RHB Investment Bank Berhad

Basel II Pillar 3 Disclosures

31 December 2019

RHB INVESTMENT BANK GROUP
BASEL II PILLAR 3 DISCLOSURES AS AT 31 DECEMBER 2019

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STATEMENT BY CHIEF EXECUTIVE OFFICER

In accordance with the requirements of Bank Negara Malaysia's Guideline on Risk-Weighted Capital Adequacy Framework (Basel II) – Disclosure Requirements (Pillar 3), and on behalf of the Board of Directors and Senior Management of RHB Investment Bank Berhad, I am pleased to provide an attestation that the Basel II Pillar 3 disclosures of RHB Investment Bank Berhad for the year ended 31 December 2019 are accurate and complete.

ROBERT ANGELO HENDRO SANTOSO HURAY
Chief Executive Officer

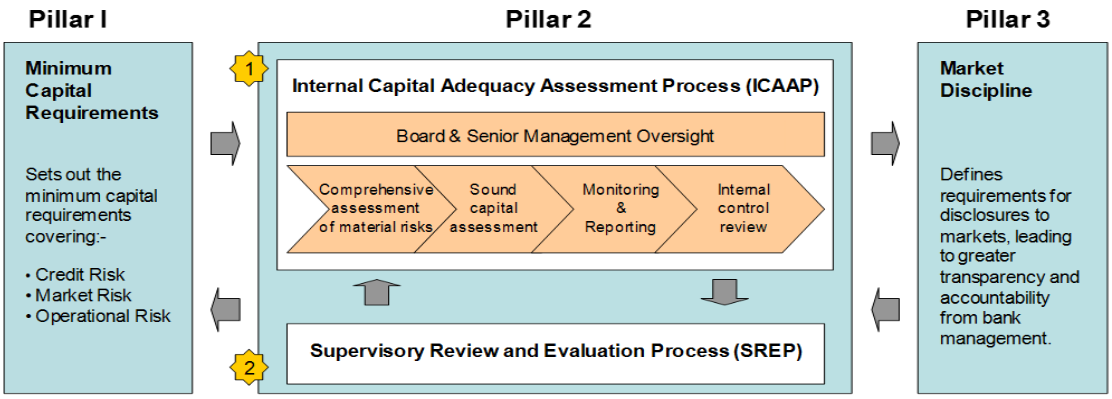
1.0 INTRODUCTION

This document describes RHB Investment Bank Group's risk profile, risk management practices and capital adequacy position in accordance with the disclosure requirements as outlined in the Risk-Weighted Capital Adequacy Framework (Basel II) – Disclosure Requirements (Pillar 3) issued by Bank Negara Malaysia (BNM's Pillar 3 Guidelines).

BNM's guidelines on Capital Adequacy Framework (Basel II – Risk-Weighted Assets) provide and specify the approaches for quantifying the risk-weighted assets for credit risk, market risk and operational risk.

Basel II introduces a more risk-based approach to regulatory capital with a distinct charge for operational risk in addition to the existing credit and market risk capital charges. It is designed to be a catalyst for more advanced risk management techniques, enterprise-wide culture of risk management and improved corporate governance and public disclosure.

The Basel II approach based on the three pillars can be diagrammatically depicted as below:



Pillar 1 provides guidelines for calculation of risk-weighted assets for credit risk, market risk and operational risk, and the minimum amount of regulatory capital that banks must hold against the risks they assume.

For the purpose of complying with regulatory requirements under Basel II Pillar 1, the approaches adopted by RHB Investment Bank Berhad are as follows:

Entity	Credit Risk	Market Risk	Operational Risk
RHB Investment Bank Berhad	Standardised Approach	Standardised Approach	Basic Indicator Approach

Pillar 2 comprises two components as follows:

- Placing obligations on banks to develop an Internal Capital Adequacy Assessment Process, and setting capital targets that commensurate with the banking institution's risk profile and control environment; and
- Placing obligations on the supervisory authority to evaluate how well banking institutions are assessing their capital needs relative to their risks and to intervene, where appropriate.

Pillar 3 covers external communication of risk and capital information by banks. The purpose of the Pillar 3 disclosures is to complement the minimum capital requirements under Pillar 1 and the supervisory review process under Pillar 2 by encouraging market efficiency through a set of disclosure requirements that will allow market participants to assess information on banking institutions' capital structures, risk exposures, risk management processes, and hence, their overall capital adequacy.

Basis of Disclosure
The annual Pillar 3 disclosure report is published in accordance with BNM's Pillar 3 Guidelines. This disclosure report has been verified and approved internally in line with the RHB Banking Group: Basel II Pillar 3 Disclosure Policy.

Comparative Information
This document covers the qualitative and quantitative information for financial year ended 31 December 2019 with comparative quantitative information of the preceding financial year ended 31 December 2018.

Frequency of Disclosure
The qualitative disclosures contained herein are updated on an annual basis and more frequently, if there are significant changes in the interim reporting period. The disclosures on capital adequacy and structure are made on a quarterly basis and all other quantitative disclosures are made on a semi–annual basis in accordance to the Group's reporting period.

Medium and Location of Disclosure
RHB Investment Bank Berhad's Pillar 3 disclosure report is made available under the Investor Relations section of RHB Banking Group's website at www.rhbgroup.com as a separate report in the Bank's Annual Report 2019, after the notes to the financial statements.

2.0 SCOPE OF APPLICATION

In this Pillar 3 document, RHB Investment Bank Berhad's information is presented on a consolidated basis, i.e. RHB Investment Bank Berhad with its subsidiaries and is referred to as "RHB Investment Bank Group".

RHB Investment Bank Group's capital requirements are generally based on the principles of consolidation adopted in the preparation of its financial statements, except where the types of investment to be deducted from eligible capital as guided by BNM's Guideline on Capital Adequacy Framework (Capital Components).

In accordance with the accounting standards for financial reporting, all subsidiaries of the RHB Investment Bank group are fully consolidated from the date it obtain control until the date given control ceases. Refer to Note 13 of the financial statements for list of consolidated entities.

RHB Investment Bank Group is involved in merchant banking business, dealing in securities, stock, debt and derivatives, stockbroking business and the business of brokers and dealers in futures and options contracts, investment management services, islamic investment management services, management of unit trust funds and islamic unit trust funds, management of private retirement schemes, provision of investment advisory services, research services and provision of nominee services.

The transfer of funds for regulatory capital within the RHB Investment Bank Group is subject to shareholders' and regulatory approval.

During the financial year 2019, there were no capital deficiencies in RHB Investment Bank Berhad and in any of its subsidiaries.

3.0 CAPITAL MANAGEMENT

The overall capital management objective is to manage capital prudently and to maintain a strong capital position to drive sustainable business growth and seek strategic opportunities to enhance shareholders' value, and be in line with its risk appetite. Capital adequacy is the extent to which capital resources on RHB Investment Bank Group's balance sheet are sufficient to cover the business capital requirements now and in the foreseeable future. It also indicates the ability of RHB Investment Bank Group to provide financing across the business cycles and in meeting any contingency without compromising the interest of the depositors and investors. RHB Investment Bank Group aims to maintain a strong capital position to drive sustainable business growth through an optimal capital structure while meeting regulatory requirements.

With a comprehensive capital management, RHB Investment Bank Group aims to have a sound capital management practice that is aligned to BNM's ICAAP requirements. The capital management activities involve capital strategy, capital planning and capital allocation/structuring/optimisation.

- **Capital Strategy**
  Capital strategy includes the determination of target capital under both normal and stressed market conditions and considers the business risk and strategic objectives, external credit ratings, and regulatory capital adequacy requirements. A comprehensive capital adequacy assessment is conducted at least annually to ensure that the target capital level is appropriate.

- **Capital Planning**
  Based on strategic direction and regulatory requirements, RHB Investment Bank Group formulates a comprehensive and forward looking capital plan to:
  (i) support its overall risk profile and forecast the capital demand for material risks for which capital held is deemed appropriate and aligned with RHB Investment Bank Group's risk appetite;
  (ii) provide adequate capital for business growth, changes in asset mix or to cover unanticipated losses.

  The capital plan describes the actions required to raise capital in a timely manner in both normal and stressed conditions as assumed in the stress scenarios. For capital planning purposes, capital adequacy is assessed in the multi-year financial projection under both normal and stressed scenarios, the objective of which is to ensure that RHB Investment Bank Group maintains adequate capital on a forward-looking basis. RHB Investment Bank Group also establishes a capital contingency funding plan that forms part of the capital plan. The capital plan, together with the analysis and proposed actions, are reviewed by the Group Chief Financial Officer and deliberated at the respective committees before submission to the Board for approval.

- **Capital Allocation/Structuring/Optimisation**
  RHB Investment Bank Group determines the amount of capital allocated to each entity and business line based on capital performance target and available funding. An efficient allocation of capital drives returns for RHB Investment Bank Group's shareholders.

  Capital structuring affects RHB Investment Bank Group through its impact on cash flow and cost of capital. RHB Investment Bank Group adopts capital structuring that maximises value and minimises overall cost of capital. In order to achieve optimum capital structure, RHB Investment Bank Group determines the levels, mix and structure of internal and regulatory capital in line with its current and planned levels of business activities, risk appetite and desired level of capital adequacy.

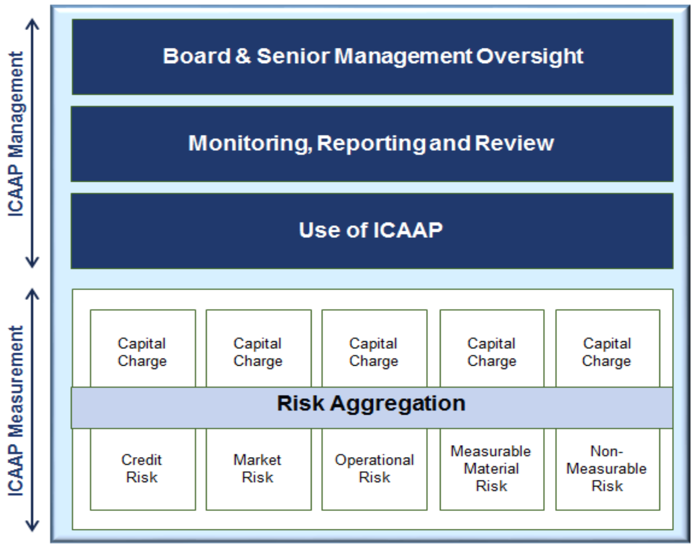
  RHB Investment Bank Group optimises its capital by integrating risk-based capital into strategy and aligning this with performance measurement.

  RHB Investment Bank Group also aims to achieve a balance between dividend pay-out and the need to retain earnings in order to be consistent with its capital strength and to support business expansion. The Board reviews the dividend pay-out recommendation on an annual basis.

3.1 Internal Capital Adequacy Assessment Process (ICAAP)

In line with BNM's Guideline on ICAAP under the Risk-Weighted Capital Adequacy Framework (Basel II) – Internal Capital Adequacy Assessment Process (Pillar 2), RHB Investment Bank Group has implemented ICAAP with the objective to forge a strong alignment between risk and capital. Capital adequacy is assessed in relation to RHB Investment Bank Group's risk profile, and strategies are in place to maintain appropriate capital levels.

The ICAAP Framework developed and adopted across RHB Investment Bank Group summarises the key ICAAP requirements into two functional categories, namely; ICAAP Measurement and ICAAP Management as depicted below:



Key Requirements

- Establish rigorous corporate governance and senior management oversight
- Establish risk-based strategy including defining and setting the bank's appetite and tolerance for risk
- Assess and measure all material risks inherent in Group's business
- Review, monitor, control and report on all material risks
- Demonstrate that ICAAP forms an integral part of day-to-day management process and decision making culture of the Group
- Relate capital to level of risk and ensure capital adequacy using scenario analysis and stress testing methods

3.2 Basel III Implementation

The implementation of Basel III for capital components by BNM in Malaysia has commenced with effect from 1 January 2013. Under the Basel III rules, banking institutions are required to strengthen the quality of their capital by maintaining higher minimum capital requirements and holding capital buffers namely the capital conservation buffer and the countercyclical capital buffer. However, the requirements are subject to a series of transitional arrangements with a gradual phase-in commencing 2013.

RHB Investment Bank Group monitors and reports the Liquidity Coverage Ratio (LCR) based on BNM's liquidity standards and maintains the LCR above regulatory requirement. For Net Stable Funding Ratio (NSFR), banking institutions are required to report the NSFR under the observation period effective from June 2015. In July 2019, BNM has issued the final NSFR policy document, which will be effective from 1 July 2020 where banking institutions are expected to maintain a minimum NSFR of 100% at the consolidated level i.e. at RHB Banking Group level.

3.3 Capital Adequacy Ratios

BNM's Guideline on Capital Adequacy Framework (Capital Components) sets out the general requirements concerning regulatory capital adequacy and the components of eligible regulatory capital. Banking institutions are required to maintain, at all times, the following minimum capital adequacy ratios:

Common Equity Tier I (CET I) Capital	4.5%
Tier I Capital Ratio	6.0%
Total Capital Ratio	8.0%

In addition, RHB Investment Bank Group is required to maintain additional capital buffers in the form of CET I capital above the minimum CET I, Tier I and Total Capital ratios set out above. The capital buffers shall comprise of capital conservation buffer (CCB) of 2.50% and countercyclical capital buffer (CCyB) ranging from 0% to 2.50%.

CCyB is determined based on the weighted average of the prevailing CCyB rates applied in the jurisdictions in which RHB Investment Bank Group has credit exposures. This buffer is intended to protect the banking sector as a whole from the build-up of systemic risk during an economic upswing when aggregate credit growth tends to be excessive. BNM will communicate any decision on the CCyB rate by up to 12 months before the date from which the rate applies.

The capital ratios of RHB Investment Bank Berhad on consolidated basis (RHB Investment Bank Group), and on global basis (RHB Investment Bank) as at 31 December 2019 and 31 December 2018

Table 1: Capital Adequacy Ratios

	RHB Investment Bank Group		**RHB Investment Bank**	
	2019	**2018**	**2019**	**2018**
Before proposed dividends				
Common Equity Tier I Capital Ratio	**43.964%**	35.445%	**33.144%**	21.323%
Tier I Capital Ratio	**44.021%**	35.728%	**33.144%**	21.323%
Total Capital Ratio	**55.449%**	45.477%	**57.169%**	40.757%
After proposed dividends				
Common Equity Tier I Capital Ratio	**40.117%**	35.445%	**24.764%**	21.323%
Tier I Capital Ratio	**40.174%**	35.728%	**24.764%**	21.323%
Total Capital Ratio	**51.602%**	45.477%	**48.788%**	40.757%

The above capital ratios are above the minimum level required by BNM.

