Small-and-medium sized corporates	34,695	34,695
7	Corporate – Other corporates	155,949	155,949
8	Sovereigns	0	0
9	Sovereign foreign public sector entities	0	0
10	Multilateral development banks	0	0
11	Bank exposures – Banks	52,896	52,896
12	Bank exposures – Securities firms	0	0
13	Bank exposures – Public sector entities (excluding sovereign foreign public sector entities)	0	0
14	Retail – Small business retail exposures	215	215
15	Retail – Residential mortgages to individuals	21,223	21,223
16	Retail – Residential mortgages to property-holding shell companies	1,424	1,424
17	Retail – Qualifying revolving retail exposures (QRRE)	6,982	6,982
18	Retail – Other retail exposures to individuals	5,210	5,210
19	Equity – Equity exposures under market-based approach (simple risk-weight method)	14,737	14,737
20	Equity – Equity exposures under market-based approach (internal models method)	0	0
21	Equity – Equity exposures under PD/LGD approach (publicly traded equity exposures held for long-term investment)	0	0
22	Equity – Equity exposures under PD/LGD approach (privately owned equity exposures held for long-term investment)	0	0
23	Equity – Equity exposures under PD/LGD approach (other publicly traded equity exposures)	0	0
24	Equity – Equity exposures under PD/LGD approach (other equity exposures)	0	0
25	Equity – Equity exposures associated with equity investments in funds (CIS exposures)	0	0
25a	Equity – Specified equity exposures to financial sector entities and commercial entities	16,355	16,355
26	Other – Cash items	43	43
27	Other – Other items	16,368	16,368
<b>28</b>	<b>Total</b>	<b>348,311</b>	<b>348,311</b>

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

The following table presents a flow statement explaining variations in the RWA for credit risk determined under the IRB approach for the period from 30<sup>th</sup> September 2018 to 31<sup>st</sup> December 2018:

(HK\$ million)		(a)
		Amount
<b>1</b>	<b>RWA as at end of previous reporting period</b>	<b>355,384</b>
2	Asset size	(11,623)
3	Asset quality	4,892
4	Model updates	0
5	Methodology and policy	0
6	Acquisitions and disposals	0
7	Foreign exchange movements	(347)
8	Other	5
<b>9</b>	<b>RWA as at end of reporting period</b>	<b>348,311</b>

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

The following table provides back-testing data as at 31<sup>st</sup> December 2018 to validate the reliability of PD calculations, including a comparison of the PD used to calculate capital requirements with the effective default rates of obligors under the IRB approach:

(a) Portfolio	(b) PD Range	(c) External Rating Equivalent		(d) Weighted Average PD	(e) Arithmetic average PD by obligors	(f) Number of obligors		(g) Defaulted obligors in the year	(h) Of which: new defaulted obligors in the year	(i) Average historical annual default rate
		Moody's	Standard & Poor's			Beginning of the year	End of the year			
Bank	0.00 to <0.15	Aaa to Baa1	AAA to BBB+	0.08%	0.08%	285	384	0	0	0.00%
	0.15 to <0.25	Baa1 to Baa2	BBB+ to BBB	0.23%	0.22%	93	137	0	0	0.00%
	0.25 to <0.50	Baa2 to Ba1	BBB to BB+	0.35%	0.35%	63	176	0	0	0.00%
	0.50 to <0.75	Ba1 to Ba2	BB+ to BB	0.51%	0.51%	44	59	0	0	0.00%
	0.75 to <2.50	Ba2 to B2	BB to B	1.03%	1.08%	36	60	0	0	0.00%
	2.50 to <10.00	B2 to Caa1	B to CCC+	4.48%	4.64%	5	11	0	0	0.00%
	10.00 to <100.00	Caa1 to C	CCC+ to C	-	-	0	0	0	0	-
Corporate - small-and-medium sized corporates	0.00 to <0.15	Aaa to Baa1	AAA to BBB+	0.13%	0.12%	66	91	0	0	0.00%
	0.15 to <0.25	Baa1 to Baa2	BBB+ to BBB	0.20%	0.20%	11	28	0	0	0.00%
	0.25 to <0.50	Baa2 to Ba1	BBB to BB+	0.32%	0.32%	126	154	0	0	0.22%
	0.50 to <0.75	Ba1 to Ba2	BB+ to BB	0.50%	0.50%	254	274	0	0	0.29%
	0.75 to <2.50	Ba2 to B2	BB to B	1.25%	1.27%	886	935	5	0	1.30%
	2.50 to <10.00	B2 to Caa1	B to CCC+	5.86%	5.55%	409	471	4	0	2.04%
	10.00 to <100.00	Caa1 to C	CCC+ to C	30.65%	30.65%	195	199	13	0	10.75%
Corporate - other (including purchased corporate receivables)	0.00 to <0.15	Aaa to Baa1	AAA to BBB+	0.11%	0.11%	208	409	1	0	0.10%
	0.15 to <0.25	Baa1 to Baa2	BBB+ to BBB	0.20%	0.20%	126	247	0	0	0.00%
	0.25 to <0.50	Baa2 to Ba1	BBB to BB+	0.28%	0.29%	247	350	0	0	0.29%
	0.50 to <0.75	Ba1 to Ba2	BB+ to BB	0.50%	0.50%	234	269	2	0	0.41%
	0.75 to <2.50	Ba2 to B2	BB to B	1.30%	1.29%	920	1,021	6	0	0.81%
	2.50 to <10.00	B2 to Caa1	B to CCC+	5.02%	4.98%	365	430	8	2	1.59%
	10.00 to <100.00	Caa1 to C	CCC+ to C	30.65%	30.65%	80	83	15	1	17.15%

