Company No. 295400 W

OCBC Bank (Malaysia) Berhad
(Incorporated in Malaysia)

Basel II Pillar 3 Market Disclosures
31 December 2022

The disclosure in this section refers to OCBC Bank (M) Berhad Group position. OCBC Bank (M) Berhad Group consists of OCBC Bank (Malaysia) Berhad and OCBC Al-Amin Bank Berhad which are members of the Overseas-Chinese Banking Corporation Group in Singapore.

BASEL II PILLAR 3 MARKET DISCLOSURES – 31 DECEMBER 2022

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ATTESTATION BY CHIEF EXECUTIVE OFFICER PURSUANT TO RISK WEIGHTED CAPITAL ADEQUACY FRAMEWORK (BASEL II) – DISCLOSURE REQUIREMENTS (PILLAR 3)

The risk disclosures set out in the Risk Management Chapter and Basel II Pillar 3 Market Disclosure are generally in conformance with the Bank Negara Malaysia Risk Weighted Capital Adequacy Framework (Basel II) – Disclosure Requirements (Pillar 3) and Capital Adequacy Framework for Islamic Banks (CAFIB-Basel II) – Disclosure Requirements (Pillar 3) for the Group as at 31 December 2022.

TAN CHOR SEN
CHIEF EXECUTIVE OFFICER

Kuala Lumpur

OCBC Bank (Malaysia) Berhad
(Incorporated in Malaysia)

Risk Management

OCBC (M) Group (hereinafter referred to as the Group) consists of OCBC Bank (Malaysia) Berhad (OCBC Bank) and OCBC Al-Amin Bank Berhad (OABB) which are members of the Oversea-Chinese Banking Corporation Group (OCBC Group) in Singapore.

RISK MANAGEMENT IN OCBC (M) GROUP

At OCBC (M) Group, our corporate values and risk principles are firmly embedded in the way we manage risk.

Our risk management framework comprises strong governance, sound policies and methodologies, and professionals, supported by fit-for-purpose technology, infrastructure and data. It is underpinned by a strong corporate culture that emphasizes accountability, ownership, integrity and high ethical standards. We engage in businesses that are consistent with our corporate strategy and risk appetite, are well understood, and are appropriately priced to provide us with an adequate return.

While the categorisation of risks can be complex because of their inter-relationships, we generally categorise the risks we take into the following principal risk types, described in the table below:

Principal Risks	Definition
Credit Risk	Credit risk is the risk of losing principal and/or income arising from the failure of an obligor or counterparty to meet its financial or contractual obligations or an adverse change in the credit profile of the obligor or counterparty.
Market Risk	Market risk is the risk of losing income and/or market value due to fluctuations in factors such as interest rates, foreign exchange rates, credit spreads, equity and commodity prices or changes in volatility or correlations between such factors.
Liquidity Risk	Liquidity risk is the risk arising from the inability to meet financial and cash outflow obligations as they fall due without incurring unacceptable costs or losses from funding capital and asset liquidation.
Interest Rate Risk in the Banking Book	Interest Rate Risk in the Banking Book is the risk to income and/or capital arising from exposure to adverse changes in the interest rate environment.
Information Security and Digital Risk	Information security risk is the risk of compromising confidentiality, integrity and/or availability of information (in physical or digital form). Digital risk encompasses cyber and technology risks. Cyber risk is the risk arising from malicious acts perpetrated by threat actors. Technology risk is the risk of disruption, failure or irregularity in essential financial services arising from the use of information and communication technologies.
Operational Risk	Operational risk is the risk of loss resulting from inadequate or failed internal processes and systems, poor management, human error or external events. This is a broad risk category that encompasses pandemic risk, fraud risk, money laundering, terrorism financing and sanctions risk, third-party risk, physical and people security risk, conduct risk, business continuity risk, unauthorised trading risk, regulatory risk, legal risk, fiduciary risk and reputational risk.