3.4 Minimum Capital Requirements and Risk-Weighted Assets (RWA)

The following table shows the breakdown of RWA by risk types as at 31 December 2019 and 31 December 2018:

Table 2: Risk-Weighted Assets (RWA) by Risk Types

	RHB Investment Bank Group		RHB Investment Bank	
Risk Types	**2019**	**2018**	**2019**	**2018**
	RM'000	**RM'000**	**RM'000**	**RM'000**
Credit RWA	**1,965,132**	1,933,769	**794,533**	612,585
Market RWA	**258,450**	877,506	**127,778**	678,014
Operational RWA	**1,493,492**	1,567,043	**784,006**	807,022
Total RWA	**3,717,074**	4,378,318	**1,706,317**	2,097,621

The following tables show the breakdown of RWA by risk types and the corresponding capital requirement as at 31 December 2019 and 31 December 2018:

Table 3a: Risk-Weighted Assets by Risk Types and Minimum Capital Requirements as at 31 December 2019

	RWA		Minimum Capital Requirements	
Risk Types	**RHB Investment Bank Group**	**RHB Investment Bank**	**RHB Investment Bank Group**	**RHB Investment Bank**
	RM'000	**RM'000**	**RM'000**	**RM'000**
Credit Risk				
Under Standardised Approach	**1,965,132**	**794,533**	**157,211**	**63,563**
Market Risk				
Under Standardised Approach	**258,450**	**127,778**	**20,676**	**10,222**
Operational Risk				
Under Basic Indicator Approach	**1,493,492**	**784,006**	**119,479**	**62,720**
Total	**3,717,074**	**1,706,317**	**297,366**	**136,505**

Table 3b: Risk-Weighted Assets by Risk Types and Minimum Capital Requirements as at 31 December 2018

	RWA		Minimum Capital Requirements	
Risk Types	**RHB Investment Bank Group**	**RHB Investment Bank**	**RHB Investment Bank Group**	**RHB Investment Bank**
	RM'000	**RM'000**	**RM'000**	**RM'000**
Credit Risk				
Under Standardised Approach	1,933,769	612,585	154,702	49,007
Market Risk				
Under Standardised Approach	877,506	678,014	70,200	54,241
Operational Risk				
Under Basic Indicator Approach	1,567,043	807,022	125,363	64,562
Total	4,378,318	2,097,621	350,265	167,810

Capital requirement for the three risk types is derived by multiplying the risk-weighted assets by 8%.

The Credit RWA for RHB Investment Bank Group increased by RM31 million mainly due to increase in bank exposures but partially off-set by the reduction in equity exposures. Market RWA for RHB Investment Bank Group observed a reduction mainly due to decrease in Foreign Currency Risk RWA and Option Risk RWA.

4.0 CAPITAL STRUCTURE

The constituents of total eligible capital are set out in BNM's Guideline Capital Adequacy Framework (Capital Components). These include shareholders' funds, after regulatory-related adjustments, and eligible capital instruments issued by RHB Investment Bank Group. Tier I capital consists primarily of ordinary share capital, retained profits and other reserves. Tier II capital consists of subordinated obligations and general provisions. Refer to Note 47 in the Financial Statements for the details of these capital instruments.

The following table represents the capital position of RHB Investment Bank Group and RHB Investment Bank as at 31 December 2019 and 31 December 2018:

Table 4: Capital Structure

	RHB Investment Bank Group		RHB Investment Bank	
	2019	**2018**	**2019**	**2018**
	RM'000	**RM'000**	**RM'000**	**RM'000**
Common Equity Tier I Capital/Tier I Capital				
Paid up ordinary share capital	**1,487,773**	1,487,773	**1,487,773**	1,487,773
Retained profits	**587,298**	561,695	**567,193**	558,690
Other reserves	**135,295**	113,648	**-**	-
Fair value through other comprehensive income (FVOCI) reserves	**41,918**	23,489	**39,360**	20,853
Less:				
Goodwill	**(511,221)**	(523,911)	**(372,395)**	(372,395)
Investments in subsidiaries	**-**	-	**(1,093,697)**	(1,182,229)
Investments in associates and joint ventures	**(16,083)**	(30,646)	**(5,028)**	(21,057)
Other Intangible assets	**(48,332)**	(47,610)	**(25,905)**	(27,055)
Deferred tax assets	**(19,410)**	(19,610)	**(10,106)**	(5,832)
55% of cumulative gains arising from change in value of FVOCI instruments	**(23,055)**	(12,919)	**(21,648)**	(11,469)
Total Common Equity Tier I Capital	**1,634,183**	1,551,909	**565,547**	447,279
Qualifying non controlling interest recognised as Tier I Capital	**2,121**	12,359	**-**	-
Total Tier I Capital	**1,636,304**	1,564,268	**565,547**	447,279
Tier II Capital				
Subordinated obligations meeting all relevant criteria	**400,000**	400,000	**400,000**	400,000
Qualifying non controlling interest recognised as Tier II Capital	**226**	2,700	**-**	-
General provisions^	**24,564**	24,172	**9,932**	7,657
Total Tier II Capital	**424,790**	426,872	**409,932**	407,657
Total Capital	**2,061,094**	1,991,140	**975,479**	854,936

^ Pursuant to BNM's policy document on Financial Reporting, general provision refers to loss allowance measured at an amount equal to 12-month and lifetime expected credit losses as defined under MFRS 9 Financial Instruments and regulatory reserves, to the extent they are ascribed to non-credit impaired exposures, determined under standardised approach for credit risk.

Includes the qualifying regulatory reserves of RHB Investment Bank Group and RHB Investment Bank of RM 24,184,000 (31 December 2018: RM23,673,000) and RM 9,917,000 (31 December 2018 : RM7,501,000) respectively.

5.0 RISK MANAGEMENT

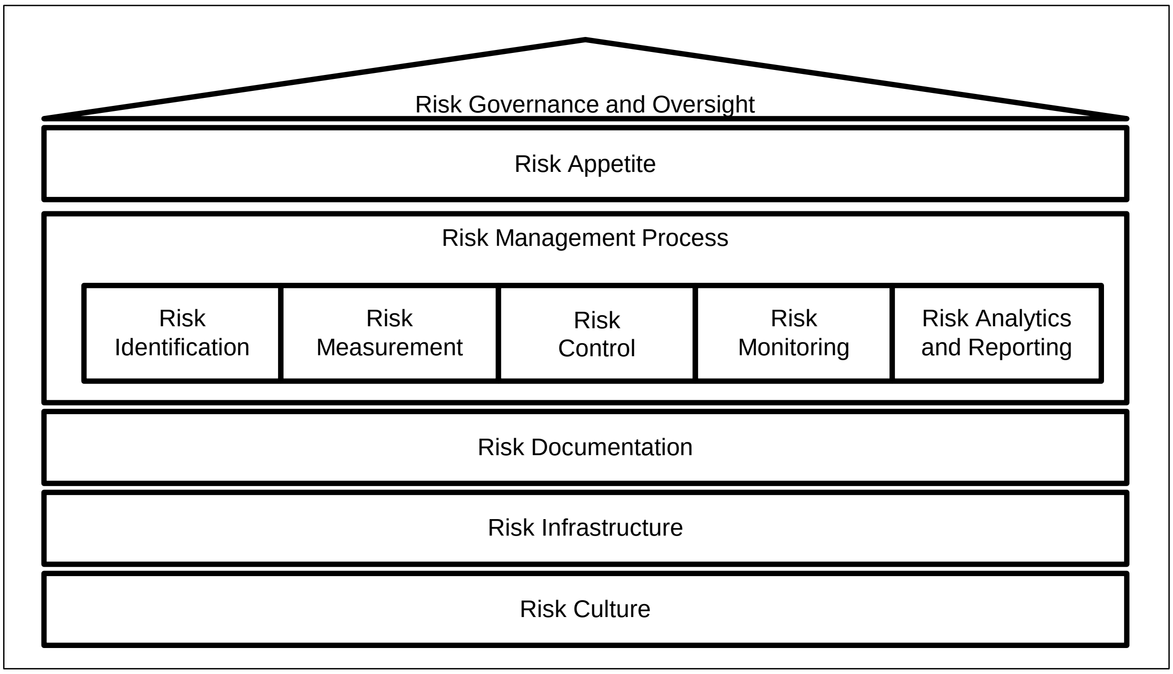
Risk is inherent in RHB Investment Bank Group's activities and is managed through a process of on-going identification, measurement and monitoring, subject to limits and other controls. Besides credit risk, RHB Investment Bank Group is exposed to a range of other risk types such as market, liquidity, operational, legal, strategic and cross-border, as well as other forms of risk inherent to its strategy, product range and geographical coverage.

Effective risk management is fundamental to drive sustainable growth and shareholders' value, while maintaining competitive advantage, and is thus a central part of the proactive risk management of RHB Investment Bank Group's operating environment.

The Group Risk Management Framework governs the management of risks in the RHB Banking Group (the Group), as follows:

- It provides a holistic overview of the risk and control environment of the Group, with risk management aimed towards loss minimisation and protection against losses which may occur through, principally, the failure of effective checks and controls in the organisation.
- It sets out the strategic progression of risk management towards becoming a value creation enterprise. This is realised through building up capabilities and infrastructure in risk management sophistication, and enhanced risk quantification to optimise risk-adjusted returns.

The Group Risk Management Framework is represented in the following diagram:



The following sections describe some of these risk management content areas.

OVERARCHING RISK MANAGEMENT PRINCIPLES

The Risk Management Framework contains five fundamental principles that drive the philosophy of risk management in the Group.

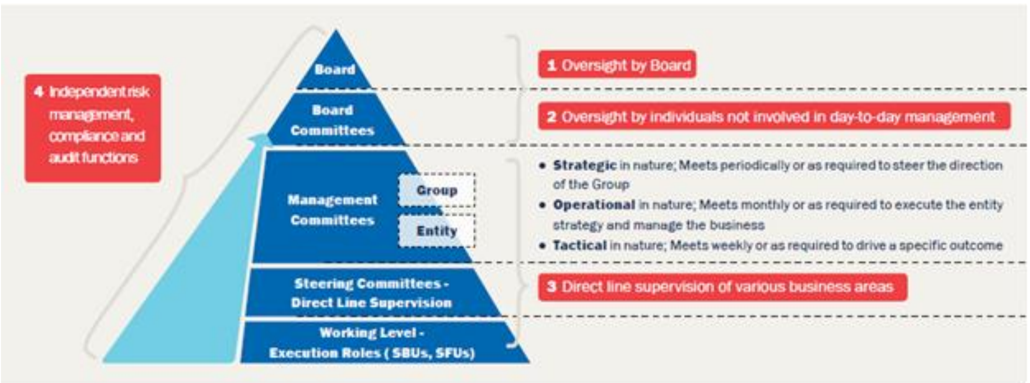
Principle 1: Risk Governance from the Boards of Directors of various operating entities within the Group

The ultimate responsibility of the Boards of Directors in the Group is to ensure that an effective risk management strategy is in place and uniformly understood across the Group. The Group has a structured framework to support the Board's oversight responsibilities.

RISK GOVERNANCE AND ORGANISATION

The Board of Directors (Board), through the respective risk committees and the Group Risk & Credit Management function, establishes the risk appetite and risk principles for the Group and relevant entities. The Board Risk Committee (BRC) is the principal Board committee that provides oversight over risk management activities for the Group to ensure that the Group's risk management process is in place and functional. The Group BRC assists the Board to review the Group's overall risk management philosophy, frameworks, policies and models. The Investment Bank Board Risk Committee (IBBRC) assist the Board of RHB Investment Bank on risk issues relevant and unique to its business.

The responsibility for the supervision of the day-to-day management of enterprise risk and capital matters is delegated to the Investment Bank Risk Management Committee (IBRMC) comprising senior management of RHB Investment Bank Group and which reports to the IBBRC and the Group Management Committee (GMC). The Group Asset and Liability Committee (Group ALCO) oversees market risk, liquidity risk and balance sheet management. An overview of this governance framework at Group level is as below:



RISK CULTURE

Principle 2: Clear Understanding of Risk Management Ownership

Proactive risk ownership is important for effective management of risk. This promotes a risk awareness culture throughout the Group. The Group adopts the principle that 'Risk and Compliance is Everyone's Responsibility'.

The strategic business units (SBUs) and strategic functional units (SFUs) of the respective operating entities in the Group are collectively responsible for identifying, managing and reporting risks. The business units manage certain defined risks supported by the services provided by the functional units, including the risk management function. The approach is based on the 'three lines of defence' model as depicted below:

FIRST LINE Business/Functional Level	• Responsible for managing day-to-day risks and compliance issues • Business Risk and Compliance Officer is to assist business/functional unit in day-to-day risks and compliance matters
SECOND LINE Group Risk and Credit Management & Group Compliance	• Responsible for oversight, establishing governance and providing support to business/functional unit on risk and compliance matters
THIRD LINE Group Internal Audit	• Provide independent assurance to the Board that risk and compliance management functions effectively as designed

RISK ENVIRONMENT AND INFRASTRUCTURE

Principle 3: Institutionalisation of a Risk-Focused Organisation

In addition to risk ownership, a risk-focused culture is promoted throughout the Group through strengthening of the central risk management functions and continuous reinforcement of a risk and control environment within the Group.

Central Risk Management Function

Group Risk and Credit Management, headed by the Group Chief Risk Officer is independent of the business function to ensure that the necessary balance in risk/return decisions is not compromised by short term pressures to generate revenues.

- Facilitating the setting of the strategic direction and overall policy on management and control of risk of the Group;
- Ensuring industry best practices in risk management are adopted across the Group, including the setting of risk management parameters and risk models;
- Developing a pro-active, balanced and risk-attuned culture within the Group; and
- Advising senior management, respective risk committees and the Board on risk issues and their possible impact on the Group in the achievement of its objectives and strategies.

Group Risk & Credit Management consisting of Group Risk Management, Group Credit Management and Group Risk Operations provides independent oversight on business activities and implements the Group Risk Management Framework in order to protect and safeguard the Group's assets, and to prevent and mitigate financial and reputational losses to the Group. Key areas for which Group Risk Management is responsible for include the Group's risk policy and framework, day-to-day risk measurement and monitoring, providing timely risk analysis to management, and ensuring compliance to regulatory risk reporting requirements.