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

(a) Portfolio	(b) PD Range	(c) External Rating Equivalent		(d) Weighted Average PD	(e) Arithmetic average PD by obligors	(f) Number of obligors		(g) Defaulted obligors in the year	(h) Of which: new defaulted obligors in the year	(i) Average historical annual default rate
		Moody's	Standard & Poor's			Beginning of the year	End of the year			
Retail – QRRE	0.00 to <0.15			0.14%	0.14%	439,028	439,068	157	0	0.02%
	0.15 to <0.25			0.24%	0.24%	8,139	8,733	6	0	0.08%
	0.25 to <0.50			0.35%	0.35%	476,104	500,688	1,414	14	0.22%
	0.50 to <0.75			0.59%	0.65%	44,206	59,902	169	38	0.33%
	0.75 to <2.50			1.34%	1.22%	76,359	121,146	855	58	0.66%
	2.50 to <10.00			5.16%	5.27%	42,803	44,451	1,554	35	4.19%
	10.00 to <100.00			24.86%	26.53%	819	821	125	0	24.17%
Retail – Residential mortgage exposures (including both to individuals and to property-holding shell companies)	0.00 to <0.15			0.09%	0.10%	1,558	2,732	0	0	0.02%
	0.15 to <0.25			0.23%	0.24%	19,520	30,054	11	0	0.06%
	0.25 to <0.50			0.34%	0.34%	18,937	18,940	8	0	0.10%
	0.50 to <0.75			0.64%	0.64%	592	1,776	0	0	0.18%
	0.75 to <2.50			1.30%	0.93%	2,070	2,281	5	0	0.18%
	2.50 to <10.00			6.92%	6.91%	778	779	6	0	1.21%
	10.00 to <100.00			17.05%	17.96%	850	867	35	0	4.23%
Retail – small business retail exposures	0.00 to <0.15			-	-	0	0	0	0	-
	0.15 to <0.25			0.25%	0.25%	60	60	0	0	0.00%
	0.25 to <0.50			0.34%	0.34%	54	57	0	0	0.36%
	0.50 to <0.75			0.53%	0.53%	343	343	1	0	0.35%
	0.75 to <2.50			1.39%	1.22%	395	473	0	0	0.42%
	2.50 to <10.00			4.54%	4.59%	118	120	1	0	1.81%
	10.00 to <100.00			17.59%	12.52%	14	14	0	0	21.81%

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

(a)	(b)	(c)		(d)	(e)	(f)		(g)	(h)	(i)
Portfolio	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
		Moody's	Standard & Poor's			Beginning of the year	End of the year			
Other retail exposures to individuals	0.00 to <0.15			0.03%	0.06%	157	295	1	1	0.00%
	0.15 to <0.25			0.22%	0.24%	162	166	0	0	0.00%
	0.25 to <0.50			0.35%	0.35%	234	235	4	0	2.92%
	0.50 to <0.75			0.54%	0.58%	1,284	1,746	0	0	0.04%
	0.75 to <2.50			1.56%	1.81%	15,024	21,549	203	38	1.30%
	2.50 to <10.00			4.13%	6.21%	6,700	9,110	386	93	3.22%
	10.00 to <100.00			23.83%	28.61%	583	867	84	5	13.52%

As at 31<sup>st</sup> December 2018, approximately 80% of the Group's exposures under IRB approach (in terms of RWA) are covered by internal models whose back-testing results are shown in the above table.

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

**I. Specialised Lending under supervisory slotting criteria approach – HVCRE**

The following table presents quantitative information in respect of specialised lending – HVCRE under the supervisory slotting criteria approach as at 31<sup>st</sup> December 2018:

		(a)	(b)	(c)	(d)	(e)	(f)
Supervisory Rating Grade	Remaining Maturity	On-balance sheet exposure amount (HK\$ Mn)	Off-balance sheet exposure amount (HK\$ Mn)	SRW	EAD amount (HK\$ Mn)	RWA (HK\$ Mn)	Expected loss amount (HK\$ Mn)
Strong ^	Less than 2.5 years	0	0	70%	0	0	0
Strong	Equal to or more than 2.5 years	0	0	95%	0	0	0
Good ^	Less than 2.5 years	0	0	95%	0	0	0
Good	Equal to or more than 2.5 years	0	0	120%	0	0	0
Satisfactory		0	0	140%	0	0	0
Weak		0	0	250%	0	0	0
Default		0	0	0%	0	0	0
<b>Total</b>		<b>0</b>	<b>0</b>		<b>0</b>	<b>0</b>	<b>0</b>

^ Use of preferential risk-weights.

**Template CR10: Specialised lending under supervisory slotting criteria approach and equities under simple risk-weight method – for IRB approach** (continued)

**II. Specialised Lending under supervisory slotting criteria approach – Other than HVCRE**

The following table presents quantitative information in respect of specialised lending – other than HVCRE under the supervisory slotting criteria approach as at 31<sup>st</sup> December 2018:

Supervisory Rating Grade	Remaining Maturity	(a)	(b)	(c)	EAD amount (HK\$ Mn)					(e)	(f)
		On-balance sheet exposure amount (HK\$ Mn)	Off-balance sheet exposure amount (HK\$ Mn)	SRW	PF	OF	CF	IPRE	Total	RWA (HK\$ Mn)	Expected loss amount (HK\$ Mn)
Strong ^	Less than 2.5 years	0	0	50%	0	0	0	0	0	0	0
Strong	Equal to or more than 2.5 years	22,820	5,518	70%	0	1,148	0	25,796	26,944	18,861	108
Good ^	Less than 2.5 years	0	0	70%	0	0	0	0	0	0	0
Good	Equal to or more than 2.5 years	714	103	90%	0	8	0	742	750	675	6
Satisfactory		5	0	115%	0	0	0	5	5	5	0
Weak		1,052	23	250%	0	15	0	1,054	1,069	2,673	86
Default		76	0	0%	0	0	0	79	79	0	39
<b>Total</b>		<b>24,667</b>	<b>5,644</b>		<b>0</b>	<b>1,171</b>	<b>0</b>	<b>27,676</b>	<b>28,847</b>	<b>22,214</b>	<b>239</b>

^ Use of preferential risk-weights.