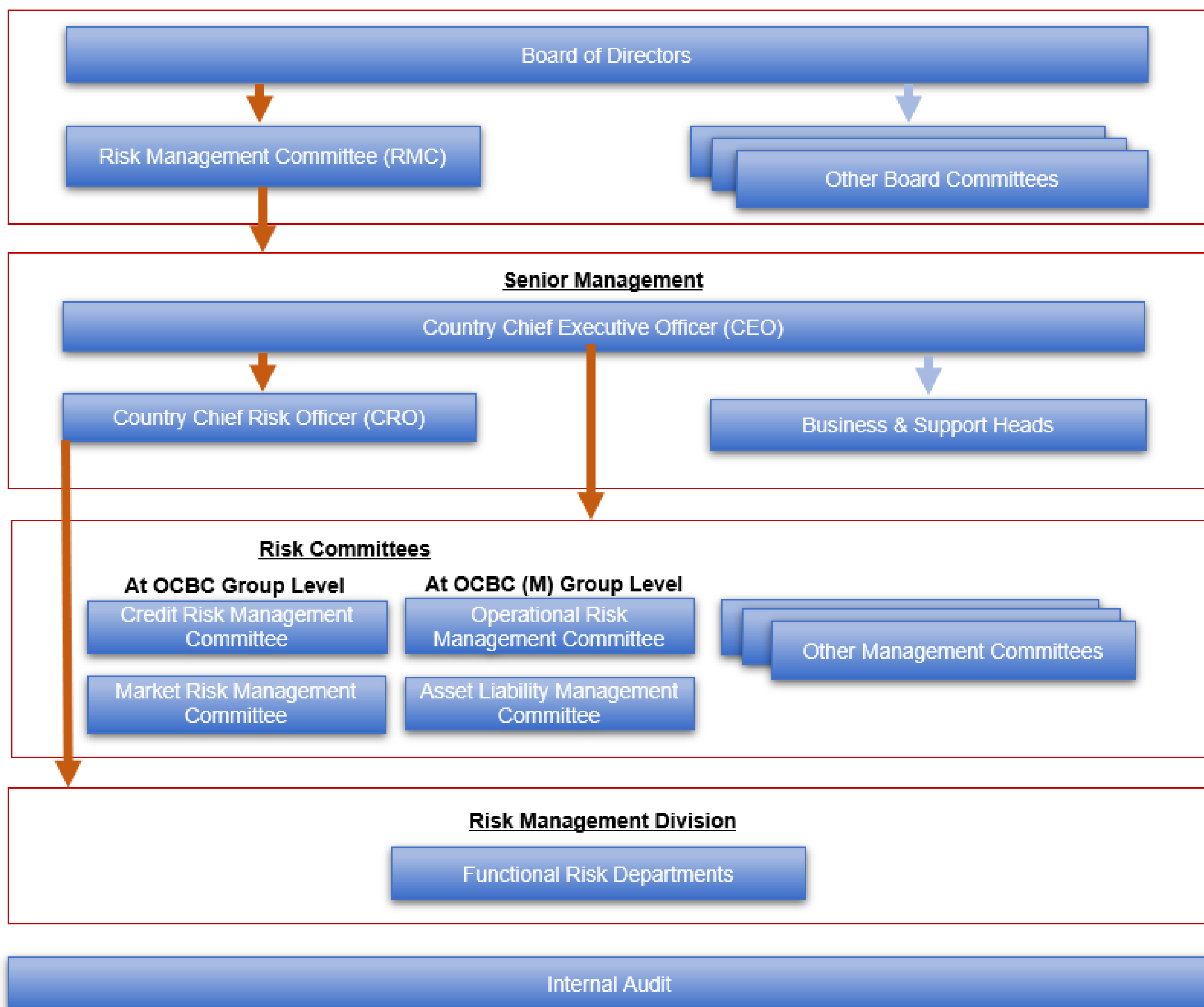
Please refer to the respective sections for details of our risk management approach for each of the principal risk types.

We adopt a disciplined risk management approach to identify, assess, measure, control, monitor and report our risk positions at granular and aggregate levels. We regularly review the relevance of the risk drivers and their potential impact on the Group's business to formulate appropriate risk mitigation actions where necessary. Risk drivers can emanate from developments in the economic, business and physical environment, geopolitical shifts, regulatory and social changes, pandemic risk, cyber threats, data loss, fraud and human error, as well as Environmental, Social and Governance (ESG) issues. These drivers impinge on one or more of the risk types mentioned above with consequential impact to earnings and asset quality as well as to reputation, customer franchise, and ability to do business.

With respect to ESG issues, we take an integrated and risk-based approach to address their multi-dimensional implications. This entails ensuring ESG risk drivers that impact the Group across credit, market, liquidity, operational and reputational risks are adequately addressed. It also ensures that we deliver on our sustainability commitments to create a positive impact for all stakeholders. We prioritise the management of salient risk issues, such as ESG-related credit and reputational risks that arise from our lending activities within our responsible financing framework.