Group Credit Management oversees the Group-wide credit evaluation and assessment, approval and credit monitoring functions by providing credit risk assessment assurance on credit proposals, highlighting key risks and potential problematic accounts, and improving credit process efficiency.

Group Risk Operations is responsible for strategising and implementing a comprehensive enterprise-wide risk governance framework, and managing the development of robust risk management infrastructure and tools, aligned with the Group's strategy for growth and keeping pace with the market requirements and competitive business environment. Group Risk Operations drives the operationalisation of the Group's risk transformation initiatives in establishing risk management as a valuable business partner.

Risk and Control Environment

The business and functional heads are accountable for risk management in their businesses and functions, and for overseas operations where they have governance responsibilities. The business and functional units have clear segregation of duties to ensure that business processes are functioning effectively. There is accountability delegated to the appropriate authority to enable them to execute their respective authorities in meeting the business strategies without compromising the risk management process.

The primary responsibility for managing risks, therefore, rests with the business managers who are best equipped to ensure that risk management and control are continuously focused on the way business is conducted. Business activities and processes are continuously reviewed for areas of significant risks and for implementation of appropriate control procedures to ensure they operate within established corporate policies and limits.

The risk management processes within the Group seek to identify, measure, monitor and control risk so that risk exposures are adequately managed and the expected returns adequately compensate the risks.

- Identification: The identification and analysis of the existing and potential risks is a continuing process, in order to facilitate and ensure the risks can be managed and controlled within the risk appetite of the Group and specific entity, where necessary.
- Measurement: Risks are measured, assessed and aggregated using comprehensive qualitative and quantitative risk measurement methodologies, and the process also serves as an important tool as it provides an assessment of capital adequacy and solvency.
- Controlling and Monitoring: Controls, triggers and limits are used to manage risk exposures and to facilitate early identification of potential problem on a timely basis.
- Analytics and Reporting: Risk analysis and reports are prepared at the respective entities and consolidated level as well as business level are regularly escalated to the senior management and relevant Boards of the Group's entities to ensure that the risks identified remain within the established appetite and to support an informed decision-making process.

The Group recognises that effective implementation of the risk management system and process must be supported by a robust set of documentation and infrastructure. Towards this end, the Group has established frameworks, policies and other relevant control documents to ensure clearly defined practices and processes are implemented consistently across the Group.

In terms of risk infrastructure, the Group has organised its resources and talents into dedicated risk management functions, and invested into the technology, including data management, to support the Group's risk management activities.

RISK APPETITE

Principle 4: Alignment of Risk Management to Business Strategies

The Group Risk Management Framework serves to align the Group's business strategy with its risk strategy, and vice-versa. This is articulated through the risk appetite setting and the Group's annual business and financial budgetary plan, which is facilitated by the integration of risk measures in capital management.

Risk appetite describes the types and level of risks the Group is prepared to accept in delivering its business strategies. It is a key component of risk management of risks and is set by the Board, and reported through various metrics that enable the Group to manage capital resources and shareholders' expectations.

Principle 5: Optimisation of Risk-Adjusted Returns

One of the objectives of capital management is to reflect a risk-adjusted return assumed by the businesses throughout the Group. By linking risk to capital, the risk-adjusted return measure contributes to the creation of shareholders' value by facilitating the allocation of capital to the businesses.

The medium to long-term strategy and principle of risk management of the Group is to intensify the integration of capital management within the Group. The Group is progressively implementing a risk-adjusted return based framework for allocation of capital to business units and for performance measurement and management.

6.0 CREDIT RISK

Credit Risk Definition

Credit risk is the risk of loss arising from customers' or counterparties' failure to fulfil their financial and contractual obligations in accordance to the agreed terms. It stems primarily from the Group's lending/financing, trade finance and its funding, underwritings, investment and trading activities from both on and off-balance sheet transactions.

6.1 Credit Risk Management Oversight and Organisation

The Group Credit Committee (GCC) is the senior management committee empowered to approve or reject all financial investments, counterparty credit and lending/financing up to the defined threshold.

GCC will direct, monitor, review and consider such issues as may materially impact on the present and future quality of the Group's loan/asset book. GCC also acts as the body which, through the relevant Board committees, recommends to the respective Boards, on matters pertaining to credit risk (such as credit and underwriting evaluation/approval/procedure, and delegated lending/financing authorities).

The Group Investment Underwriting Committee (GIUC) deliberates, approves and rejects stockbroking/equities/futures business related proposals such as equity underwriting, equity derivatives and structured products, and share margin financing.

The Board Credit Committee's (BCC) main functions are (i) affirming, vetoing or imposing more stringent conditions on credits of the Group which are duly approved by the GCC and/or GIUC, (ii) overseeing the management of impaired and high risk accounts, and (iii) approving credit transactions to connected parties up to the defined threshold limits. BCC also endorses policy loans/financing required by BNM to be referred to the respective members of the Boards for approval.

The Group Credit Management has the functional responsibility to ensure that internal processes and credit underwriting standards are adhered to before financing proposals are approved. All financing proposals are firstly assessed for its credit worthiness by the originating business units before being evaluated by an independent credit manager and decided upon by the delegated lending/financing authority/relevant committees.

All financing exposure limits are approved within a defined credit approval authority framework. Large financing exposures are further subject to post approval credit review by Group Internal Audit. With the exception of credit applications for consumer and approved products under programme lending/financing which can be approved by business units' supervisors, all other credit facilities, are subject to independent assessment by a team of dedicated and experienced credit evaluators in Head Office. For proper checks and controls, joint approval is required for all discretionary lending between business and independent credit underwriters. Loans/financing which are beyond the delegated lending authority limits will be escalated to the relevant committees for approval.

Within Group Risk Management, the Group Credit Risk Management has the functional responsibility for credit risk management, portfolio risk monitoring, risk reporting and development of credit policies and guidelines. The Group also conducts regular credit stress tests to assess the credit portfolio's vulnerability to adverse credit risk events.

Regular risk reporting is made to senior management, respective committees and the Board. These reports include various credit risk aspects such as portfolio quality, and concentration risk exposures. Such reporting allows senior management to identify adverse credit trends, take prompt corrective actions, and ensure appropriate risk-adjusted decision making.

6.2 Credit Risk Management Approach

RHB Investment Bank Group's credit risk management framework is founded upon guidelines issued by BNM (such as Policy on Credit Risk, Guidelines on Investment Banks and Single Counterparty Exposures Limit) and industry best practices. RHB Investment Bank Group abides by the Group Credit Policy which supports the development of a strong credit culture with the objective of maintaining a diversified portfolio, and a reliable and satisfactory risk-weighted return. Industry best practices are instilled in the continual updating of the Group Credit Policy.

RHB Investment Bank Group's credit risk management process is documented in Group Credit Guidelines (GCG) and the Group Credit Procedures Manual (GCPM) which set out the operational procedures and guidelines governing the credit management processes within the Group.

The GCG and GCPM have been designed to ensure that:

- The process of credit initiation, administration, supervision and management of loan/financing and advances are carried out consistently and uniformly by the business origination and other credit support functions within the Group.
- Procedures and guidelines governing the credit function are in compliance with the credit policies of the Group.

Lending/Financing to Corporate and Institutional Customers

Loans/financing to corporate and institutional customers are undertaken in the course of its share margin/trading or investment banking activities in derivatives and debt securities.

Credit Risk from Investment or Trading Activities

In the course of its trading or investment banking activities, RHB Investment Bank Group is also exposed to credit risk from trading, derivative and equity/debt securities activities. Relevant credit guidelines are established to govern the credit risk via guidance on derivatives, hedging and investment related activities of the different exposures.

Lending/Financing to Share Margin Financing

Loans/financing to share margin clients are based on credit/financing facilities made available to these clients for trading or redemption of securities that are listed in Bursa Malaysia Berhad in accordance with the Bursa Securities Rules.

For share margin financing, credit risk is mitigated through the establishment of appropriate approving authority structure/matrix for the extension of trading/credit limits. Within clearly defined guidelines approved by the Board and in line with applicable laws and regulations, credit risk management also encompasses the systematic credit assessment, close monitoring of limits, exposures and concentration risk to counterparties or issuers, through timely management reporting procedures.

6.3 Off-Balance Sheet Exposures and Counterparty Credit Risk (CCR)

The management of the following off-balance sheet exposures of RHB Investment Bank Group is in accordance to the credit risk management approach as set out under Section 6.2 of this document:

- Underwriting commitments in respect of RHB Investment Bank Group's debt capital or equity capital market activities;
- Commitments to extend credit/financing including the unutilised or undrawn portions of credit facilities; and
- Credit equivalent amount of derivative financial instruments.

Counterparty Credit Risk

Counterparty Credit Risk is the risk that the counterparty to a transaction could default before the final settlement of the transaction's cash flows. An economic loss would occur if the transactions or portfolio of transactions with the counterparty has a positive economic value at the time of default. Unlike a firm's exposure to credit risk through a loan, where the exposure to credit risk is unilateral and only the lending bank faces the risk of loss, CCR creates a bilateral risk of loss; the market value of the transaction can be positive or negative to either counterparty to the transaction. The market value is uncertain and can vary over time with the movement of underlying market factors.

Counterparty risk is typically associated with two broad classes of financial products:

- Over-the-counter derivatives such as interest rate swaps, FX forwards and credit default swaps.
- Securities financing transactions such as repos and reverse repos; and securities borrowing and lending/financing.

Derivative financial instruments are primarily entered into for hedging purposes. RHB Investment Bank Group may also take trading derivative positions, within pre-set limits, with the expectation to make arbitrage gains from favourable movements in prices or rates.

Any financial loss is calculated based on the cost to replace the defaulted derivative financial instruments with another similar contract in the market. The cost of replacement is equivalent to the difference between the original value of the derivatives at the time of contract with the defaulted counterparty and the current fair value of a similar substitute at current market prices.

All outstanding financial derivative positions are marked-to-market on a daily basis. RHB Investment Bank Group monitors counterparties' positions and promptly escalates any shortfall in the threshold levels to the relevant parties for next course of action.

6.4 Credit Exposures and Risk-Weighted Assets by Portfolio and Approaches

The following tables show the credit exposures or Exposure at Default (EAD) as at 31 December 2019 compared with 31 December 2018, segregated by:

- the various types of asset classes, showing details of the exposures by type of approaches, before and after credit risk mitigation (CRM), the corresponding RWA and capital requirements;
- disclosure on off-balance sheet and counterparty credit risk;
- geographical distribution;
- industry sector;
- residual maturity; and
- disclosures under the Standardised Approach by risk weights.

Table 5a: Summary of Credit Exposures with Credit Risk Mitigation (CRM) by Asset Class and Minimum Capital Requirements (On and Off-Balance Sheet Exposures) as at 31 December 2019

RHB Investment Bank Group Exposure Class	Gross Exposures/EAD before CRM	Net Exposures/EAD after CRM	Risk-Weighted Assets	Minimum Capital Requirement
	RM'000	RM'000	RM'000	RM'000
Exposures under the Standardised Approach				
On-Balance Sheet Exposures				
Sovereigns & Central Banks	**687,430**	**687,430**	**5,709**	**457**
Public Sector Entities	**167,860**	**167,860**	**-**	**-**
Banks, Development Financial Institutions & MDBs	**2,380,724**	**2,380,724**	**584,550**	**46,764**
Insurance Cos, Securities Firms & Fund Managers	**39,723**	**39,723**	**39,723**	**3,178**
Corporates	**1,981,291**	**810,723**	**4,433**	**354**
Regulatory Retail	**681,308**	**111**	**83**	**7**
Residential Mortgages	**300**	**300**	**105**	**8**
Higher Risk Assets	**498,955**	**498,955**	**748,433**	**59,875**
Other Assets	**1,140,184**	**1,140,184**	**454,667**	**36,373**
Equity Exposures	**118,358**	**118,358**	**118,358**	**9,469**
Defaulted Exposures	**3,696**	**3,416**	**4,510**	**361**
Total On-Balance Sheet Exposures	**7,699,829**	**5,847,784**	**1,960,571**	**156,846**
Off-Balance Sheet Exposures				
OTC Derivatives	**1,230**	**1,230**	**247**	**20**
Off-balance sheet exposures other than OTC derivatives or credit derivatives	**229,047**	**5,699**	**4,314**	**345**
Defaulted Exposures	**-**	**-**	**-**	**-**
Total Off-Balance Sheet Exposures	**230,277**	**6,929**	**4,561**	**365**
Total On and Off-Balance Sheet Exposures	**7,930,106**	**5,854,713**	**1,965,132**	**157,211**

Table 5b: Summary of Credit Exposures with Credit Risk Mitigation (CRM) by Asset Class and Minimum Capital Requirements (On and Off-Balance Sheet Exposures) as at 31 December 2018

RHB Investment Bank Group Exposure Class	Gross Exposures/EAD before CRM	Net Exposures/EAD after CRM	Risk-Weighted Assets	Minimum Capital Requirement
	RM'000	RM'000	RM'000	RM'000
Exposures under the Standardised Approach				
On-Balance Sheet Exposures				
Sovereigns & Central Banks	922,632	922,632	5,839	467
Public Sector Entities	126,857	126,857	-	-
Banks, Development Financial Institutions & MDBs	1,805,065	1,805,065	474,164	37,933
Insurance Cos, Securities Firms & Fund Managers	94,524	94,524	94,524	7,562
Corporates	1,832,873	797,740	8,367	669
Regulatory Retail	561,337	2,731	2,049	164
Residential Mortgages	349	349	122	10
Higher Risk Assets	494,864	494,864	742,297	59,384
Other Assets	1,075,097	1,075,097	360,685	28,855
Equity Exposures	194,278	194,278	194,278	15,542
Defaulted Exposures	1,008	1,008	911	73
Total On-Balance Sheet Exposures	7,108,884	5,515,145	1,883,236	150,659
Off-Balance Sheet Exposures				
OTC Derivatives	1,611	1,611	322	26
Off-balance sheet exposures other than OTC derivatives or credit derivatives	269,897	56,869	50,211	4,017
Defaulted Exposures	-	-	-	-
Total Off-Balance Sheet Exposures	271,508	58,480	50,533	4,043
Total On and Off-Balance Sheet Exposures	7,380,392	5,573,625	1,933,769	154,702

Table 6a: Exposures on Off-Balance Sheet and Counterparty Credit Risk (Before Credit Risk Mitigation) as at 31 December 2019