**III. Equity exposures under the simple risk-weight method**

The following table presents quantitative information in respect of equity exposures under the simple risk-weight method as at 31<sup>st</sup> December 2018:

Categories	(a)	(b)	(c)	(d)	(e)
	On-balance sheet exposure amount (HK\$ Mn)	Off-balance sheet exposure amount (HK\$ Mn)	SRW	EAD amount (HK\$ Mn)	RWA (HK\$ Mn)
Publicly traded equity exposures	75	0	300%	75	225
All other equity exposures	3,628	0	400%	3,628	14,512
<b>Total</b>	<b>3,703</b>	<b>0</b>		<b>3,703</b>	<b>14,737</b>

The Bank of East Asia, Limited  
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**Table CCRA: Qualitative disclosures related to counterparty credit risk (including those arising from clearing through CCPs)**

**Counterparty Credit Risk Management**

The Group has adopted the Current Exposure Method for regulatory capital calculation of its counterparty credit risk (“CCR”) arising from securities financing transactions and derivative contracts booked in the banking book and trading book.

The Group has in place a set of policies and a comprehensive framework to effectively manage such counterparty credit risk.

Under this management framework, the Group establishes credit limit through formal credit approval procedures to control the pre-settlement and settlement credit risk arising from derivative transactions. In this connection, distinct credit limits for counterparty credit exposure for individual counterparties and each group of related counterparties are determined based on the credit standing of the counterparties, collateral value, contract nature, actual needs, etc.

From a risk management perspective, the Group monitors the risk exposure due to fluctuations in the market by using the current exposure and the potential exposure value of the transactions.

All credit facilities granted to a counterparty, including general credit facilities as well as pre-settlement Limit for derivative and FX products will be subject to review on an annual basis, in order to assess the latest information together with credit standing of the counterparties, and decide whether any adjustment of the credit package is required

At 31<sup>st</sup> December, 2018, no recognised credit derivative contract is applied as credit risk mitigation and no valid bilateral netting agreement is taken into account in the calculation of regulatory capital.

Wrong-way risk occurs when counterparty’s risk exposures are adversely correlated with its credit quality. It is further classified into specific wrong-way risk and general wrong-way risk. The Group has set out in its internal policies a process for identification of wrong-way risk for individual counterparties.

To monitor and control wrong-way risk, any wrong-way risk will be identified and evaluated at the time of credit application, in which the analysis and mitigation measures are documented in the credit proposal for approver’s consideration. The wrong-way risk will be monitored during the tenor of relevant transaction, and cases with wrong-way risk are reported. Besides, regular stress-testing is conducted to assess the potential impact of wrong-way risk on the Group’s capital adequacy and profitability.

**Credit ratings downgrade**

A credit rating downgrade clause in International Swaps and Derivatives Association (“ISDA”) Master Agreement or a credit rating downgrade threshold clause in a Credit Support Annexes (“CSA”) is designed to trigger an action if the credit rating of the affected party falls below a specified level. These actions may include the requirement to pay or increase collateral, the termination of transactions by the non-affected party or the assignment of transactions by the affected party.

As at 31<sup>st</sup> December, 2018, the potential value of the additional collateral pertaining to ISDA CSA downgrade thresholds that the Group would need to post with counterparties in the event of a one-notch downgrade of its rating was HK\$0 and two-notch downgrade was HK\$78.3 million.

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

The following table presents a comprehensive breakdown of counterparty default risk exposures (other than those to CCPs), RWAs, and, where applicable, main parameters under the approaches used to calculate default risk exposures in respect of derivative contracts and SFTs as at 31<sup>st</sup> December 2018:

		(a)	(b)	(c)	(d)	(e)	(f)
		Replacement cost (RC) (HK\$ Mn)	PFE (HK\$ Mn)	Effective EPE (HK\$ Mn)	Alpha ( $\alpha$ ) used for computing default risk exposure	Default risk exposure after CRM (HK\$ Mn)	RWA (HK\$ Mn)
1	SA-CCR (for derivative contracts)	0	0		1.4	0	0
1a	CEM	2,829	4,374		N/A	6,043	3,116
2	IMM (CCR) Approach			0	N/A	0	0
3	Simple Approach (for SFTs)					0	0
4	Comprehensive Approach (for SFTs)					7,655	363
5	VaR (for SFTs)					0	0
<b>6</b>	<b>Total</b>						<b>3,479</b>

The Bank of East Asia, Limited  
東亞銀行有限公司

### **Template CCR2: CVA capital charge**

The following table presents information on portfolios subject to the CVA capital charge and the CVA calculations based on standardised CVA method and advanced CVA method as at 31<sup>st</sup> December 2018:

(HK\$ million)		(a)	(b)
		EAD post CRM	RWA
	Netting sets for which CVA capital charge is calculated by the advanced CVA method	0	0
1	(i) VaR (after application of multiplication factor if applicable)		0
2	(ii) Stressed VaR (after application of multiplication factor if applicable)		0
3	Netting sets for which CVA capital charge is calculated by the standardised CVA method	5,312	1,164
<b>4</b>	<b>Total</b>	<b>5,312</b>	<b>1,164</b>

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

The following table presents a breakdown of default risk exposures as at 31<sup>st</sup> December 2018, other than those to CCPs, in respect of derivative contracts and SFTs that are subject to the STC approach, by asset classes and risk-weights, irrespective of the approach used to determine the amount of default risk exposures:

(HK\$ million)		(a)	(b)	(c)	(ca)	(d)	(e)	(f)	(g)	(ga)	(h)	(i)
Exposure Class	Risk Weight	0%	10%	20%	35%	50%	75%	100%	150%	250%	Others	Total default risk exposure after CRM
1	Sovereign exposures	0	0	0	0	0	0	0	0	0	0	0
2	PSE exposures	0	0	0	0	0	0	0	0	0	0	0
2a	Of which: domestic PSEs	0	0	0	0	0	0	0	0	0	0	0
2b	Of which: foreign PSEs	0	0	0	0	0	0	0	0	0	0	0
3	Multilateral development bank exposures	0	0	0	0	0	0	0	0	0	0	0
4	Bank exposures	0	0	7	0	179	0	0	0	0	0	186
5	Securities firm exposures	0	0	0	0	5	0	0	0	0	0	5
6	Corporate exposures	0	0	0	0	0	0	72	0	0	0	72
7	CIS exposures	0	0	0	0	0	0	0	0	0	0	0
8	Regulatory retail exposures	0	0	0	0	0	41	0	0	0	0	41
9	Residential mortgage loans	0	0	0	0	0	0	0	0	0	0	0
10	Other exposures which are not past due exposures	0	0	0	0	0	0	69	0	0	0	69
11	Significant exposures to commercial entities	0	0	0	0	0	0	0	0	0	0	0
12	<b>Total</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>184</b>	<b>41</b>	<b>141</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>373</b>

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

The Bank applies two internal rating models at the group level for risk-weighting its counterparty default risk portfolio, with the bank model applied to bank obligors and the corporate model applied to corporate obligors. For each of the regulatory portfolios disclosed in this template, 100% of the RWAs are covered by the internal rating models described.

The following table presents all the relevant parameters used for the calculation of counterparty default risk capital requirements for IRB exposures (other than those to CCPs) as at 31<sup>st</sup> December 2018:

		(a)	(b)	(c)	(d)	(e)	(f)	(g)
	PD Scale	EAD post-CRM (HK\$ Mn)	Average PD	Number of obligors	Average LGD	Average maturity	RWA (HK\$ Mn)	RWA density
Bank	0.00 to <0.15	9,590	0.10%	76	18.83%		1,258	13.12%
	0.15 to <0.25	1,523	0.22%	24	15.60%		295	19.35%
	0.25 to <0.50	895	0.42%	27	45.00%		745	83.28%
	0.50 to <0.75	0	-	0	-		0	-
	0.75 to <2.50	454	0.88%	11	45.00%		508	111.78%
	2.50 to <10.00	3	3.30%	2	45.00%		5	148.66%
	10.00 to <100.00	0	-	0	-		0	-
	100.00 (Default)	0	-	0	-		0	-
	<b>Sub-total</b>	<b>12,465</b>	<b>0.16%</b>	<b>140</b>	<b>21.27%</b>		<b>2,811</b>	<b>22.55%</b>
Corporate	0.00 to <0.15	344	0.07%	36	38.55%		67	19.49%
	0.15 to <0.25	101	0.18%	23	34.86%		36	35.32%
	0.25 to <0.50	152	0.27%	21	37.79%		65	42.59%
	0.50 to <0.75	54	0.54%	23	36.33%		32	58.69%
	0.75 to <2.50	42	1.29%	46	17.31%		15	36.33%
	2.50 to <10.00	134	4.59%	53	29.49%		125	93.48%
	10.00 to <100.00	33	10.18%	2	45.00%		63	194.34%
	100.00 (Default)	0	-	0	-		0	-
	<b>Sub-total</b>	<b>860</b>	<b>1.30%</b>	<b>204</b>	<b>35.64%</b>		<b>403</b>	<b>46.90%</b>
<b>Total (sum of all portfolios)</b>	<b>13,325</b>	<b>0.24%</b>	<b>344</b>	<b>22.20%</b>		<b>3,214</b>	<b>24.12%</b>	

The Bank of East Asia, Limited  
東亞銀行有限公司

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

The following table presents a breakdown of all types of collateral posted or recognised collateral received to support or reduce the exposures to counterparty default risk exposures as at 31<sup>st</sup> December 2018 in respect of derivative contracts or SFTs entered into, including contracts or transactions cleared through a CCP:

(HK\$ million)	(a)	(b)	(c)	(d)	(e)	(f)
	Derivative contracts				SFTs	
	Fair value of recognised collateral received		Fair value of posted collateral		Fair value of recognised collateral received	Fair value of posted collateral
	Segregated	Unsegregated	Segregated	Unsegregated		
Cash – domestic currency	0	1,604	0	172	0	5,388
Cash – other currencies	0	82,329	0	1,446	2,168	0
Debt securities	0	0	0	0	4,913	2,267
Equity securities	0	233	0	0	4	0
Other collateral	0	0	0	8	0	0
<b>Total</b>	<b>0</b>	<b>84,166</b>	<b>0</b>	<b>1,626</b>	<b>7,085</b>	<b>7,655</b>

**Template CCR6: Credit-related derivatives contracts**

The following table presents the amount of credit-related derivative contracts as at 31<sup>st</sup> December 2018, broken down into credit protection bought and credit protection sold:

(HK\$ million)	(a)	(b)
	Protection bought	Protection sold
<b>Notional amounts</b>		
Credit default swaps	0	0
Total return swaps	0	0
Other credit-related derivative contracts	0	0
<b>Total notional amounts</b>	<b>0</b>	<b>0</b>
<b>Fair values</b>		
Positive fair value (asset)	0	0
Negative fair value (liability)	0	0

**Table SECA: Qualitative disclosures related to securitization exposures**

At the end of the reporting period, the Group only acted as an investor in all securitisation exposures. There were no securitisation exposures in trading book and re-securitisation exposures in both banking book and trading book as at 31<sup>st</sup> December, 2018.

All securitisation exposures held by the Group are rated with investment grades and backed by non-granular pools.