RISK GOVERNANCE AND ORGANISATION

The chart below illustrates the risk governance and oversight structure in the Group. The Board of Directors (Board) has ultimate responsibility for the effective management of risk. It establishes the corporate strategy and approves the risk appetite within which senior management should execute the strategy.



The Risk Management Committee (RMC) is the designated board committee overseeing risk management matters. It ensures that the Group's overall risk management philosophy and principles are aligned with the corporate strategy and within the approved risk appetite. The Committee has oversight of credit, market, liquidity, information security and digital, operational, conduct, money laundering and terrorism financing, legal, regulatory, strategic, ESG and fiduciary risks, as well as any other category of risk that may be delegated by the Board or deemed necessary by the Committee. It also ensures that the necessary overall risk management organisation is in place and effective.

Based on the approved risk appetite, RMC provides quantitative and qualitative guidance to major business units and risk functions to guide risk-taking. Senior management, functional risk committees covering principal risk types, Country Chief Executive Officer (CEO) and RMC regularly review our risk drivers, risk profiles across major lines of business and risk types, risk management framework and major risk policies, as well as compliance matters.

Risk Management Division (RMD)'s day-to-day functional responsibility involves providing independent risk control and managing credit, market, liquidity, information security and digital, operational and ESG risks. It provides regular risk reports and updates on development in material risk drivers and potential vulnerabilities, as well as recommended mitigating actions, to senior management, risk committees, RMC and the Board. Risk management staff work closely with the business and other support units to ensure that risks are well understood and appropriately managed.

RMD also oversees the New Product Approval Process (NPAP) to ensure risks are properly and comprehensively identified, and adequately addressed before implementation. Compliance with regulatory requirements and adequacy of resources to support the new products and services are also addressed through the NPAP.

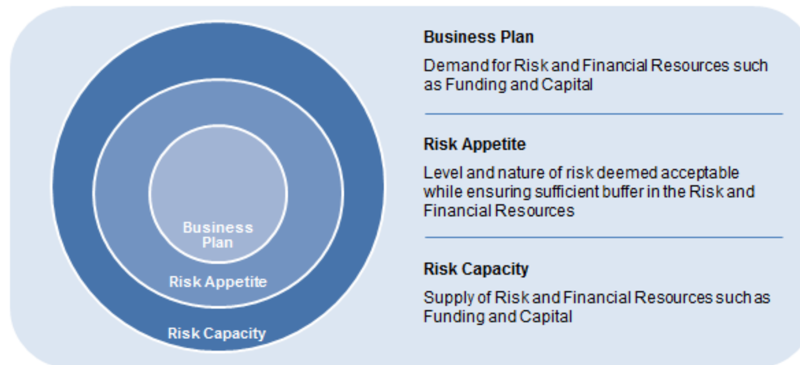
Three Lines of Defence

All employees are responsible for identifying and managing risk; their accountability is embedded in our corporate culture and robust internal control environment. This is operationalised through a three-line defence structure, which clearly delineates the roles, responsibilities and accountability of risk ownership.

Three Lines of Defence		
First Line	**Second Line**	**Third Line**
Day-to-day Risk Management	**Risk and Control Oversight**	**Independent Assurance**
Business and Support Units: • Own and manage risks arising from their business activities on a day-to-day basis. • Carry out business activities which are consistent with Group's strategy and risk appetite. • Operate within the approved boundaries of our policies and limits, and comply with applicable laws and regulations.	**The Risk and Control Function:** • Independently and objectively assesses risk-taking activities of the first line. • Establishes relevant risk management frameworks, policies, processes and systems. • Provides independent identification, assessment, monitoring and reporting of the Group's risk profiles, portfolio concentrations and material risk issues.	**Internal Audit:** • Independently assures the Country CEO, Audit Committee and the Board on the adequacy and effectiveness of our risk management and internal control systems. • Evaluates the overall risk awareness and control consciousness of the management in discharging its supervisory and oversight responsibilities.

RISK APPETITE

Our objective is to manage risks prudently and sustainably for the long-term viability of the Group. To That end, the Board has established the Group's risk appetite, which defines the level and nature of risks that we are willing to take in the conduct of our business on behalf of our shareholders while maintaining our commitments to customers, debt holders, employees, regulators and other stakeholders. Business plans are developed taking into account the forward-looking operating environment and potential downside risks and assessed against our risk appetite, which in turn is a function of our capacity to absorb risks, taking into account capital, funding, and other resources. We operationalise our risk appetite through our policies, processes and limits.