RHB Investment Bank Group Nature of Item	Principal/ Notional Amount RM'000	Positive Fair Value of Derivative Contracts RM'000	Credit Equivalent Amount RM'000	Risk-Weighted Assets RM'000
Direct credit substitutes	**-**		**-**	**-**
Foreign exchange related contracts	**119,015**	**91**	**1,230**	**247**
1 year or less	**119,015**	**91**	**1,230**	**247**
Over 1 year to 5 years	**-**	**-**	**-**	**-**
Over 5 years	**-**	**-**	**-**	**-**
Interest rate related contracts	**-**	**-**	**-**	**-**
1 year or less	**-**	**-**	**-**	**-**
Over 1 year to 5 years	**-**	**-**	**-**	**-**
Over 5 years	**-**	**-**	**-**	**-**
Equity related contracts	**-**	**-**	**-**	**-**
1 year or less	**-**	**-**	**-**	**-**
Over 1 year to 5 years	**-**	**-**	**-**	**-**
Over 5 years	**-**	**-**	**-**	**-**
Other commitments, such as formal standby facilities and credit lines, with original maturity of over 1 year	**6,313**		**3,156**	**8**
Other commitments, such as formal standby facilities and credit lines, with original maturity of up to 1 year	**1,129,454**		**225,891**	**4,306**
Any commitments that are unconditionally cancellable at any time by the Bank without prior notice or that effectively provide for automatic cancellation due to deterioration in a borrower's/customer's creditworthiness	**-**		**-**	**-**
Total	**1,254,782**	**91**	**230,277**	**4,561**

Table 6b: Exposures on Off-Balance Sheet and Counterparty Credit Risk (Before Credit Risk Mitigation) as at 31 December 2018

RHB Investment Bank Group Nature of Item	Principal/ Notional Amount RM'000	Positive Fair Value of Derivative Contracts RM'000	Credit Equivalent Amount RM'000	Risk-Weighted Assets RM'000
Direct credit substitutes	-		-	-
Foreign exchange related contracts	129,753	46	1,611	322
1 year or less	129,753	46	1,611	322
Over 1 year to 5 years	-	-	-	-
Over 5 years	-	-	-	-
Interest rate related contracts	-	-	-	-
1 year or less	-	-	-	-
Over 1 year to 5 years	-	-	-	-
Over 5 years	-	-	-	-
Equity related contracts	-	-	-	-
1 year or less	-	-	-	-
Over 1 year to 5 years	-	-	-	-
Over 5 years	-	-	-	-
Other commitments, such as formal standby facilities and credit lines, with original maturity of over 1 year	4,243		2,122	8
Other commitments, such as formal standby facilities and credit lines, with original maturity of up to 1 year	1,338,876		267,775	50,203
Any commitments that are unconditionally cancellable at any time by the Bank without prior notice or that effectively provide for automatic cancellation due to deterioration in a borrower's/customer's creditworthiness	-		-	-
Total	1,472,872	46	271,508	50,533

Table 7a: Credit Risk Exposures (Before Credit Risk Mitigation) by Geographical Distribution as at 31 December 2019

RHB Investment Bank Group

Exposure Class	Malaysia	Singapore	Hong Kong	Indonesia	Thailand	Cambodia	Vietnam	Total
	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000
Exposures under Standardised Approach								
Sovereigns & Central Banks	683,415	-	-	-	-	4,015	-	687,430
Public Sector Entities	167,860	-	-	-	-	-	-	167,860
Banks, Development Financial Institutions & MDBs	2,062,232	29,595	60,276	100,481	58,663	38,565	32,140	2,381,952
Insurance Cos, Securities Firms & Fund Managers	33,908	3,223	2,592	-	-	-	-	39,723
Corporates	1,745,199	146,560	37,507	31,430	127,064	-	-	2,087,760
Regulatory Retail	558,153	86,216	19,040	86,688	57,486	-	-	807,583
Residential Mortgages	301	-	-	-	-	-	-	301
Higher Risk Assets	498,640	-	-	40	275	-	-	498,955
Other Assets	588,145	158,147	36,321	166,366	188,854	1,270	1,081	1,140,184
Total	6,337,853	423,741	155,736	385,005	432,342	43,850	33,221	7,811,748

Table 7b: Credit Risk Exposures (Before Credit Risk Mitigation) by Geographical Distribution as at 31 December 2018

RHB Investment Bank Group

Exposure Class	Malaysia	Singapore	Hong Kong	Indonesia	Thailand	Cambodia	Vietnam	Total
	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000
Exposures under Standardised Approach								
Sovereigns & Central Banks	918,518	-	-	-	-	4,114	-	922,632
Public Sector Entities	126,857	-	-	-	-	-	-	126,857
Banks, Development Financial Institutions & MDBs	1,414,260	39,785	52,287	124,720	137,418	38,207	-	1,806,677
Insurance Cos, Securities Firms & Fund Managers	26,257	63,458	4,809	-	-	-	-	94,524
Corporates	1,444,072	182,029	106,880	95,328	129,273	-	-	1,957,582
Regulatory Retail	457,384	50,846	67,078	58,609	73,615	-	-	707,532
Residential Mortgages	349	-	-	-	-	-	-	349
Higher Risk Assets	494,570	-	-	39	255	-	-	494,864
Other Assets	611,650	163,658	23,468	119,015	156,635	671	-	1,075,097
Total	5,493,917	499,776	254,522	397,711	497,196	42,992	-	7,186,114

Note: This table excludes equity exposures

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Table 8a: Credit Risk Exposures (Before Credit Risk Mitigation) by Industry Sector as at 31 December 2019

RHB Investment Bank Group Exposure Class	Agriculture	Mining & Quarrying	Manufacturing	Electricity, Gas & Water Supply	Construction	Wholesale, Retail Trade, Restaurants & Hotels	Transport, Storage & Communication	Finance, Insurance, Real Estate & Business	Education, Health & Others	Household	Others	Total
	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000
Exposures under Standardised Approach												
Sovereigns & Central Banks	-	-	-	-	-	-	-	-	687,430	-	-	687,430
Public Sector Entities	-	-	-	-	-	-	-	112,216	55,644	-	-	167,860
Banks, Development Financial Institutions & MDBs	-	-	-	-	-	-	-	2,381,952	-	-	-	2,381,952
Insurance Cos, Securities Firms & Fund Managers	-	-	-	-	-	-	-	39,723	-	-	-	39,723
Corporates	5,472	102	3,624	141,375	37,960	215,880	99,829	810,940	-	772,578	-	2,087,760
Regulatory Retail	-	-	-	-	-	-	-	-	-	807,583	-	807,583
Residential Mortgages	-	-	-	-	-	-	-	-	-	301	-	301
Higher Risk Assets	-	-	-	-	-	-	-	498,955	-	-	-	498,955
Other Assets	-	-	-	-	-	-	-	165,657	-	-	974,527	1,140,184
Total	5,472	102	3,624	141,375	37,960	215,880	99,829	4,009,443	743,074	1,580,462	974,527	7,811,748

Table 8b: Credit Risk Exposures (Before Credit Risk Mitigation) by Industry Sector as at 31 December 2018

RHB Investment Bank Group Exposure Class	Agriculture	Mining & Quarrying	Manufacturing	Electricity, Gas & Water Supply	Construction	Wholesale, Retail Trade, Restaurants & Hotels	Transport, Storage & Communication	Finance, Insurance, Real Estate & Business	Education, Health & Others	Household	Others	Total
	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000
Exposures under Standardised Approach												
Sovereigns & Central Banks	-	-	-	-	-	-	-	-	922,632	-	-	922,632
Public Sector Entities	-	-	-	-	-	-	-	71,144	55,713	-	-	126,857
Banks, Development Financial Institutions & MDBs	-	-	-	-	-	-	-	1,806,677	-	-	-	1,806,677
Insurance Cos, Securities Firms & Fund Managers	-	-	-	-	-	-	-	94,524	-	-	-	94,524
Corporates	32,287	102	4,971	131,689	40,932	214,908	95,123	788,052	-	649,518	-	1,957,582
Regulatory Retail	-	-	-	-	-	-	-	132	-	707,400	-	707,532
Residential Mortgages	-	-	-	-	-	-	-	-	-	349	-	349
Higher Risk Assets	-	-	-	-	-	-	-	494,864	-	-	-	494,864
Other Assets	-	-	-	-	-	-	-	283,769	-	-	791,328	1,075,097
Total	32,287	102	4,971	131,689	40,932	214,908	95,123	3,539,162	978,345	1,357,267	791,328	7,186,114

Note: This table excludes equity exposures

Table 9a: Credit Risk Exposures (Before Credit Risk Mitigation) by Remaining Maturity as at 31 December 2019

RHB Investment Bank Group **Exposure Class**	**One year or less**	**More than one to five years**	**Over five years**	**Total**
	RM'000	**RM'000**	**RM'000**	**RM'000**
Exposures under Standardised Approach				
Sovereigns & Central Banks	**22,555**	**536,581**	**128,294**	**687,430**
Public Sector Entities	**-**	**167,860**	**-**	**167,860**
Banks, Development Financial Institutions & MDBs	**2,111,598**	**30,441**	**239,913**	**2,381,952**
Insurance Cos, Securities Firms & Fund Managers	**-**	**-**	**39,723**	**39,723**
Corporates	**1,375,690**	**680,296**	**31,774**	**2,087,760**
Regulatory Retail	**807,550**	**-**	**33**	**807,583**
Residential Mortgages	**-**	**10**	**291**	**301**
Higher Risk Assets	**275**	**-**	**498,680**	**498,955**
Other Assets	**-**	**-**	**1,140,184**	**1,140,184**
Total	**4,317,668**	**1,415,188**	**2,078,892**	**7,811,748**

Table 9b: Credit Risk Exposures (Before Credit Risk Mitigation) by Remaining Maturity as at 31 December 2018

RHB Investment Bank Group **Exposure Class**	**One year or less**	**More than one to five years**	**Over five years**	**Total**
	RM'000	**RM'000**	**RM'000**	**RM'000**
Exposures under Standardised Approach				
Sovereigns & Central Banks	242,742	554,426	125,464	922,632
Public Sector Entities	-	126,857	-	126,857
Banks, Development Financial Institutions & MDBs	1,588,953	30,472	187,252	1,806,677
Insurance Cos, Securities Firms & Fund Managers	-	-	94,524	94,524
Corporates	1,138,964	767,147	51,471	1,957,582
Regulatory Retail	707,497	-	35	707,532
Residential Mortgages	22	14	313	349
Higher Risk Assets	255	-	494,609	494,864
Other Assets	83,278	-	991,819	1,075,097
Total	3,761,711	1,478,916	1,945,487	7,186,114

Note: This table excludes equity exposures

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Standardised Approach

Under the Standardised Approach, the risk weights are prescribed by BNM based on the asset class to which the exposure is assigned.

The following tables show RHB Investment Bank Group's credit exposures for its portfolios with the corresponding risk weights and RWA under the Standardised Approach, after credit risk mitigation (CRM):

Table 10a: Portfolios under the Standardised Approach by Risk Weights as at 31 December 2019

RHB Investment Bank Group Exposure Class	Sovereigns & Central Banks	Public Sector Entities	Banks, Development Financial Institutions & MDBs	Insurance Cos, Securities Firms & Fund Managers	Corporates	Regulatory Retail	Residential Mortgages	Higher Risk Assets	Other Assets	Equity Exposures	Total Exposures after Credit Risk Mitigation	Total Risk-Weighted Assets
	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000
Supervisory Risk Weights (%)												
0%	674,944	167,860	30,441	-	806,289	-	-	-	553,097	-	2,232,631	-
20%	8,471	-	2,087,709	-	-	-	-	-	165,525	-	2,261,705	452,341
35%	-	-	-	-	-	-	301	-	-	-	301	105
50%	-	-	193,098	-	-	614	-	-	-	-	193,712	96,856
75%	-	-	-	-	-	5,651	-	-	-	-	5,651	4,238
100%	4,015	-	70,704	39,723	4,594	-	-	-	421,562	118,358	658,956	658,956
150%	-	-	-	-	-	2,802	-	498,955	-	-	501,757	752,636
Total Exposures	687,430	167,860	2,381,952	39,723	810,883	9,067	301	498,955	1,140,184	118,358	5,854,713	1,965,132

Table 10b: Portfolios under the Standardised Approach by Risk Weights as at 31 December 2018

RHB Investment Bank Group Exposure Class	Sovereigns & Central Banks	Public Sector Entities	Banks, Development Financial Institutions & MDBs	Insurance Cos, Securities Firms & Fund Managers	Corporates	Regulatory Retail	Residential Mortgages	Higher Risk Assets	Other Assets	Equity Exposures	Total Exposures after Credit Risk Mitigation	Total Risk-Weighted Assets
	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000
Supervisory Risk Weights (%)												
0%	909,892	126,857	30,472	-	789,372	-	-	-	487,477	-	2,344,070	-
20%	8,626	-	1,442,416	-	-	-	-	-	283,669	-	1,734,711	346,942
35%	-	-	-	-	-	-	349	-	-	-	349	122
50%	-	-	295,572	-	-	601	-	-	-	-	296,173	148,087
75%	-	-	-	-	-	29,361	-	-	-	-	29,361	22,021
100%	4,114	-	38,217	94,524	38,606	-	-	-	303,951	194,278	673,690	673,690
150%	-	-	-	-	-	407	-	494,864	-	-	495,271	742,907
Total Exposures	922,632	126,857	1,806,677	94,524	827,978	30,369	349	494,864	1,075,097	194,278	5,573,625	1,933,769

6.5 Use of External Ratings

For sovereigns, corporate and banking institutions, external ratings from approved external credit assessment institutions (ECAIs), where available, are used to calculate the risk-weighted assets and regulatory capital.

The process used to map ECAIs issuer ratings or comparable ECAIs issue ratings, are in accordance to the standards prescribed by BNM. Approved ECAIs are as follows:

- Standard & Poor's (S&P);
- Moody's Investor Services (Moody's);
- Fitch Ratings (Fitch);
- Malaysian Rating Corporation Berhad (MARC);
- Rating Agency Malaysia (RAM); and
- Rating and Investment Information, Inc (R&I).

External ratings for the counterparties are determined as soon as relationship is established and these ratings are tracked and kept updated. Only publicly available credit ratings are used for regulatory risk weighting purpose.