The Group held relatively small amounts of securitisation exposures. They are classified and measured for accounting purpose in accordance with the Group's accounting policies on financial instruments.

Ratings from Moody's Investors Service and Standard & Poor's are adopted in assessing all types of securitisation exposures. Since the securitization exposures held by the Group are all rated by recognised ECAI designated by the Capital Rules, the Securitization External Ratings-Based Approach is used to calculate the risk-weighted amount for the exposures.

**Template SEC1: Securitization exposures in banking book**

The table below presents a breakdown of securitization exposures in the banking book as at 31<sup>st</sup> December 2018:

		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
		Acting as originator (excluding sponsor)			Acting as sponsor			Acting as investor		
(HK\$ million)		Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total
1	<b>Retail (total)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>88</b>	<b>0</b>	<b>88</b>
	– of which:									
2	residential mortgage	0	0	0	0	0	0	0	0	0
3	credit card	0	0	0	0	0	0	0	0	0
4	other retail exposures	0	0	0	0	0	0	88	0	88
5	re-securitization exposures	0	0	0	0	0	0	0	0	0
6	<b>Wholesale (total)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
	– of which:									
7	loans to corporates	0	0	0	0	0	0	0	0	0
8	commercial mortgage	0	0	0	0	0	0	0	0	0
9	lease and receivables	0	0	0	0	0	0	0	0	0
10	other wholesale	0	0	0	0	0	0	0	0	0
11	re-securitization exposures	0	0	0	0	0	0	0	0	0

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

The following table presents securitization exposures in the banking book where the Bank Group acts as an originating institution of securitization transactions and the associated capital requirements as at 31<sup>st</sup> December 2018:

		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)
		Exposure values (by RW bands)					Exposure values (by regulatory approach)				RWAs (by regulatory approach)				Capital charges after cap			
		≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW	SEC-IRBA	SEC-ERBA	SEC-SA	SEC-FBA	SEC-IRBA	SEC-ERBA	SEC-SA	SEC-FBA	SEC-IRBA	SEC-ERBA	SEC-SA	SEC-FBA
(HK\$ million)																		
1	<b>Total exposures</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Traditional securitization	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Of which securitization	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Of which retail	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Of which wholesale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	Of which re-securitization	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Of which senior	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Of which non-senior	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Synthetic securitization	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	Of which securitization	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	Of which retail	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	Of which wholesale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	Of which re-securitization	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	Of which senior	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	Of which non-senior	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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

The following table presents securitization exposures in the banking book where the Bank Group acts as an investing institution of securitization transactions and the associated capital requirements as at 31<sup>st</sup> December 2018:

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)																	
																		Exposure values (by RW bands)					Exposure values (by regulatory approach)				RWAs (by regulatory approach)				Capital charges after cap			
																		≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW	SEC-IRBA	SEC-ERBA	SEC-SA	SEC-FBA	SEC-IRBA	SEC-ERBA	SEC-SA	SEC-FBA	SEC-IRBA	SEC-ERBA	SEC-SA	SEC-FBA
(HK\$ million)																																		
<b>1</b>	<b>Total exposures</b>	<b>0</b>	<b>88</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>88</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>37</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>																	
2	Traditional securitization	0	88	0	0	0	88	0	0	0	37	0	0	0	3	0	0																	
3	Of which securitization	0	88	0	0	0	88	0	0	0	37	0	0	0	3	0	0																	
4	Of which retail	0	88	0	0	0	88	0	0	0	37	0	0	0	3	0	0																	
5	Of which wholesale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																	
6	Of which re-securitization	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																	
7	Of which senior	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																	
8	Of which non-senior	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																	
9	Synthetic securitization	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																	
10	Of which securitization	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																	
11	Of which retail	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																	
12	Of which wholesale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																	
13	Of which re-securitization	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																	
14	Of which senior	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																	
15	Of which non-senior	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																	

**Table MRA: Qualitative disclosures related to market risk**

The Group has established risk governance management framework to oversee and monitor market risk. This framework is built around a structure that enables the Board to discharge the responsibility for on-going market risk management to the Risk Committee, the Risk Management Committee and the Asset and Liability Management Committee. The Asset and Liability Management Committee deals with all market risk-related issues of the Group. It is also responsible for conducting a regular review of market risk trends and deciding the corresponding strategy.

Besides, the Group has implemented Enterprise Risk Management framework for identifying and managing potential risks of the Group. Under such framework, three lines of defence are adopted for market risk management. The first line of defence comprises risk owners at business units. They are primarily responsible for the day-to-day market risk management. The second line of defence refers to the risk controller of market risk, who is designated as the Head of Asset & Liability Management Department and the third line of defence refers to the Internal Audit Division.

The Group Chief Risk Officer coordinates market risk management related matters of the Group, works closely with the Head of Asset & Liability Management Department on the formulation of market risk management policies. Moreover, on a daily basis, the Group Chief Risk Officer is responsible for overseeing the Bank Group's risk management issues which include, but are not limited to, the risk management infrastructure, strategies, appetites, culture, and resources. The Group has formulated the market risk management policy to identify, measure, monitor, control, and report on the market risk, where appropriate, to allocate adequate capital to cover those risks. The market risk management policy and core control limits are approved by the Board and are monitored and regularly reviewed to align with market changes, statutory requirements, and best practices in risk management processes.

Risk appetite has been defined in accordance with the Group's business strategies and objectives to govern the trading book activities in order to optimize risk and return. Hedging is allowed and monitored per market risk management framework.

For measuring and monitoring of market risk, market risk analysis is conducted on different dimensions, such as by risk factors, by regions, by currencies in the form of potential loss and impact to capital adequacy. Risk limits and management action triggers are set with reference to the nature, volume of transaction and risk appetite of the Bank. Multiple systems are employed to facilitate the calculation, measurement and analysis of market risk.