Senior business and risk managers participate in regular forums to review the macroeconomic and financial development and discuss the operating environment, event risks and potential "dark clouds" that may have a significant impact on our earnings or solvency. These risks are quantified via stress tests as well as segment-specific and ad hoc event-specific portfolio reviews. The results are used to assess the potential impact of alternative scenarios on the Group's earnings and capital, as well as vulnerabilities of material portfolios.

An Internal Capital Adequacy Assessment Process (ICAAP) incorporating the results of stress tests covering various risk types is conducted annually. The objective is to evaluate whether we are able to maintain sound capital levels under both forward-looking operating environment and severe stress scenarios. Appropriate risk-mitigating actions are taken to manage downside risks.

CREDIT RISK MANAGEMENT

Credit risk arises from our lending activities to retail, corporate and institutional customers. It also includes counterparty and issuer credit risks arising from our underwriting, trading and investment banking activities.

Credit Risk Management Approach

Our credit risk management framework captures the complete credit risk management cycle. It is operationalized through policies and procedures that cover the identification, assessment, measurement and monitoring – as well as the control and mitigation – of credit risk at the enterprise level.

Our credit risk management approach varies according to the characteristics and nature of the relevant portfolios or customer segments. Specific policies and procedures have been established for major customer segments. Please refer to Table 1 for more information.

Table 1: Credit Risk Management Approach for Major Customer Segments	
Consumers and Small Businesses	**Corporate and Institutional Customers**
• Manage credit risks on a portfolio basis. • Use bankruptcy, credit bureau checks, along with systems and processes such as source identification of credit origination and independent verification of documentation for credit screening and fraud detection purposes. • Use comprehensive risk management information systems (MIS), behavioural models and stress testing for monitoring and early identification of potentially weak credits.	• Assess credits individually with robust independent evaluation carried out by experienced credit officers. • Use predefined risk acceptance criteria, availability of acceptable collateral and stipulated loan advance ratio and margin requirements to guide credit extensions. • Business and credit risk units jointly approve credits to ensure objectivity and shared risk ownership. • Take prompt remedial actions through timely and disciplined execution of margin calls, top-up provisions, stop-loss and force-selling.

Counterparty Credit Risk Management
Counterparty credit risk, typically arising from our trading and/or banking activities in derivatives and debt securities, is the risk that the counterparty may default on its obligations during the term of the financial contract. The credit exposure to a counterparty is measured as the sum of current mark-to-market value of the transactions plus an appropriate add-on for potential future exposures in response to market prices changes. Counterparty credit risk also covers settlement risk, which is the risk of loss during the settlement process due to a counterparty's failure to fulfil its obligation after the Bank has performed its obligation under a contract or agreement at the settlement date.

Each counterparty is subjected to robust credit assessment, including the suitability and appropriateness of the product offered. Credit risk mitigation tools are also used to manage counterparty credit risk where appropriate. Please refer to the Credit Risk Mitigation Section for details.

We manage our credit exposures independently through daily limit excess monitoring, excess escalation, pre-deal excess approval and timely risk reporting.

ESG Risk Management
Managing ESG risks is an integral part of our credit risk management. We have in place a responsible financing framework that defines our approach and commitment in managing ESG risks associated with our lending activities. The framework is operationalised through supporting policies and procedures that integrate ESG considerations –including the requirements of the Equator Principles – within our credit risk evaluation and approval process. Transactions with high ESG risks are subject to enhanced due diligence and approval requirements, including escalation of transactions with significant reputational risks to the Reputational Risk Review Group. We review our framework regularly to reflect the evolving nature of ESG risk management practices.

Credit Portfolio Management
Credit portfolio management focuses on managing the collective or aggregate risk of our credit portfolios, instead of the credit risk of individual borrowers. We have developed and implemented a range of capabilities to better understand, measure and monitor credit risk at a portfolio level. These capabilities include:

- **Portfolio Segmentation:** This is the process of grouping credit exposures that are similar in nature. It involves the use of attributes that represent common business drivers such as location, industry and product type, as well as common risk drivers such as exposure to material downside risks like a property bubble.

- **Portfolio Modelling:** This includes the use of internal rating models to quantify the exposure risk, default risk and potential losses of our borrowers. Please refer to Table 2 for information on our internal rating models. We also use stress testing models to simulate the potential increase in our credit losses and Credit Risk-Weighted Assets (CRWA) under stressed scenarios.
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Table 2: Internal Rating Models

Internal credit rating models and their parameters – probability of default (PD), loss given default (LGD) and exposure at default (EAD) – are used in limit setting, credit approval, portfolio monitoring and reporting, remedial management, stress testing and the internal assessment of the capital adequacy and portfolio allowances.