The following tables show RHB Investment Bank Group's credit exposures for 31 December 2019 compared with 31 December 2018, according to the ratings by ECAIs:

Table 11a: Rated Exposures According to Ratings by External Credit Assessment Institutions (ECAIs) as at 31 December 2019

RHB Investment Bank Group

Ratings of Corporates by Approved ECAIs						
	Moody's	Aaa to Aa3	A1 to A3	Baa1 to Ba3	B1 to C	Unrated
	S&P	AAA to AA-	A+ to A-	BBB+ to BB-	B+ to D	Unrated
	Fitch	AAA to AA-	A+ to A-	BBB+ to BB-	B+ to D	Unrated
	RAM	AAA to AA3	A1 to A3	BBB1 to BB3	B to D	Unrated
	MARC	AAA to AA-	A+ to A-	BBB+ to BB-	B1 to D	Unrated
Exposure Class	R&I	AAA to AA-	A+ to A-	BBB+ to BB-	B+ to D	Unrated
		RM'000	RM'000	RM'000	RM'000	RM'000
On and Off-Balance Sheet Exposures						
Public Sector Entities		-	-	-	-	167,860
Insurance Cos, Securities Firms & Fund Managers		-	-	-	-	39,723
Corporates		-	-	-	-	810,883

Ratings of Sovereigns and Central Banks by Approved ECAIs							
	Moody's	Aaa to Aa3	A1 to A3	Baa1 to Baa3	Ba1 to B3	Caa1 to C	Unrated
	S&P	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to B-	CCC+ to D	Unrated
	Fitch	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to B-	CCC+ to D	Unrated
Exposure Class	R&I	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to B-	CCC+ to C	Unrated
		RM'000	RM'000	RM'000	RM'000	RM'000	RM'000
On and Off-Balance Sheet Exposures							
Sovereigns & Central Banks		-	683,415	-	4,015	-	-

Ratings of Banking Institutions by Approved ECAIs							
	Moody's	Aaa to Aa3	A1 to A3	Baa1 to Baa3	Ba1 to B3	Caa1 to C	Unrated
	S&P	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to B-	CCC+ to D	Unrated
	Fitch	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to B-	CCC+ to D	Unrated
	RAM	AAA to AA3	A1 to A3	BBB1 to BBB3	BB1 to B3	C1 to D	Unrated
	MARC	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to B-	C+ to D	Unrated
Exposure Class	R&I	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to B-	CCC+ to C	Unrated
		RM'000	RM'000	RM'000	RM'000	RM'000	RM'000
On and Off-Balance Sheet Exposures							
Banks, Development Financial Institutions & MDBs		1,625,913	43,427	49	-	-	712,563

Table 11b: Rated Exposures According to Ratings by External Credit Assessment Institutions (ECAIs) as at 31 December 2018

RHB Investment Bank Group

Ratings of Corporates by Approved ECAIs						
	Moody's	Aaa to Aa3	A1 to A3	Baa1 to Ba3	B1 to C	Unrated
	S&P	AAA to AA-	A+ to A-	BBB+ to BB-	B+ to D	Unrated
	Fitch	AAA to AA-	A+ to A-	BBB+ to BB-	B+ to D	Unrated
	RAM	AAA to AA3	A1 to A3	BBB1 to BB3	B to D	Unrated
	MARC	AAA to AA-	A+ to A-	BBB+ to BB-	B1 to D	Unrated
Exposure Class	R&I	AAA to AA-	A+ to A-	BBB+ to BB-	B+ to D	Unrated
		RM'000	RM'000	RM'000	RM'000	RM'000
On and Off-Balance Sheet Exposures						
Public Sector Entities		-	-	-	-	126,857
Insurance Cos, Securities Firms & Fund Managers		-	-	-	-	94,524
Corporates		-	-	-	-	827,978

Ratings of Sovereigns and Central Banks by Approved ECAIs							
	Moody's	Aaa to Aa3	A1 to A3	Baa1 to Baa3	Ba1 to B3	Caa1 to C	Unrated
	S&P	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to B-	CCC+ to D	Unrated
	Fitch	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to B-	CCC+ to D	Unrated
Exposure Class	R&I	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to B-	CCC+ to C	Unrated
		RM'000	RM'000	RM'000	RM'000	RM'000	RM'000
On and Off-Balance Sheet Exposures							
Sovereigns & Central Banks		-	918,518	-	4,114	-	-

Ratings of Banking Institutions by Approved ECAIs							
	Moody's	Aaa to Aa3	A1 to A3	Baa1 to Baa3	Ba1 to B3	Caa1 to C	Unrated
	S&P	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to B-	CCC+ to D	Unrated
	Fitch	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to B-	CCC+ to D	Unrated
	RAM	AAA to AA3	A1 to A3	BBB1 to BBB3	BB1 to B3	C1 to D	Unrated
	MARC	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to B-	C+ to D	Unrated
Exposure Class	R&I	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to B-	CCC+ to C	Unrated
		RM'000	RM'000	RM'000	RM'000	RM'000	RM'000
On and Off-Balance Sheet Exposures							
Banks, Development Financial Institutions & MDBs		1,203,028	76,550	1,613	-	-	525,486

6.6 Credit Risk Monitoring and Control

Credit Risk Mitigation

RHB Investment Bank Group generally does not enter into a credit/financing commitment solely on the basis of collateral provided. All credit facilities/commitments are granted based on prior analysis of the credit standing of the borrower/counterparty with a legitimate credit purpose and a good debt servicing ability, and on RHB Investment Bank Group's ability to adequately ring-fence the source(s) of repayment. Attention is also paid to ensure that the credit transaction is within BNM's directives on lending by an investment bank.

Collateral is taken whenever possible to mitigate the credit risk assumed, subject to RHB Investment Bank Group's policies that govern the eligibility of collateral used for credit risk mitigation. Reliance on collateral when taken is carefully assessed in the light of issues such as legal certainty and enforceability, market valuation and counterparty risk of the guarantor. Recognised collaterals where relevant, include both financial and physical assets. Financial collaterals include cash deposits, shares and unit trusts, while physical collateral includes land and buildings, and vehicles. Apart from financial collateral and physical collateral, RHB Investment Bank Group as part of the RHB Banking Group adopts the Group's standards on the acceptance of guarantors as credit risk mitigants, where relevant.

Collateral is valued in accordance with RHB Investment Bank Group's policy on collateral valuation, which prescribes the frequency of valuation for different collateral/securities types, based on liquidity and volatility of the collateral value and the underlying product or risk exposure. The value of collaterals/securities pledged is monitored periodically, analysed and updated concurrently during the annual/periodic renewal of facilities, as well as updated into RHB Investment Bank Group's collateral system.

RHB Investment Bank Group may also accepts non-tangible securities as support, such as guarantees from individuals, corporates and institutions, bank guarantees, debenture and assignment of contract proceeds, subject to internal guidelines on eligibility. Currently, RHB Investment Bank Group does not employ the use of derivative credit instruments or on-balance sheet netting to mitigate its credit exposures. Where possible, RHB Investment Bank Group enters into International Swaps and Derivatives Association (ISDA) Master Agreement with its derivative and swap counterparties as the master agreement provides the legal certainty that the credit exposures between counterparties will be netted.

Equity securities or collaterals acquired arising from debt conversions are accounted for as disposal of the financing and acquisition of equity securities or investment properties. Any further impairment of the assets or business acquired is treated as an impairment of the relevant asset or business rather than as an impairment of the original instrument.

RHB Investment Bank Group has established mechanism to monitor credit and market concentration within its credit mitigation.

The following tables show the credit risk mitigation of portfolios under the Standardised Approach as at 31 December 2019 compared with 31 December 2018:

Table 12a: Credit Risk Mitigation of Portfolios under the Standardised Approach as at 31 December 2019

RHB Investment Bank Group **Exposure Class**	**Gross Exposures Before Credit Risk Mitigation**	**Gross Exposures Covered by Guarantees/ Credit Derivatives**	**Gross Exposures Covered by Eligible Financial Collateral**
	RM'000	**RM'000**	**RM'000**
On-Balance Sheet Exposures			
Sovereigns & Central Banks	**687,430**	**-**	**-**
Public Sector Entities	**167,860**	**167,860**	**-**
Banks, Development Financial Institutions & MDBs	**2,380,724**	**30,441**	**-**
Insurance Cos, Securities Firms & Fund Managers	**39,723**	**-**	**-**
Corporates	**1,981,291**	**806,290**	**1,170,568**
Regulatory Retail	**681,308**	**-**	**681,197**
Residential Mortgages	**300**	**-**	**-**
Higher Risk Assets	**498,955**	**-**	**-**
Other Assets	**1,140,184**	**-**	**-**
Equity Exposures	**118,358**	**-**	**-**
Defaulted Exposures	**3,696**	**-**	**280**
Total On-Balance Sheet Exposures	**7,699,829**	**1,004,591**	**1,852,045**
Off-Balance Sheet Exposures			
OTC Derivatives	**1,230**	**-**	**-**
Off-balance sheet exposures other than OTC derivatives or credit derivatives	**229,047**	**-**	**223,348**
Defaulted Exposures	**-**	**-**	**-**
Total Off-Balance Sheet Exposures	**230,277**	**-**	**223,348**
Total On and Off-Balance Sheet Exposures	**7,930,106**	**1,004,591**	**2,075,393**

Table 12b: Credit Risk Mitigation of Portfolios under the Standardised Approach as at 31 December 2018

RHB Investment Bank Group **Exposure Class**	**Gross Exposures Before Credit Risk Mitigation**	**Gross Exposures Covered by Guarantees/ Credit Derivatives**	**Gross Exposures Covered by Eligible Financial Collateral**
	RM'000	**RM'000**	**RM'000**
On-Balance Sheet Exposures			
Sovereigns & Central Banks	922,632	-	-
Public Sector Entities	126,857	126,857	-
Banks, Development Financial Institutions & MDBs	1,805,065	30,472	-
Insurance Cos, Securities Firms & Fund Managers	94,524	-	-
Corporates	1,832,873	789,372	1,035,133
Regulatory Retail	561,337	-	558,606
Residential Mortgages	349	-	-
Higher Risk Assets	494,864	-	-
Other Assets	1,075,097	-	-
Equity Exposures	194,278	-	-
Defaulted Exposures	1,008	-	-
Total On-Balance Sheet Exposures	7,108,884	946,701	1,593,739
Off-Balance Sheet Exposures			
OTC Derivatives	1,611	-	-
Off-balance sheet exposures other than OTC derivatives or credit derivatives	269,897	-	213,028
Defaulted Exposures	-	-	-
Total Off-Balance Sheet Exposures	271,508	-	213,028
Total On and Off-Balance Sheet Exposures	7,380,392	946,701	1,806,767

Credit Concentration Risk
Risk concentration refers to an exposure with the potential to produce losses that are substantial enough to threaten the financial condition of a banking institution. Risk concentrations can materialise from excessive exposures to a single counterparty or group of connected counterparties, a particular instrument or a particular market segment.

The Group manages the diversification of its portfolio to avoid undue credit concentration risk. Credit concentration risk exists in lending/financing to single customer groups, borrowers/customers engaged in similar activities, or diverse groups of borrowers/customers that could be affected by similar economic or underlying shares/counters pledged or other factors. To manage this concentration risk, appropriate exposure thresholds/limits are established accordingly.

Analysis of any single large exposure and group of exposures is regularly conducted and the lending/financing units undertake regular account updates, monitoring and management of these exposures.

Industry and sector-specific analysis are also incorporated within the overall credit risk management regiment. In this respect, the Group seeks to continually update lending or financing guidelines based on periodic reviews and updates of industry and sector risk factors and economic outlook. This facilitates better management of credit concentration risk.

Credit Monitoring and Annual Reviews
RHB Investment Bank Group regularly monitors financing exposures, portfolio performance, and external trends which may impact risk management outcomes. Internal risk management reports are generated for senior management, respective risk committees and Board, and include information on portfolio quality, and concentration of risk exposures.

In addition to the on-going qualitative assessment by the account relationship managers, reviews are conducted at least once a year. Specific exposures may be reviewed more frequently under appropriate circumstances. Such circumstances may arise if, for instance, RHB Investment Bank Group believes that heightened risk exists in a particular industry, or the borrower has defaulted on obligations to suppliers or other financial institutions or is facing cash flow or other difficulties.

Where relevant, Group Internal Audit conducts independent post-approval reviews on a sampling basis to ensure that the quality of credit appraisals and approval standards is in accordance with the credit standards and policies on lending/financing and investment established by RHB Investment Bank Group's management or by laws and regulations.

6.7 Impairment Allowances for Loans/Financing

RHB Investment Bank Group adopts BNM's guidelines on Financial Reporting. The principles in this guidelines are in line with those applicable under the International Financial Reporting Standards compliant framework, the MFRS 9. As part of RHB Banking Group, RHB Investment Bank Group adopts the Group's policy and guidelines on impairment allowances, where relevant.

MFRS 9 introduces a new impairment model that requires the recognition of expected credit loss (ECL), replacing the incurred loss methodology model under MFRS 139, for all financial assets, except for financial assets classified or designated as Fair Value Through Profit & Loss and equity securities classified under Fair Value through Other Comprehensive Income or FVOCI, which are not subject to impairment assessment. Off balance sheet items that are subject to ECL include financial guarantees and undrawn loan commitments.

MFRS 9 does not distinguish between individual assessment and collective assessment. The Group first assess whether objective evidence of impairment exists for financial assets which are individually significant. If the Group determine that objective evidence of impairment exists, i.e. credit impaired, for an individually assessed financial asset, a lifetime ECL will be recognised for impairment loss which has been incurred. Financial assets which are individually significant but non-impaired and not individually significant are grouped on the basis of similar credit risk characteristics (such as credit quality, instrument type, credit risk ratings, credit utilisation, level of collateralisation and other relevant factors) for collective assessment. Collectively, the individually assessment allowance and collective assessment allowance form the total expected credit allowance for the Group.

ECL will be assessed using an approach which classifies financial assets into three stages which reflects the change in credit quality of the financial assets since initial recognition:

Stage 1: 12 months ECL – not credit impaired

For credit exposures where there has not been a significant increase in credit risk since initial recognition and that are not credit impaired upon origination, the ECL associated with the probability of default events occurring within the next 12 months will be recognised.

Stage 2: Lifetime ECL – not credit impaired

For credit exposures where there has been a significant increase in credit risk since initial recognition but that are not credit impaired, the ECL associated with the probability of default events occurring within the lifetime ECL will be recognised.