For reporting of market risk, risk reporting for trading book positions is compiled and monitored on a daily basis. Besides, risk reports are prepared for different level of governance on a regular basis.

**Table MRB: Additional qualitative disclosures for AI using IMM approach**

The calculation of market risk capital charge adopted by the Group is divided into two parts: market risk capital charge for general market risk and market risk capital charge for specific risk. General market risk arising from debt securities, interest rates, equities and FX trading activities of the bank group under scope of capital adequacy consolidation is covered by the VaR and stressed VaR models, while specific risk from debt securities and equities of trading book is separately captured in market risk capital charge via standardised approach.

The Group estimates VaR and stressed VaR for the trading portfolio by historical simulation approach, where the VaR and stressed VaR are calculated by revaluing the portfolio (through full revaluation approach) for each of the market movement scenarios obtained from the historical observation period.

This methodology uses movements in market rates and prices (to be updated on daily basis in the model) over a one-day holding period (for daily risk management purpose) or ten-day holding period from ten-day historical returns (for regulatory purpose) with a 99% confidence level. Two-year observation period is adopted for VaR, and one-year observation period of 2008 to 2009 financial tsunami historical scenario is adopted for stressed VaR. The scenario was chosen according to the assessment of the Group with reference to the severity of different historical scenario and was approved by the Hong Kong Monetary Authority.

Mixed approach is adopted for simulating potential movements in risk factors; where relative return is assumed for FX, equities and implied volatilities risk factors, and absolute return is assumed for interest rate risk factors.

In order to validate the accuracy and internal consistency of data and parameters used for the internal models and modelling processes, back-testing is conducted to compare daily actual / hypothetical profit & loss with VaR results on the trading portfolio.

**Template MR1: Market risk under Standardised (market risk) approach (STM approach)**

The table below provides the components of the market risk capital requirements calculated using the STM approach exposures as at 31<sup>st</sup> December 2018:

(HK\$ million)	RWA
Outright product exposures	
Interest rate exposures (general and specific risk)	1,857
Equity exposures (general and specific risk)	1,901
Option exposures	-
Securitization exposures	-
<b>Total</b>	<b>3,758</b>

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

The table below presents a flow statement explaining variations in the RWA for market risk determined under the IMM approach for the period from 30<sup>th</sup> September 2018 to 31<sup>st</sup> December 2018:

(HK\$ million)		(a)	(b)	(c)	(d)	(e)	(f)
		VaR	Stressed VaR	IRC	CRC	Other	Total RWA
<b>1</b>	<b>RWA as at end of previous reporting period</b>	<b>4,403</b>	<b>10,834</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>15,237</b>
1a	Regulatory adjustment	2,931	7,086	0	0	0	10,017
1b	RWA as at day-end of previous reporting period	1,472	3,748	0	0	0	5,220
2	Movement in risk levels	(98)	(26)	0	0	0	(124)
3	Model updates/changes	0	0	0	0	0	0
4	Methodology and policy	0	0	0	0	0	0
5	Acquisitions and disposals	0	0	0	0	0	0
6	Foreign exchange movements	(6)	(7)	0	0	0	(13)
7	Other	(80)	(196)	0	0	0	(276)
7a	RWA as at day-end of reporting period	1,288	3,519	0	0	0	4,807
7b	Regulatory adjustment	2,941	7,165	0	0	0	10,106
<b>8</b>	<b>RWA as at end of reporting period</b>	<b>4,229</b>	<b>10,684</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14,913</b>

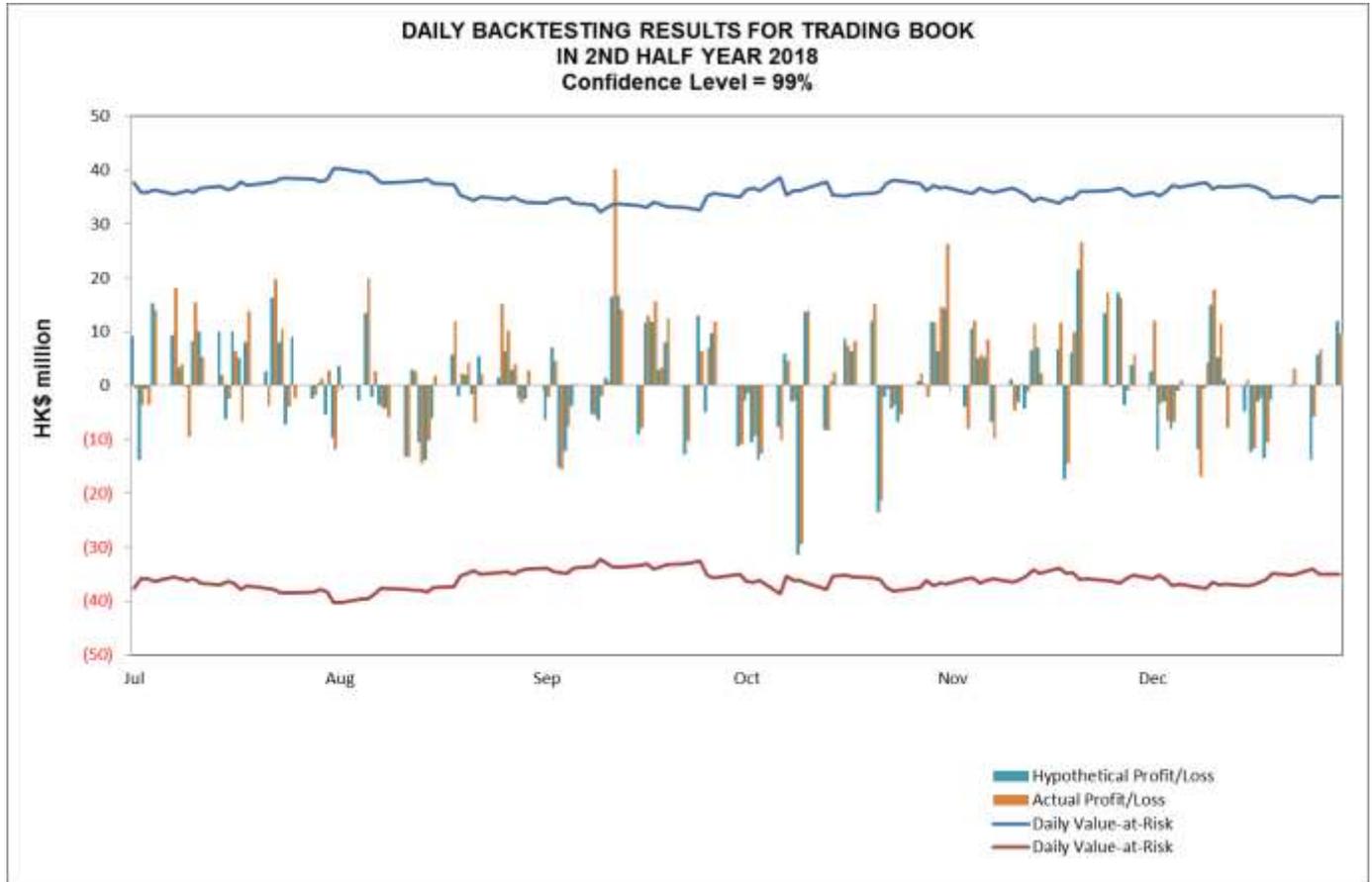
**Template MR3: IMM approach values for market risk exposures**