Our Model Risk Management Framework governs the development, validation, application and maintenance of rating models. All rating models are assessed against internal and regulatory requirements and approved by regulators for use in capital assessment. Approval for the adoption and continued use of material models rests with the RMC.

While our internal risk grades are not explicitly mapped to external credit ratings, they may correlate with external credit ratings in terms of the PD ranges as factors used to rate obligors would be similar. Hence, an obligor rated poorly by an external credit rating agency is likely to have a weak internal risk rating.

The table below describes the approach used to estimate the key parameters for Advanced Internal Ratings Based (A-IRB) and Foundation Internal Ratings Based (F-IRB) credit risk models used to calculate CRWA.

Key Components of Internal Ratings Based (IRB) Models		
IRB Models and Portfolios	**PD**	**LGD and EAD**
A-IRB approach includes major retail portfolios such as residential mortgages, credit cards and small businesses lending	• Estimated based on the application and behaviour scores of obligors. • PD models are calibrated to the expected long-run average one-year default rate over an economic cycle.	• Product and collateral characteristics are major factors. • LGD models are calibrated to reflect the economic loss under downturn conditions. • EAD models are calibrated to reflect the default-weighted average and economic downturn conditions.
F-IRB (Non-Supervisory Slotting) approach includes major wholesale portfolios such as bank, non-bank financial institutions, corporate real estate (including income producing real estate) and general corporate	• PD models are statistical based or expert judgement models that use both quantitative and qualitative factors to assess an obligor's repayment capacity. The models are calibrated to the expected long-run average one-year default rate over an economic cycle. • Expert judgement models based on inputs from internal credit experts are typically used for portfolios with low default rates.	• Estimated based on rules prescribed in Bank Negara Malaysia (BNM) Risk-Weighted Capital Adequacy Framework (RWCAF).

F-IRB (Supervisory Slotting) approach includes other specialised lending portfolios such as project finance, object finance and commodities finance	• Risk grades derived from internal models are mapped to the five supervisory slotting categories prescribed in BNM RWCAF.	• Estimated based on rules prescribed in BNM RWCAF.

- **Portfolio Reporting:** This includes internal and external reporting of portfolio risk information to respective stakeholders. These reports provide a better understanding of how the quality of our credit portfolio is evolving in response to the changing operating environment and downside risks. Regular risk reports covering detailed credit exposures, credit migration, expected losses and risk concentrations by business segment are provided to the CRMC, CEO, RMC and the Board for review and make timely, better-informed decisions.

With the insights provided by portfolio modelling and reporting, we allocate appropriate risk and financial resources (such as funding and capital) to support growth opportunities. We also use these insights to set credit concentration limits to manage the potential downside risks from adverse changes in the operating environment. The design of such credit concentration limits takes into consideration direct risk drivers (such as economic sector, industry, geographic location) and indirect risk drivers (such as collateral type or credit protection by a single counterparty) arising from credit risk mitigation.

Credit Risk Mitigation
We use a range of credit risk mitigation tools such as requiring collateral, buying credit protection and establishing netting arrangements to reduce credit risk exposures. However, risk mitigation is not a substitute for a proper assessment of the obligor's ability to repay, which should remain the primary repayment source.

Our credit policies set out the key considerations for eligible credit risk mitigants. These criteria include legal certainty and enforceability, correlation, liquidity, marketability, counterparty risk of the credit protection provider and collateral-specific minimum operational requirements. Eligible physical and financial collateral types include cash, real estate, marketable securities, standby letters of credit and credit insurances.

We apply appropriate haircuts to the market value of the collateral to reflect its underlying nature, quality, liquidity and volatility and independently value the collateral valued on regular basis. We monitor our collateral holdings to ensure diversification across asset classes and markets. Guarantees from individuals, corporates, and institutions are accepted as a form of support. Where guarantees are recognised as credit risk mitigants via the PD substitution approach, eligibility criteria and guidelines are in place.

Netting, collateral arrangements, early termination options and central clearing mechanisms are common risk mitigation tools for managing counterparty credit risk. Netting agreements, in allowed netting jurisdictions, allow us to reduce the credit risk exposure by offsetting what we owe a counterparty against what is due from that counterparty in the event of a default. Collateral arrangements are typically covered under market standard documentation such as International Swaps and Derivatives Association (ISDA) and Credit Support Annexes (CSA) or Global Master Repurchase Agreements (GMRA). Such arrangements will require additional collateral to be posted if the mark-to-market exposures exceed an agreed threshold. A haircut is applied to the value of the eligible collateral to cover potential adverse market volatility and the agreed threshold amount may be subject to regulatory margin requirements. ISDA agreements with rating triggers allow termination of the transactions or require posting of additional collateral in event of a rating downgrade.