Stage 3: Lifetime ECL – credit impaired

Financial assets are assessed as credit impaired when one or more objective evidence of defaults that have a detrimental impact on the estimated future cashflows of that asset have occurred. For financial assets that have become credit impaired, a lifetime ECL will be recognised.

The changes in ECL between two-periods will be recognised in profit and loss.

The assessment of significant deterioration in credit risk since initial recognition is key in establishing the point of switching between the requirement to measure an allowance based on 12-month ECL and one that is based on lifetime ECL. The quantitative and qualitative assessments are required to estimate the significant increase in credit risk by comparing the risk of a default occurring on the financial assets as at reporting date with the risk of default occurring on the financial assets as at the date of initial recognition.

The assessment of credit risk, as well as the estimation of ECL, are required to be unbiased, probability-weighted and should incorporate all available information which is relevant to the assessment, including information about past events, current conditions and reasonable and supportable forecasts of future events and economic conditions at the reporting date. The measurement of ECL is based on the discounted products of the PD, LGD and EAD models. Certain ECL models are leveraging on the existing Group's Basel II Internal Ratings-Based model, where feasible or available, with necessary adjustment to meet MFRS 9 requirements.

Individual Assessment - Impairment Triggers

The borrower/customer assessed under Impairment Allowances (IA) shall be classified as impaired under any one of the following situations:

1. When the principal or interest or both, of any facility(s) of the borrower/customer is past due for 90 days or 3 months and above.
2. In the case of revolving facilities (eg overdraft facilities), the borrower/customer of the facility shall be classified as impaired where the outstanding amount has remained in excess of the approved limit for 90 days or 3 months and above.
3. Where the amount is past due or the outstanding amount has been in excess of the approved limit for less than 90 days or 3 months, the loan/financing exhibits weaknesses (refer to impairment trigger) that would render it to be classified as impaired.
4. Where repayments of the loans/financing are scheduled on intervals of 3 months or longer, the borrower/customer is classified as impaired as soon as a default occurs.
5. Upon occurrence of any one or more Mandatory Status Triggers (MSTs) or any two or more Ancillary Status Triggers (ASTs). These MSTs and ASTs are pre-defined trigger events approved by RHB Investment Bank Group to facilitate impairment classification.
6. In the case of share margin facilities, the borrower shall be classified as impaired where the force selling ratio is triggered and after a period of time after force selling has commenced or where margin of finance exceeds a set threshold above the force selling ratio.

Note:

For R&R facilities, the customer shall be classified as impaired in accordance with paras 1 to 4 above based on the revised or restructured terms.

Individual Impairment Allowances

Borrowers/customers under individual assessment and triggered either by any one of the MSTs or any two of the ASTs will be classified as impaired. Consequently, impairment assessment is to be carried out on these impaired borrowers/customers, based on reasonable and well documented estimates of the future cashflows/realisations of collateral that is expected to be recovered from the impaired borrowers/customers i.e. net present value of future cashflows are discounted based on original effective interest rates and compared against carrying amount. Any impairment on the shortfalls will be provided in full immediately.

Re-classification and Recovery of Impaired Borrowers/Customers

An impaired borrower/customer may be re-classified as a non-impaired status under the following situations:

1. When the loan/financing repayment of the impaired borrower/customer has improved with the principal or interest/profit or both, of its facilities with RHB Investment Bank Group being past due less than 90 days or 3 months.
2. Where the borrower exhibits weakness(es) that render it to be classified as impaired, even though the loan is past-due less than 90 days or 3 months, such borrowers may be reclassified as non-impaired status when these weaknesses have been subsequently addressed or resolved.
3. Where the borrower/customer has been individually assessed as impaired due to either any one or more MSTs or any two or more ASTs, the borrower/customer may be reclassified as non-impaired status when these triggers have since been addressed and resolved totally, or with only one AST remaining.
4. When the borrower’s share margin account no longer meet the impairment criteria above.

Write-Off of Impaired Loans/Financing

All loans/financing that satisfy any one of the following criteria, may be recommended for write-off:

1. Deemed irrecoverable, worthless and with slim prospect of recovery.
2. Waiver under approved composite settlement schemes.
3. Abandoned project with no sign of revival. The definition of abandoned project must be in compliance with the definition stated under valuation for abandoned projects.
4. Completed projects but is left abandoned or no occupancy for 12 months with 2 rounds of abortive auctions. This includes units/lots in the same complex/project but have not put up for auction due to cost savings reason.

5. Loans/financing secured with properties which have undergone more than 5 rounds of abortive auctions.
6. Loans/financing secured with property with balance outstanding below RM5,000 subject to judgment obtained against all and borrower(s)/customer(s) uncontactable.

Partial write-offs of impaired loans/financing is permitted under the following circumstances:

1. The value of security (net recoverable amount in the case of IA) is less than the balance outstanding (including principal, accrued interest and other charges) and topping up of the security deficiency is not forthcoming; or
2. The shortfall in security value over the outstanding balance (including principal, accrued interest, and any other charges) is uncollectible and worthless; or
3. Loans/financings secured with properties classified as impaired > 3 years with 3 rounds of abortive auctions. The balance outstanding is written down to 50% of the value of security, with the shortfall to be written off.
4. The Group is in the final stage of realising the security/collateral; or
5. The balance outstanding is written down to the value of security i.e. shortfall in security value over the outstanding balances is written-off.
6. Upon disposal of the security, shortfall arising from the set off of auction proceeds against written down balance outstanding, if any, will be written off immediately.
7. In the case of approved settlement arrangement, the Group shall write down the outstanding balance to approved settlement sum at the point of approval of the settlement agreement.

This policy of impairment loans/financing write-off is intended to provide a timely and consistent methodology for loans/financing to be written-off and to reflect the true value of assets in RHB Investment Bank Group's books.

The following tables show RHB Investment Bank Group's impaired and past due loans/financing and allowances by industry sector as at 31 December 2019 compared with 31 December 2018:

Table 13a: Impaired and Past Due Loans/Financing and Impairment Allowances by Industry Sector as at 31 December 2019

RHB Investment Bank Group **Industry Sector**	**Impaired Loans and Advances/ Financing** **RM'000**	**Past Due Loans/ Financing** **RM'000**	**Allowance For Credit Losses** **RM'000**
Agriculture	**-**	**-**	**-**
Mining & Quarrying	**6,936**	**-**	**6,936**
Manufacturing	**-**	**-**	**-**
Electricity, Gas & Water Supply	**-**	**-**	**-**
Construction	**-**	**-**	**-**
Wholesale, Retail Trade, Restaurants & Hotels	**-**	**-**	**-**
Transport, Storage & Communication	**-**	**-**	**-**
Finance, Insurance, Real Estate & Business	**-**	**-**	**-**
Education, Health & Others	**-**	**-**	**-**
Household	**16,377**	**-**	**12,681**
Others	**-**	**-**	**-**
Total	**23,313**	**-**	**19,617**

Table 13b: Impaired and Past Due Loans/Financing and Impairment Allowances by Industry Sector as at 31 December 2018

RHB Investment Bank Group **Industry Sector**	**Impaired Loans and Advances/ Financing** **RM'000**	**Past Due Loans/ Financing** **RM'000**	**Allowance For Credit Losses** **RM'000**
Agriculture	-	-	-
Mining & Quarrying	7,445	-	7,445
Manufacturing	-	-	-
Electricity, Gas & Water Supply	-	-	-
Construction	-	-	-
Wholesale, Retail Trade, Restaurants & Hotels	-	-	-
Transport, Storage & Communication	-	-	-
Finance, Insurance, Real Estate & Business	-	-	-
Education, Health & Others	-	-	-
Household	12,545	-	11,536
Others	-	-	-
Total	19,990	-	18,981

The following table shows the charges/(write back) and write-offs for loans/financing impairment by industry sector as at 31 December 2019 compared with 31 December 2018:

Table 14: Net Charges/(Write back) and Write-Offs for Loans/Financing Impairment by Industry Sector

RHB Investment Bank Group	Twelve Months Period Ended 2019		Twelve Months Period Ended 2018	
Industry Sector	**Net Charges/ (Write back) for Lifetime ECL Credit Impaired (Stage 3)**	**Write-Offs for Lifetime ECL Credit Impaired (Stage 3)**	**Net Charges/ (Write back) for Lifetime ECL Credit Impaired (Stage 3)**	**Write-Offs for Lifetime ECL Credit Impaired (Stage 3)**
	RM'000	**RM'000**	**RM'000**	**RM'000**
Agriculture	-	-	-	-
Mining & Quarrying	-	-	5,644	-
Manufacturing	-	-	-	(2,194)
Electricity, Gas & Water Supply	-	-	-	-
Construction	-	-	-	-
Wholesale, Retail Trade, Restaurants & Hotels	-	-	-	(35,645)
Transport, Storage & Communication	-	-	-	-
Finance, Insurance, Real Estate & Business	-	-	-	(26,740)
Education, Health & Others	-	-	-	-
Household	**461**	-	(165)	(10,511)
Others	-	-	-	-
Total	**461**	-	5,479	(75,090)

The following tables show RHB Investment Bank Group's impaired and past due loans/financing and allowances by geographical distribution as at 31 December 2019 compared with 31 December 2018:

Table 15a: Impaired and Past Due Loans/Financing and Impairment Allowances by Geographical Distribution as at 31 December 2019

RHB Investment Bank Group **Geographical Distribution**	**Impaired Loans and Advances/ Financing**	**Past Due Loans/ Financing**	**Allowance For Credit Losses**
	RM'000	**RM'000**	**RM'000**
Malaysia	**-**	**-**	**1**
Singapore	**13,892**	**-**	**10,195**
Hong Kong	**97**	**-**	**97**
Indonesia	**-**	**-**	**-**
Thailand	**9,324**	**-**	**9,324**
Total	**23,313**	**-**	**19,617**

Table 15b: Impaired and Past Due Loans/Financing and Impairment Allowances by Geographical Distribution as at 31 December 2018

RHB Investment Bank Group **Geographical Distribution**	**Impaired Loans and Advances/ Financing**	**Past Due Loans/ Financing**	**Allowance For Credit Losses**
	RM'000	**RM'000**	**RM'000**
Malaysia	-	-	1
Singapore	11,323	-	10,313
Hong Kong	16	-	16
Indonesia	-	-	-
Thailand	8,651	-	8,651
Total	19,990	-	18,981

The following tables show the reconciliation of changes to loans/financing impairment allowances as at 31 December 2019 compared with 31 December 2018:

Table 16a: Reconciliation of Changes to Loans/Financing Impairment Allowances as at 31 December 2019

RHB Investment Bank Group	12-month ECL (Stage 1)	Lifetime ECL Not Credit Impaired (Stage 2)	Lifetime ECL Credit Impaired (Stage 3)	Total
	RM'000	RM'000	RM'000	RM'000
Balance as at the beginning of the financial year	**1**	**-**	**18,980**	**18,981**
Net allowance made	**-**	**-**	**461**	**461**
Amount written off	**-**	**-**	**-**	**-**
Exchange differences	**-**	**-**	**175**	**175**
Balance as at the end of the financial year	**1**	**-**	**19,616**	**19,617**

Table 16b: Reconciliation of Changes to Loans/Financing Impairment Allowances as at 31 December 2018

RHB Investment Bank Group	12-month ECL (Stage 1)	Lifetime ECL Not Credit Impaired (Stage 2)	Lifetime ECL Credit Impaired (Stage 3)	Total
	RM'000	RM'000	RM'000	RM'000
Balance as at the beginning of the financial year	1	-	86,905	86,906
Net allowance made	-	-	5,479	5,479
Amount written off	-	-	(75,090)	(75,090)
Exchange differences	-	-	1,686	1,686
Balance as at the end of the financial year	1	-	18,980	18,981

7.0 MARKET RISK

Market risk is the risk of losses arising from adverse movements in market drivers, such as interest/profit rates, credit spreads, equity prices, currency exchange rates and commodity prices. Under this definition, market risk will constitute:

- the interest/profit rate and equity risks pertaining to financial instruments in the trading book; and
- foreign exchange risk and commodities risk in the trading and banking books.

RHB Investment Bank Group transacts in financial instruments such as debt papers and financial derivative instruments such as futures, forwards, swaps, and options transactions. Derivative instruments are contracts whose characteristics and value are derived from the underlying instruments that can be a reference to an underlying that may constitute of interest/profit rates, exchange rates, debt paper, equity, indices and commodities.

The Group Market Risk Management within Group Risk Management is the working level that forms a centralised function to support senior management to operationalise the processes and implement methods, to ensure adequate risk control and oversight are in place. The main responsibility of managing market risk as the first line of defence remains at the respective business units.

The Group Asset and Liability Committee (Group ALCO) and IBRMC perform a critical role in the management of market risk and support the board committees in the overall market risk management. The committees meet regularly and is the forum where strategic and tactical decisions are made for the management of market risk; this includes the development of RHB Investment Bank Group's market risk strategy, market risk management structure and the policies as well as measurement techniques to be put in place.

RHB Investment Bank Group has an established Group Trading Book Policy Statement, frameworks and risk limits as guidance for market risk management. These documents are reviewed regularly and/or upon change in significant event that has a material impact on policy compliance or regulatory changes.

Market Risk Measurement and Control

RHB Investment Bank Group applies risk monitoring and assessment tools to measure trading book positions and market risk factors. Statistical and non-statistical risk assessment tools applied include Value-at-Risk (VaR), sensitivity analysis and stress testing.

RHB Investment Bank Group adopts a systematic approach in managing these risks by types of instruments and nature of exposure. Market risk is primarily monitored and controlled via a structure of limits and triggers ie cut loss, VaR, trading and notional limit set in accordance with the size of positions and risk tolerance appetites. In addition, RHB Investment Bank Group conducts periodic stress testing of its respective portfolios to ascertain market risk under abnormal market conditions.

In addition, RHB Investment Bank Group conducts periodic stress testing of its respective portfolios to ascertain market risk under abnormal market conditions.

Market Risk Monitoring and Reporting

For effective control of market risk, defined management action triggers and risk limits are established and actively monitored. Only authorised trading activities may be undertaken by the specific business units within the allocated limits. All trading positions are monitored independently on a daily basis and in accordance to the established escalation procedures and the key actions to be undertaken. Market risk exposure reports are presented to the senior management, relevant committees and the Board.

Hedging Activities

Hedging activities designated for hedge accounting are governed by the Group's Hedging Policy that prescribes the overall hedge activities that can be executed by RHB Investment Bank Group and the subsequent control procedures such as effectiveness measurement and reporting to Group ALCO.