The table below discloses the values resulting from the different types of models used for computing the regulatory market risk capital requirement at the group-wide level, before any additional capital charge is applied:

(HK\$ million)		(a)
		Value
<b>VaR (10 days – one-tailed 99% confidence interval)</b>		
1	Maximum Value	131
2	Average Value	115
3	Minimum Value	99
4	Period End	103
<b>Stressed VaR (10 days – one-tailed 99% confidence interval)</b>		
5	Maximum Value	312
6	Average Value	287
7	Minimum Value	255
8	Period End	281
<b>Incremental risk charge (IRC) (99.9% confidence interval)</b>		
9	Maximum Value	0
10	Average Value	0
11	Minimum Value	0
12	Period End	0
<b>Comprehensive risk charge (CRC) (99.9% confidence interval)</b>		
13	Maximum Value	0
14	Average Value	0
15	Minimum Value	0
16	Period End	0
17	Floor	0

**Template MR4: Comparison of VaR estimates with gains or losses**

The graph below presents a comparison of the results of estimates from the key VaR model for calculating market risk capital requirements with both hypothetical and actual trading outcomes:



The actual P/L is the P/L arising from trading activities in the trading book, which excludes reserves, commissions and fees. The hypothetical P/L is calculated by the change of trading book portfolio value assuming the end of day position remains unchanged.

### International Claims

The information on international claims discloses exposures to foreign counterparties on which the ultimate risk lies, and is derived according to the location of the counterparties after taking into account any recognised risk transfer. In general, such transfer of risk takes place if the claims are guaranteed by a party in a country which is different from that of the counterparty or if the claims are on an overseas branch of a bank whose head office is located in another country. Only countries constituting 10% or more of the aggregate international claims after taking into account any recognised risk transfer are disclosed.

(HK\$ million)	31/12/2018					Total claims
	Banks	Official sector	Non-bank financial institutions	Non-financial private sector	Others	
<u>Counterparty country/ jurisdiction</u>						
Developed countries	37,965	197	7,294	17,817	-	63,273
Offshore centres	7,388	2,072	6,137	65,648	-	81,245
- of which: Hong Kong	4,720	2,069	4,386	56,114	-	67,289
Developing Asia and Pacific	40,348	3,937	10,175	103,268	-	157,728
- of which: China	24,761	3,831	8,512	97,012	-	134,116

(HK\$ million)	31/12/2017					Total claims
	Banks	Official sector	Non-bank financial institutions	Non-financial private sector	Others	
<u>Counterparty country/ jurisdiction</u>						
Developed countries	35,973	1,001	6,562	14,937	-	58,473
Offshore centres	8,137	1,419	5,336	75,095	-	89,987
- of which: Hong Kong	4,177	1,415	4,902	64,666	-	75,160
Developing Asia and Pacific	34,511	4,355	8,886	82,256	-	130,008
- of which: China	25,081	4,132	7,636	75,380	-	112,229

The above figures are computed in accordance with the HKMA's guidelines on the return of international banking statistics and the Banking (Disclosure) Rules in respect of the reporting period on the consolidated basis.

### Mainland Activities

The table below summaries the non-bank Mainland China exposure of the Bank's Hong Kong Office and the Bank's Mainland subsidiary banks categorised by types of counterparties:

(HK\$ million)	31/12/2018		Total
	On-balance sheet exposure	Off-balance sheet exposure	
<u>Type of counterparties</u>			
1. Central government, central government-owned entities and their subsidiaries and joint ventures	32,173	4,327	36,500
2. Local governments, local government-owned entities and their subsidiaries and joint ventures	18,020	615	18,635
3. PRC nationals residing in Mainland China or other entities incorporated in Mainland China and their subsidiaries and joint ventures	173,067	11,813	184,880
4. Other entities of central government not reported in item 1 above	5,441	246	5,687
5. Other entities of local governments not reported in item 2 above	4,237	120	4,357
6. PRC nationals residing outside Mainland China or entities incorporated outside Mainland China where the credit is granted for use in Mainland China	4,715	375	5,090
7. Other counterparties where the exposures are considered by the reporting institution to be non-bank Mainland China exposures	39,019	2,240	41,259
Total	<u>276,672</u>	<u>19,736</u>	<u>296,408</u>
Total assets after provision	<u>772,097</u>		
On-balance sheet exposures as percentage of total assets	<u>35.9%</u>		