Remedial Management
Processes are in place to foster early identification of vulnerable borrowers. The quality of our credit portfolios is proactively monitored and deliberated at various credit risk forums. Action plans to remediate deteriorating trends are worked out and reviewed at such forums.

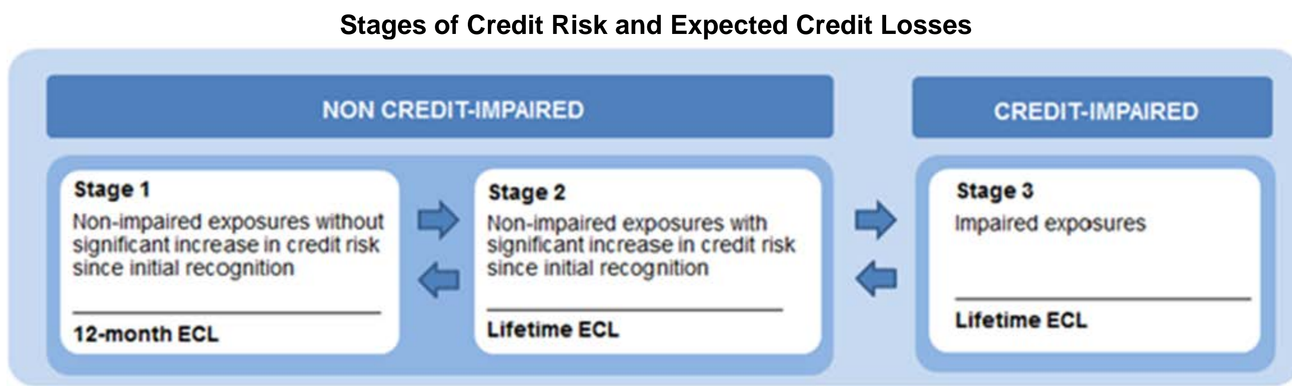
Our categories for credit exposures are "Pass", "Special Mention" or "Impaired Loans" (ILs). ILs are further categorised into "Substandard", "Doubtful" or "Loss". The categorisation of credit exposures is based on our assessment of the borrowers' ability to repay their financial obligations. ILs may be upgraded to non-impaired status when there is an established trend of credit improvement, supported by an assessment of the borrower's repayment capability, cash flows and financial position.

We classify our credit exposures as restructured assets when the Group grants non-commercial concessions to borrowers who are unable to meet their original repayment obligations. We further classify a restructured credit exposure into the appropriate impaired loans grades based on the assessment of the borrower's financial condition and ability to repay under the restructured terms. Such credit exposure must comply fully with the restructured terms before it can be restored to non-impaired status.

Dedicated remedial management units manage the restructuring and recovery of ILs for wholesale portfolios. The objective is to rehabilitate ILs where possible or maximise recoveries for ILs that are on exit strategy. For the retail portfolios, we develop appropriate risk-based and time-based collection strategies to maximise recoveries. We use data such as delinquency buckets and adverse status tags for delinquent retail loans to constantly analyse, fine-tune and prioritise our collection efforts.

Impairment Allowances for Loans
Sufficient impairment allowances are maintained to absorb credit losses inherent in our credit portfolio. Allowance for Expected Credit Losses (ECL) is recognised for credit impaired and non-credit impaired exposures in accordance with Malaysian Financial Reporting Standard (MFRS) 9 - Financial Instruments through a forward looking ECL model. ECL allowances are assessed on a forward-looking basis and based on the three stages of credit risk under this framework.

Stages of Credit Risk and Expected Credit Losses



MARKET RISK MANAGEMENT

Market risk arises primarily from our trading, client servicing and balance sheet management activities.

Market Risk Management Approach
The Group's market risk management framework covers the identification, assessment, measurement, monitoring, and control of risks. Market risk policies and procedures have been established to provide common guidelines and standards for managing market risks. We regularly review our market risk management strategy and limits – established within our risk appetite and in line with our business strategies –taking into account prevailing macroeconomic and market conditions.

Market Risk Identification
The Group's internal NPAP ensures that market risk is properly identified and quantified, allowing us to manage and mitigate such risks.