Hedging instruments used to mitigate these risks include options, futures, forwards and swaps that are approved by the Board. Execution of the hedging is carried out by the relevant division through RHB Investment Bank Group's treasury functions with the approval of Group ALCO.

Capital Treatment for Market Risk

RHB Investment Bank Group applies the Standardised Approach to calculate market risk capital requirements in accordance with BNM's Guideline. The market risk-weighted assets and the corresponding capital requirements for RHB Investment Bank Group and RHB Investment Bank as at 31 December 2019 and 31 December 2018 are shown in the tables below:

Table 17a: Market Risk-Weighted Assets and Minimum Capital Requirements as at 31 December 2019

RHB Investment Bank Group

Market Risk	Long Position	Short Position	Risk-Weighted Assets	Minimum Capital Requirements
	RM'000	RM'000	RM'000	RM'000
Interest Rate Risk	**19,665**	**19,529**	**307**	**25**
Equity Position Risk	**33,084**	**10,494**	**181,981**	**14,558**
Foreign Currency Risk	**67,550**	**37,414**	**67,550**	**5,404**
Options Risk	**-**	**10,494**	**8,612**	**689**
Total			**258,450**	**20,676**

RHB Investment Bank

Market Risk	Long Position	Short Position	Risk-Weighted Assets	Minimum Capital Requirements
	RM'000	RM'000	RM'000	RM'000
Interest Rate Risk	**13,500**	**13,394**	**-**	**-**
Equity Position Risk	**23,565**	**9,454**	**38,182**	**3,055**
Foreign Currency Risk	**82,792**	**47,365**	**82,792**	**6,623**
Options Risk	**-**	**9,454**	**6,804**	**544**
Total			**127,778**	**10,222**

Table 17b: Market Risk-Weighted Assets and Minimum Capital Requirements as at 31 December 2018

RHB Investment Bank Group

Market Risk	Long Position RM'000	Short Position RM'000	Risk-Weighted Assets RM'000	Minimum Capital Requirements RM'000
Interest Rate Risk	5,890	5,870	-	-
Equity Position Risk	24,749	11,332	71,768	5,741
Foreign Currency Risk	586,105	86,926	586,105	46,888
Options Risk	150,167	11,332	219,633	17,571
Total			877,506	70,200

RHB Investment Bank

Market Risk	Long Position	Short Position	Risk-Weighted Assets	Minimum Capital Requirements
	RM'000	RM'000	RM'000	RM'000
Interest Rate Risk	5,890	5,870	-	-
Equity Position Risk	19,300	11,332	21,982	1,758
Foreign Currency Risk	436,935	264,231	436,935	34,955
Options Risk	150,000	11,332	219,097	17,528
Total			678,014	54,241

Note:
1. As at 31 December 2019 and 31 December 2018, RHB Investment Bank Group and RHB Investment Bank did not have any exposures under Commodity or Inventory Risk.
2. For the Equity Position risk, the position is computed based on net long and net short position.

8.0 EQUITY EXPOSURES IN THE BANKING BOOK

Equity risk is the risk of decline in the net realisable value of equity exposures in the banking book. These include:

- Investment in securities (listed and unlisted equity holdings, whether direct/indirect, and includes private equity); and
- Investment in associate companies and joint ventures.

RHB Investment Bank Group holds positions as a result of debt equity conversions and for socio-economic and non socio-economic purposes, which are deemed as non-trading instruments.

Holding of publicly traded equity investments comprise quoted shares which are traded actively in the stock exchange. All publicly traded equity exposures and unquoted investments are stated at fair value.

The Group Impairment Guidelines provides the guidance of debt equity conversions and management of such exposures to ensure that these exposures are effectively managed and accounted for its books.

For regulatory capital purpose, RHB Investment Bank Group adopts the Standardised Approach to calculate the risk-weighted exposures. The risk-weighted assets of equity investments of RHB Investment Bank Group as at 31 December 2019 and 31 December 2018 are shown in the tables below:

Table 18: Equity Exposures in the Banking Book

RHB Investment Bank Group	**Gross Credit Exposures**		**Risk-Weighted Assets**	
Equity Type	**2019**	**2018**	**2019**	**2018**
	RM'000	**RM'000**	**RM'000**	**RM'000**
Publicly traded				
Investment in unit trust funds	**83,590**	36,342	**83,590**	36,342
Holdings of equity investments	**2,037**	127,096	**2,037**	127,096
Privately held				
For socio economic purposes	**38,653**	36,762	**41,614**	39,723
For non socio economic purposes	**493,033**	488,942	**739,550**	733,414
Total	**617,313**	689,142	**866,791**	936,575

	2019	**2018**
	RM'000	**RM'000**
Cumulative Realised Gains/(Loss) from Sale and Liquidations	**4,520**	32
Total Net Unrealised Gains/(Loss)	**97,143**	62,030

9.0 LIQUIDITY RISK

Liquidity risk is the risk of the Group being unable to maintain sufficient liquidity to meet its financial commitments and obligations when they fall due and transact at a reasonable cost. Liquidity risk also arises from the inability to manage unplanned decreases or changes in funding sources.

There are two types of liquidity risk, namely funding liquidity and market liquidity risk. Funding liquidity risk is the risk that the Group is unable to meet efficiently both expected and unexpected current and future cash flow and collateral needs without affecting either daily operations or the financial condition of the Group. Market liquidity risk is the risk that the Group cannot easily offset or eliminate a position at the market price because of inadequate market depth or market disruption.

The primary role of a bank in terms of financial intermediation is the transformation of short-term deposits into long-term financing. By fulfilling the role of maturity transformation, banks are inherently susceptible to liquidity mismatches and consequently funding and market liquidity risk.

Through the Group's Liquidity Risk Policy, the Bank manages the funding and market liquidity risk to ensure that banking operations continue uninterrupted under normal and stressed conditions. The key objective that underpins the Group's Liquidity Risk Policy includes maintaining financial market confidence at all times, protecting key stakeholders' interests and meeting regulatory liquidity requirements.

The Group ALCO supports the board committees by performing the critical role in the management of liquidity risk, and is responsible for establishing strategies that assist in controlling and reducing any potential exposure to liquidity risk. The Group ALCO meets regularly and is the forum where strategic and tactical decisions are made for the management of liquidity risk and RHB Investment Bank Group's balance sheet profile. Global and domestic economic data, information and events are deliberated at the Group ALCO meetings which enables RHB Investment Bank Group to determine its actions and reactions in the capital markets. The Group ALCO is also the governance body which sets interest rates for liabilities products as well as reference rates for financing products and services. Group ALCO is supported by Group Asset and Liability Management (Group ALM) at the working level. Group ALM monitors liquidity risk limits/Management Action Triggers (MATs) and reports to Group ALCO the liquidity risk profile on monthly basis.

The liquidity management process involves establishing liquidity management policies and limits, regular monitoring against liquidity risk limits, regular stress testing, and establishing contingency funding plans. These processes are subject to regular reviews to ensure that they remain relevant in the context of prevailing market conditions. Some of the key liquidity risk management tools are top depositors' mixture, funding source mixture, maturity profile of funding sources, and contingency funding lines.

RHB Investment Bank Group has adopted the BNM's liquidity standards on Liquidity Coverage Ratio, to ensure maintenance of adequate stock of unencumbered high-quality liquid assets to survive the liquidity needs for 30 calendar days under liquidity stress condition. For NSFR, the Group continues to monitor and maintains the ratio above regulatory requirement pending its implementation effective 1 July 2020.

The Group's Liquidity Incident Management Procedure establishes guidelines for managing liquidity crisis, identifying early warning signs of a possible liquidity event and the need for heightened liquidity risk monitoring and reduced liquidity risk exposure. In addition, it also identifies the individuals responsible for formulating and executing RHB Investment Bank Group's response to a liquidity event. The Group's Liquidity Incident Management Procedure also covers the entire Group's operations including foreign branch operations.

10.0 INTEREST RATE RISK IN THE BANKING BOOK

Interest rate risk in the banking book refers to the risk of the Group's earnings and economic value of equity due to the adverse movements in interest rate. The risk may arise from the mismatches in the timing of repricing of assets and liabilities from both on and off-balance sheet positions in the banking book, changes in slope and shape of the yield curve, basis risk and optionality risk.

Interest rate risk in the banking book comprises:

- Re-pricing risk (mismatch risk) - Arises from timing differences in the maturity (for fixed-rate) and re-pricing (for floating-rate) of bank assets, liabilities, and off-balance sheet positions. While such re-pricing mismatches are fundamental to the business of banking, they can expose a bank's income and underlying economic value to unanticipated fluctuations as interest/benchmark rates vary;
- Basis risk - Arises from imperfect correlation in the adjustment of the rates earned and paid on different instruments with otherwise similar re-pricing characteristics. When interest/benchmark rates change, these differences can give rise to unexpected changes in the cash flows and earnings spread between assets, liabilities and off-balance sheet instruments of similar maturities or re-pricing frequencies;
- Yield curve risk - Arises when unanticipated shifts of the yield curve have adverse effects on the Group's income or underlying economic value; and
- Embedded optionality risk - Arises primarily from options that are embedded in many banking book positions (eg some fixed rate mortgage/home financing products give borrowers/customers the option to prepay the loan/financing early without penalty, call deposit, where customers have the option of withdrawing the deposit funds at any time).

Earnings-at-Risk (EaR) and Economic Value of Equity (EVE) are used to assess interest rate risk in the banking book. They are computed based on the repricing gap profile of the banking book using BNM's standard template. Assets and liabilities are bucketed based on their remaining tenure to maturity or next re-price dates. The measurement of EaR and EVE is conducted on a monthly basis.

The Group ALCO supports the board committees in establishing policies, strategies and limits for the management of balance sheet risk exposure. The Group ALM within Group Risk Management supports the Group ALCO in the monthly monitoring and reporting of the interest rate risk profile of the banking book. The primary objective in managing balance sheet risk is to manage the net interest income and economic value of equity, as well as to ensure that interest rate risk exposures in the banking book are maintained within defined risk tolerances.

In addition, the Group ALM Policy is established to provide the governance of interest rate risk in the banking book. Interest rate sensitivity triggers are applied on earnings for the respective profit centres within RHB Investment Bank Group. RHB Investment Bank Group regularly considers the economics and necessity of increasing or reducing its interest rate risk hedges.

In line with the Group ALM Policy to achieve a balance between profitability from banking activities and minimising risk to earnings and capital from changes in interest rates, interest rate risk to earnings is controlled using MATs and identified escalation procedures.

Stress testing is also performed regularly to determine the adequacy of capital in meeting the impact of extreme interest rate movements on the balance sheet. Such tests are also performed to provide early warnings of potential extreme losses, facilitating proactive management of interest rate risk in the banking book in an environment of rapid financial market changes.

The impact of changes in interest rates to net earnings and economic value as at 31 December 2019 and 31 December 2018 are shown in the following tables:

Table 19a: Interest Rate Risk in the Banking Book as at 31 December 2019

RHB Investment Bank Group	**Impact on Position as at Reporting Period (100 basis points) Parallel Shift**			
	Increase/(Decline) in Earnings		**Increase/(Decline) in Economic Value**	
Currency	**Impact based on +100 basis points**	**Impact based on -100 basis points**	**Impact based on +100 basis points**	**Impact based on -100 basis points**
	RM'000	**RM'000**	**RM'000**	**RM'000**
MYR - Malaysian Ringgit	**(10,815)**	**10,815**	**(45,446)**	**45,446**
USD - US Dollar	**(5,185)**	**5,185**	**147**	**(147)**
Others[1]	**(2,130)**	**2,130**	**(6,391)**	**6,391**
Total	**(18,130)**	**18,130**	**(51,690)**	**51,690**

Table 19b: Interest Rate Risk in the Banking Book as at 31 December 2018

RHB Investment Bank Group	**Impact on Position as at Reporting Period (100 basis points) Parallel Shift**			
	Increase/(Decline) in Earnings		**Increase/(Decline) in Economic Value**	
Currency	**Impact based on +100 basis points**	**Impact based on -100 basis points**	**Impact based on +100 basis points**	**Impact based on -100 basis points**
	RM'000	**RM'000**	**RM'000**	**RM'000**
MYR - Malaysian Ringgit	(10,376)	10,376	(50,569)	50,569
USD - US Dollar	(4,704)	4,704	210	(210)
Others[1]	(460)	460	(7,509)	7,509
Total	(15,540)	15,540	(57,868)	57,868

Note:
1. Inclusive of GBP, EUR, SGD, etc
2. The earnings and economic values were computed based on the standardised approach adopted by BNM.

The impact to net earnings above represents financial assets and liabilities that have been prepared on the following basis:

- Interest rate sensitive assets and liabilities with residual maturity or re-pricing tenure of up to one year that is not captured in the trading portfolio are slotted into time bands based on the maturity or re-pricing tenure, whichever is earlier.
- A set of risk weights with its respective time band is used to project the applicable basis point interest rate change impact.
- For assets and liabilities with non-fix maturity, e.g., current and savings accounts, certain assumptions are made to reflect the actual sensitivity behavior of interest rate bearing items.

Economic value is characterised by the impact of interest rates changes on the value of all net cash flows, i.e., the effect on the economic value of RHB Investment Bank Group's assets, liabilities and off-balance sheet positions. This provides a more comprehensive view of the potential long-term effects of changes in interest rates than is offered by the earnings perspective. The scenarios used are based on the assumption that all key variables for all maturities move at the same time and by the same magnitude and do not incorporate actions that would be otherwise taken by the business units and risk management to mitigate the effect of this movement in key variables.

11.0 OPERATIONAL RISK

Operational risk is the risk of loss resulting from inadequate or failed internal processes, people, systems and/or external events, which also includes IT, legal and Shariah non-compliance risk but excludes strategic and reputational risk. Operational risk is inherent in the Group's operations and can never be eliminated entirely. The impact can be in the form of actual financial loss as well as non-financial loss such as loss of reputation, non-compliance and unsatisfactory service level to customers.

One of RHB Investment Bank Group's primary safeguards against operational risk is the existence of a sound internal control system, based on the principle of dual control checks and balances, segregation of duties, independent checks and verification processes, and a segmented system access control and authorisation process. These controls are documented through a set of policies and procedures at the respective business and operation level.