**Mainland Activities (Continued)**

(HK\$ million)	31/12/2017 (Restated)		
	On-balance sheet exposure	Off-balance sheet exposure	Total
<u>Type of counterparties</u>			
1. Central government, central government-owned entities and their subsidiaries and joint ventures	34,580	4,616	39,196
2. Local governments, local government-owned entities and their subsidiaries and joint ventures	21,731	662	22,393
3. PRC nationals residing in Mainland China or other entities incorporated in Mainland China and their subsidiaries and joint ventures	165,281	5,304	170,585
4. Other entities of central government not reported in item 1 above	4,063	431	4,494
5. Other entities of local governments not reported in item 2 above	3,361	23	3,384
6. PRC nationals residing outside Mainland China or entities incorporated outside Mainland China where the credit is granted for use in Mainland China	5,130	315	5,445
7. Other counterparties where the exposures are considered by the reporting institution to be non-bank Mainland China exposures	32,742	2,257	34,999
<b>Total</b>	<b>266,888</b>	<b>13,608</b>	<b>280,496</b>
Total assets after provision	746,108		
On-balance sheet exposures as percentage of total assets	35.8%		

The above figures are disclosed in accordance with the return relating to Mainland activities the Bank submitted to the HKMA pursuant to section 63 of the Banking Ordinance in respect of the interim reporting period, which are computed on the consolidated basis as required by the HKMA for its regulatory purposes.

### Currency Concentration

The net non-structural position or net structural position in a particular foreign currency is disclosed when the position in that currency constitutes 10% or more of the total net position or total net structural position in all foreign currencies respectively. The net option position is calculated in the basis of the delta-weighted position of all foreign currency option contracts.

(HK\$ million)	31/12/2018						
	USD	JPY	EUR	RMB	MOP	Other foreign currencies	Total
Spot assets	212,810	1,571	6,412	258,066	1,061	74,673	554,593
Spot liabilities	(190,629)	(884)	(4,901)	(262,525)	(908)	(68,531)	(528,378)
Forward purchases	276,356	2,959	6,348	244,093	-	8,481	538,237
Forward sales	(289,323)	(3,571)	(7,847)	(248,000)	-	(14,471)	(563,212)
Net options position	(7,372)	(2)	(1)	7,487	-	(20)	92
Net long/(short) non-structural position	1,842	73	11	(879)	153	132	1,332

(HK\$ million)	31/12/2017						
	USD	JPY	EUR	RMB	MOP	Other foreign currencies	Total
Spot assets	200,302	1,595	5,951	273,874	983	72,419	555,124
Spot liabilities	(171,552)	(1,500)	(4,683)	(272,774)	(990)	(67,625)	(519,124)
Forward purchases	255,806	1,387	7,330	231,475	1	11,240	507,239
Forward sales	(274,361)	(1,387)	(8,450)	(242,554)	(1)	(15,943)	(542,696)
Net options position	(8,868)	(2)	(69)	8,954	-	2	17
Net long/(short) non-structural position	1,327	93	79	(1,025)	(7)	93	560

**Currency Concentration (Continued)**

(HK\$ million)	31/12/2018				
	USD	RMB	MYR	Other foreign currencies	Total
Net structural position	(6,989)	13,801	2,226	936	9,974

(HK\$ million)	31/12/2017				
	USD	RMB	MYR	Other foreign currencies	Total
Net structural position	(6,965)	14,584	2,271	966	10,856

The above figures are disclosed in accordance with the return relating to foreign currency positions the Bank submitted to the HKMA pursuant to section 63 of the Banking Ordinance in respect of the interim reporting period, which are computed on consolidated basis as required by the HKMA for its regulatory purposes.

**Capital Buffer****Countercyclical Capital Buffer Ratio**

	<u>31/12/2018</u>	<u>31/12/2017</u>
	%	%
Countercyclical capital buffer ratio	0.774	0.464

The relevant disclosures pursuant to section 16FG of the Banking (Disclosure) Rules can be found in Template CCyB1 in this Banking Disclosure Statement.

**Capital Conservation Buffer Ratio**

Under section 3M of the Capital Rules, the capital conservation buffer ratio for calculating the Bank's buffer level is 1.875 % for 2018 and 1.25 % for 2017.

**Higher Loss Absorbency Ratio**

The HKMA has designated the Bank as a domestic systematically important authorised institution ("D-SIB"). Under section 3V of the Capital Rules, the higher loss absorbency ratio applicable to the Bank is 0.75% for 2018 and 0.5% for 2017.

## **Glossary**

<u>Abbreviations</u>	<u>Descriptions</u>
CCF	Credit Conversion Factor
CCP	Central Counterparty
CCR	Counterparty Credit Risk
CEM	Current Exposure Method
CIS	Collective Investment Scheme
CRM	Credit Risk Mitigation
CVA	Credit Valuation Adjustment
EAD	Exposure At Default
EL	Expected Loss
EPE	Expected Positive Exposure
HVCRE	High-Volatility Commercial Real Estate
IMM	Internal Models Method
IRB	Internal Ratings-Based
LGD	Loss Given Default
PD	Probability Of Default
PFE	Potential Future Exposure
PSE	Public Sector Entity
RWA	Risk Weighted Asset
SA-CCR	Standardised Approach (Counterparty Credit Risk)
SEC-ERBA	Securitization External Ratings-Based Approach
SEC-FBA	Securitization Fall-back Approach
SEC-IRBA	Securitization Internal Ratings-Based Approach
SEC-SA	Securitization Standardized Approach
SFT	Securities Financing Transaction
SRW	Specific Risk-Weight
STC	Standardized (Credit Risk)
STM	Standardized (Market Risk)
STO	Standardized (Operational Risk)
VaR	Value-At-Risk