Market Risk Measurements

Value-At-Risk

Value-at-risk (VaR) is a key metric used to quantify market risk exposures arising from our trading activities. VaR is measured and monitored by its individual market risk components, namely interest rate risk, foreign exchange risk, equity risk and credit spread risk, as well as at the consolidated level. Our VaR model is based on the historical simulation approach, calibrated at the 99% confidence level and the one-day holding period. A 99% confidence level means that, statistically, losses on a single trading day may exceed VaR on average, once every 100 days.

Other Risk Measures

Apart from VaR, there are numerous other market risk measures used in monitoring the market risk of the Treasury positions. Present Value of a Basis Point (PV01) - which measures the change in value of interest rate sensitive exposures resulting from one basis point increase across the entire yield curve - is an important interest rate risk measure monitored on a daily basis. FX Net Open Position (NOP) measures the exposure to each currency while Equity Net Open Position (NOP) measures the exposure to each equity instrument. Present value of a basis point increase in Credit Spreads (CS01) measures the change in value of credit sensitive exposures resulting from one basis point increase in the credit spread. Risk measures used also include spread/basis sensitivity limits, notional limits and derivative greeks for specific exposure types.

Stress Testing and Scenario Analysis

We perform stress testing and scenario analysis to quantify and assess the potential losses arising from low probability but plausible extreme market conditions. We regularly review and fine-tune the stress scenarios to ensure that they remain relevant to our trading activities and risk profile, as well as prevailing and forecasted economic conditions. This analysis determines if the potential losses from such extreme market conditions are within our risk tolerance. In addition to regular stress scenarios, we also use ad-hoc event-specific stress scenarios to assess the potential impact of specific market conditions on our market risk exposures.

Risk Monitoring and Control

Limits

Trading units may only undertake authorised trading activities for approved products. All trading risk positions are monitored on a daily basis against approved and allocated limits. Trading activities are conducted within approved mandates and dynamically hedged to remain within limits. High utilisations alert are sent to traders and head of desk when utilisations exceeds 70%. Limit excesses and triggers are promptly reported and escalated to senior management and committees.

Model Validation

Model validation is also an integral part of our risk control process. Financial models are used to price financial instruments and calculate VaR. We ensure that the models used are fit for their intended purpose through periodic independent verification and reviews. To enhance the integrity of the trading P&L and risk measures generated, we source market rates independently for risk measurement and valuation.

Back-Testing

To ensure the continued integrity of our VaR model, we regularly back-test the VaR estimates against actual daily trading P&Ls and hypothetical P&Ls to confirm that the models do not underestimate our market risk exposures Back-test exceptions are promptly investigated and results are escalated to senior management.

ASSET LIABILITY MANAGEMENT

Asset liability management is the strategic management of the Group's balance sheet structure and liquidity requirements. It covers liquidity sourcing and diversification as well as interest rate risk management.

Asset Liability Management Approach
Our asset liability management framework focuses on managing the exposures arising from the balance sheet. We monitor our liquidity risk and interest rate risk in the banking book (IRRBB) profiles against approved risk limits under both business-as-usual and stressed scenarios. These are based on the standards established in the framework, policies and procedures which are reviewed regularly to ensure that they remain relevant in the context of prevailing market practices and regulatory guidelines.

Liquidity Risk
The objective of liquidity risk management is to ensure that we have sufficient funds to meet the required contractual and regulatory financial obligations and to undertake new transactions.

Liquidity monitoring is performed on a daily basis within a framework for projecting cash flows on both contractual and behavioural basis. Indicators such as liquidity and deposit concentration ratios are used to establish the level of optimal funding mix and asset composition. Funding strategies are established to provide effective diversification and stability in funding sources across tenors and products. Simulations of liquidity exposures under stressed market scenarios are performed and the results are used to adjust liquidity risk management strategies, policies and positions, as well as develop contingency funding plans. We maintain liquid assets in excess of regulatory requirements to strengthen our ability to meet liquidity needs during a crisis. These liquid assets comprise central bank reserves and marketable securities.

Interest Rate Risk in the Banking Book
The primary goal of the management of IRRBB is to ensure that interest rate risk exposures are consistent with our risk appetite and maintained within defined risk tolerances. The material sources of IRRBB are repricing risk, basis risk and optionality risk.

We use a range of techniques to measure IRRBB from both the earnings and economic value perspective on a monthly basis. One measure involves the assessment of the impact of various interest rate scenarios on the Group's net interest income and the economic value of equity (EVE) of the banking book. Other measures include interest rate sensitivity measures such as PV01 and repricing gap profile analysis. We also use behavioural models to assess interest rate risks in relation to loan prepayment, time deposit early redemption and the profile of non-maturity deposits. These measurements are used to adjust IRRBB management, hedging strategies, policies and positions.