The Group's Operational Risk Management Framework comprises a wide range of activities and elements, broadly classified into:

- Analysis and Enhancement - The Group has implemented a Basel II compliant operational risk management system to support its workflow and analytical capabilities.
- Education and Awareness - The Group undertakes change management activities to improve risk management knowledge, culture and practices of the Group personnel. This is aligned with the principle and requirement that the front-line business and support units of the Group, are by nature of their direct involvement in interfacing with customers and in operating the business, responsible for managing operational risk and acting as the first line of defence.
- Monitoring and Intervention - This is where the principal head office risk control units, including the risk management function, compliance function and the internal audit function, actively manage operational non-compliances and incidences as a second and third line of defence respectively. The second line of defence also undertakes recovery actions, including business continuity measures in cases of incidents causing disruption to business activities.

Operational Risk Management Function and Organisation

The Group Operational Risk Management within Group Risk Management has functional responsibility for the development of operational risk framework, policy and methodologies, and providing guidance and information to the business units on operational risk areas. Its responsibility also includes generating a broader understanding and awareness of operational risk issues at all levels in the Group. It also ensures that operational risks from new products, processes and systems are adequately managed and mitigated.

The respective business units are primarily responsible for managing operational risk on a day-to-day basis.

Regular operational risk reporting is made to the senior management, respective committees and the Board. These reports include various operational risk information such as risk analysis, risk mitigation action plans, risk tools outcomes, risk appetite breaches, significant operational risk events and control failures, and lessons learnt. In addition, key operational risk incidents are reported to senior management daily. Such reporting enables senior management to identify adverse operational lapses, take prompt corrective actions, and ensure appropriate risk mitigation decision making and action plans.

Operational Risk Management Processes and Tools

RHB Investment Bank Group applies a defined operational risk management process in managing operational risk to enable an institutional and transparent operational risk management practice. The five (5) processes are as follows:

1. Establish the context;
2. Risk identification;
3. Risk analysis;
4. Risk mitigating; and
5. Risk monitoring.

RHB Investment Bank Group uses relevant operational risk tools and methodologies to support and ensure an effective operational risk management process. The following tools are being used:

- **Risk and Control Self-Assessment (RCSA)**
  RCSA is a methodology to build risk profile for each business and support unit. RCSA sets out a structured process for the identification and assessment of inherent operational risk, the effectiveness of the control environment, and the adequacy of the risk mitigation in place. The RCSA process is facilitated by the business and support units themselves jointly with personnel from Group Operational Risk Management.

- **Key Risk Indicators (KRI)**
  KRI is a measurable indicator utilised to track and monitor key operational risk exposures. KRI serves as an early warning signal; once a risk indicator exceeds the predefined threshold, a warning message is sent to a predefined list of users. Business and support units are required to monitor their risk exposures via KRIs and are required to develop specific and concrete plans to address those where indicators are unfavourable. KRIs are embedded into critical processes to provide early warning signals of increasing risk and/or control failures by flagging up frequencies of events as a mechanism for continuous risk assessment and monitoring.

- **Key Control Testing (KCT)**
  KCT is a methodology to assist business/functional units in performing assessments periodically to determine the effectiveness of key controls by evaluating whether the control procedures/activities are adequately designed to achieve the goals of the function and control objectives; and testing whether the key controls are operating as intended in actual practice. Effective KCT can lead to early detection of control weakness and deficiencies which will assist the senior management and business/functional units to quickly focus on control weakness and take concentrated efforts where they are most needed.

- **Incident Management and Loss Data Collection (IMLDC)**
  IMLDC provides structured process for the management of operational risk incidents that have occurred, from the point of discovery until resolution. Business and functional units are required to report all incidences within defined reporting timeline operational losses for further analysis of root cause to avoid further recurrence. This is also useful for reviewing the effectiveness of the RCSA and KRIs.

- **Scenario Analysis**
  Scenario Analysis is used to identify plausible risk scenario that could materialise for assessment. A plausible risk scenario is a possible event resulting in unexpected and extreme losses which may arise when considering a sequence of control failures or individually significant events. Business/functional units are required to assess the potential outcomes related to a variety of operational risks failure, evaluate the vulnerabilities of the Group to the manifestation of plausible risk scenario, and put in appropriate risk mitigation plans to safeguard the Group’s safety and soundness.

Risk Mitigation and Controls

Risk mitigation strategies are used to minimise risk to an acceptable level and aim to decrease the likelihood of an undesirable event and the impact on the business, should it occur. The control tools and techniques, amongst others, are as follows:

- **Strengthening internal controls**

  Internal controls are designed to commensurate operational risk exposures faced by the Group. It is mainly categorised into five components, namely:

  a. Control environment – management oversight and risk culture, which sets the tone and serves as a foundation for all other components;
  b. Risk assessment – analyses identified risks to achieve objectives and ensure risks are well managed;
  c. Control activities – policies and procedures implemented manually and/or system-based to ensure management's directives are executed effectively and efficiently;
  d. Information and communication – relevant operational risk information are captured and communicated accordingly for decision making. Such information must be effective for utilisation, delivered timely, confidentiality is preserved, conform integrity needs, comply with relevant law/regulations, sufficient availability and reliable; and
  e. Monitoring – ongoing assessment and correcting deficiencies of internal control to assure it is operating as intended.

- **Business Continuity Management**

  To mitigate the impact of unforeseen operational risk events, RHB Investment Bank Group has on-going and actively managed Business Continuity Management (BCM) programme for its major critical business operations and activities at the Head Office, data centre, and branches' locations. The BCM programme is subject to regular testing to ensure efficacy, reliability and functionality, and come under the responsibility of the Group Business Continuity Management Department.

  The Board of Directors has an oversight function through the Group BRC and GCRC. The Group Business Continuity Committee, which reports to the GCRC, is the committee that oversees the Group's business continuity framework, policies, budget and plans.

- **Outsourcing**

  Due to the need to outsource for cost and operational efficiency, policy and guidelines are put in place to ensure that the risks arising from outsourcing activities are adequately identified, assessed and managed prior to entering into any new arrangements and on an on-going basis.

- **Insurance Management**

  RHB Investment Bank Group considers risk transfer by means of insurance to mitigate operational risk. RHB Investment Bank Group has a programme of insurance designed to reduce its exposure to liability and to protect its assets. RHB Investment Bank Group purchases insurance from leading insurers in the market covering fraud, theft, property and casualty, business disruption, liability and other risks for which it may be held responsible. These are provided by third-party insurers and will financially mitigate the economic consequences of risks.

Technology Risk

Technology Risk refers to the business risk associated with the use, ownership, operation, involvement, influence and adoption of IT within an enterprise.

RHB Investment Bank Group recognises the risk arising from the advancement and reliance upon information technology to support business operations through the deployment of advance technology and online systems to provide customers with convenient and reliable products and services. The Group's Technology Risk Management Framework ensures that a governance structure is in place for the identification, assessment and management of technology risks within existing IT operations as well as prior to deployment of applications and systems for internal as well as external customers.

Cyber Risk

Cyber Risk refers to threats or vulnerabilities emanating from the connectivity of internal infrastructure to external networks such as the Internet.

This is an inherent risk associated to the industry moving towards the Internet as a channel for the delivery of banking services. The Group recognises the risks associated to cyber and as part of the mitigation shall continuously identify suitable security devices to be deployed and ensure sufficient resources with the right skill sets were allocated to manage this risk. The Group also subscribed to the various threat intelligence providers to obtain the latest cyber landscape information that will used for the risk mitigation. To further provide assurance that the Internet facing application systems are secured, the Group engaged reputable IT security service providers to perform periodic vulnerability assessment/penetration testing where weaknesses detected shall be duly resolved with attestation from external consultants.

New Product and Services Approval Process

The Group has established a Policy on Product Development and Approval and Guidelines on Introduction of New/Variation of Products & Services Lifecycle which governs the risk management of new products, services, or significant changes thereto. The responsible units have a duty to assess the operational risk for new product launches and/or significant changes in product features or related processes and working systems, as well as to ensure that operational risk is at an acceptable level at all times.

Legal Risk

Legal risk is part of operational risk. It can arise from unenforceable, unfavourable, defective or unintended contracts; lawsuits or claims; developments in laws and regulations, or non-compliance with applicable laws and regulations. Business units work together with RHB Investment Bank Group's legal counsel and external legal counsel to ensure that legal risk is effectively managed.

Capital Treatment for Operational Risk

RHB Investment Bank Group adopts the Basic Indicator Approach for the calculation of regulatory operational risk capital requirements. The operational risk-weighted assets and the corresponding capital requirements for RHB Investment Bank Group and RHB Investment Bank as at 31 December 2019 and 31 December 2018, are shown below:

Table 20: Operational Risk-Weighted Assets and Minimum Capital Requirements

	RHB Investment Bank Group		RHB Investment Bank	
Operational Risk	**2019**	**2018**	**2019**	**2018**
	RM'000	**RM'000**	**RM'000**	**RM'000**
Risk-Weighted Assets	**1,493,492**	1,567,043	**784,006**	807,022
Minimum Capital Requirements	**119,479**	125,363	**62,720**	64,562

12.0 COUNTRY CROSS-BORDER RISK

Country cross-border risk is the risk that RHB Investment Bank Group will be unable to obtain payment from customers or third-parties on their contractual obligations as a result of certain actions taken by foreign governments.

Cross-border assets comprise loans/financing and advances, interest bearing deposits/placements with other banks, trade and other bills, acceptances, derivatives, certificates of deposit and other negotiable instruments, investment securities and other formal commitments where the counterparty is resident in a country other than where the assets are recorded. Cross-border assets also include exposures to local residents denominated in currencies other than the local currency.

RHB Investment Bank Group is guided by the Group Guidance on Cross-Border Business, particularly on ethics in business practices, key success factors in managing such business, and the internal control measures which are essential to provide adequate protection to its customers as well as RHB Investment Bank Group's interest, thus reducing the risks associated with business activities. In addition, RHB Investment Bank Group is also guided by the Country Risk limit, to manage the credit concentration risk arising from changes in the country's business environment where it has exposure in.

13.0 REPUTATIONAL RISK

Reputational risk is defined as the risk that negative publicity regarding the conduct of RHB Investment Bank Group or any of the entities within the Group, and its business practices or associations, whether true or not, will adversely affect its revenues, operations or customer base, or require costly litigation or other defensive measures. It also undermines public confidence in the Group, affecting the share price.

Reputational risk in the Group is managed and controlled through codes of conduct, governance practices and risk management practices, policies, procedures and training. The Group has developed and implemented a reputational risk management policy. The key elements in the management of reputational risk include:

- Practice good corporate governance and culture of integrity to promote execution and achievement of corporate strategies and business objective.
- Manage reputational risk within a very low risk appetite with zero tolerance for incidences that affect the Group's reputation.
- Adopt sound risk management practices that include the practice of building "reputation capital" and earning the goodwill of key stakeholder.
- Maintain proper mechanisms to monitor and escalate material lapses/breaches of internal and regulatory policies/guidelines that may place the Group's reputation at risk.
- Maintain proper channels of communication in dealing with internal and external stakeholders.

For RHB Investment Bank Group's overseas operations, it is the responsibility of the Country Heads to promote awareness and application of RHB Investment Bank Group's policy and procedures regarding reputational risk, in all dealings with customers, potential investors and host regulators.

14.0 FORWARD LOOKING STATEMENTS

This document could or may contain forward looking statements that are based on current expectations as well as assumptions or anticipation of future events. These forward looking statements can be identified by the fact that they do not relate only to historical or current facts, and often use words such as anticipate, target, expect, estimate, intend, plan, believe, will, may, should, would, could or other words of similar expressions.

Undue reliance should not be placed on any of such statements. By their nature, forward looking statements are subject to risks and uncertainty because they relate to future events and circumstances, including, but not limited to domestic and global economic and business conditions, the effects of continued volatility in the credit markets, market-related risks such as changes in interest rates and exchange rates, changes in regulation, and future business combinations or dispositions. As a result, RHB Investment Bank Group's actual future results may differ materially from the plans, goals, and the expectations contained in the forward looking statements.

RHB Investment Bank Group undertakes no obligation to revise or update any forward looking statements contained in this document, regardless of whether these statements are affected as a result of new information, future events or otherwise.

Table 21: Glossary of Terms

BCC	Board Credit Committee
BCM	Business Continuity Management
BNM	Bank Negara Malaysia
Board	Board of Directors
Group BRC	Group Board Risk Committee
CCB	Capital Conservation Buffer
CCR	Counterparty Credit Risk
CCyB	Countercyclical Capital Buffer
CET	Common Equity Tier
CRM	Credit Risk Mitigation
EAD	Exposure at Default
EaR	Earnings-at-Risk
ECAIs	External Credit Assessment Institutions
EUR	Euro Dollar
EVE	Economic Value of Equity
Fitch	Fitch Ratings
GBP	Pound Sterling
GCG	Group Credit Guidelines
GCPM	Group Credit Procedures Manual
GCRC	Group Capital and Risk Committee
GIUC	Group Investment Underwriting Committee
GMC	Group Management Committee
GRM	Group Risk Management
Group ALCO	Group Asset and Liability Committee
Group ALM	Group Asset and Liability Management
IBBRC	Investment Bank Board Risk Committee
IBRMC	Investment Bank Risk Management Committee
ICAAP	Internal Capital Adequacy Assessment Process
IMLDC	Incident Management and Loss Data Collection
ISDA	International Swaps and Derivatives Association
KCT	Key Control Testing
KRI	Key Risk Indicators
LCR	Liquidity Coverage Ratio
LGD	Loss Given Default
MARC	Malaysian Rating Corporation Berhad
MATs	Management Action Triggers
MDBs	Multilateral Development Banks
MFRS 9	Malaysian Financial Reporting Standards 9
MFRS 139	Malaysian Financial Reporting Standards 139
Moody's	Moody's Investors Service
MYR	Malaysian Ringgit
NIFs	Notes Issuance Facilities
NSFR	Net Stable Funding Ratio
OTC	Over-the-Counter
PD	Probability of Default
R&I	Rating and Investment Information, Inc
RAM	Rating Agency Malaysia
RCSA	Risk and Control Self-Assessment
RM'000	Malaysian Ringgit in nearest thousand
RWCAF	Risk-Weighted Capital Adequacy Framework
RWA	Risk-Weighted Assets
SA	Standardised Approach
SBUs	Strategic Business Units
SFUs	Strategic Functional Units
SGD	Singapore Dollar
S&P	Standard & Poor's
USD	US Dollar
VaR	Value-at-Risk