INFORMATION SECURITY AND DIGITAL RISK MANAGEMENT

Information security and digital risk is a business risk that comprises the risk domains of information, cyber and technology risks. Effective management of information security and digital risk is critical to minimising any impact on our customers and any financial, operational, reputational, legal and/or regulatory impact on the Group and this has been elevated into a principal risk in 2022.

Information Security and Digital Risk Management Approach
We adopt a whole-of-organisational approach to managing information security and digital risk so as to achieve resilience for the Group. The key components of our risk management approach are:

Framework and Policies
A framework supported by robust policies establishes the governance and oversight structure and defines the roles and responsibilities across the three independent lines of defence. It also sets out the risk management processes to monitor, assess and respond to information security and digital risk, including communication protocols. We regularly update our framework and policies to align with applicable regulatory requirements and industry leading practices.

Multi-Layered Controls
We have preventive, detective and response capabilities in place to sustain and enhance existing defences against information security and digital risk. A 24-by-7 Cybersecurity Operations Centre and a Technology Command Centre monitor our networks and systems for cyber threats and any disruption of essential financial services. Existing measures are reviewed and tested regularly with new capabilities added where necessary to address evolving threats. Various controls have been implemented to safeguard against data loss and ensure the confidentiality, integrity and availability of our information assets.

Risk Awareness, Training and Testing Programmes
Our mandatory cyber and information security awareness e-learning, regular risk awareness broadcasts and social engineering testing programmes serve to raise the knowledge and vigilance of our staff as a strong defence against cyber threats and information security breaches. We educate our customers through security advisories and enhance cyber risk awareness of selected outsourced services providers by familiarising them with the control expectations of the Group.

Incident Response and Crisis Management
There are robust incident response and crisis management processes to minimise the disruption of essential financial services during times of crisis. We conduct simulation exercises regularly to improve the readiness of our cybersecurity incident response team to handle cybersecurity events. Crisis management exercises based on plausible information security and digital risk-related scenarios are also conducted regularly to enhance the preparedness of senior management. Additionally, to better manage any potential downstream implications for the Bank, we have formalised a process to facilitate prompt triage and responses in the event that relevant third parties suffer cyber-attack or data loss incidents.

Cyber and Network Security Insurance
We have relevant cyber and network security insurance to cover damages arising from specific cyber-attacks and technology disruption scenarios such as cyber extortion and business interruption losses due to a security breach or system failure.

OPERATIONAL RISK MANAGEMENT

Operational risk is inherent in all banking products, activities, processes and systems. The effective management of operational risk is a fundamental element of our risk management programme.

Operational Risk Management Approach
We manage both expected and unexpected losses, including those caused by catastrophic events, through a robust groupwide framework that is aligned with regulatory requirements and industry standards. The framework is supported by a comprehensive suite of policies and procedures to identify, assess, measure, monitor and control the operational risks arising from the Group's business activities and operations. The roles across the three lines of defence are clearly defined in these policies and procedures to ensure clear accountability and responsibility in the fulfilling of control expectations. A comprehensive insurance programme is also part of our risk mitigation strategy.

Our operational risk profile, comprising key risk indicators, operational risk events, material issues and trends, is regularly reported to senior management, the RMC and Board via risk committees such as the Operational Risk Management Committee. The Board also receives – through the CEO – an annual assurance report on the adequacy and effectiveness of our internal controls and risk management systems. The report highlights any key control deficiencies and accompanying remedial plans.

Various forums and working groups such as the Operational Risk Partners Forum and Emerging Operational Risk Forum are established to foster continuous engagement with internal and external stakeholders, facilitating awareness and understanding of operational risk.

Apart from the risk management approach mentioned above, we have put in place additional risk management measures to address the following key subject-specific risks:

Key Risks	Additional Risk Management Measures
Fraud Risk	• Whistleblowing channels and awareness programmes for both employees and customers to build awareness of fraud risks and report suspicious events. • Robust anti-fraud measures utilising transaction monitoring to detect and alert customers to suspicious account activities, with an additional capability to prevent the completion of such transactions. • Continuous strengthening of surveillance systems in response to changes in fraud/scam typologies and the regulatory landscape.
Money Laundering, Financing of Terrorism and Sanctions Risk	• Risk assessment methodologies that leverage existing monitoring and screening platforms to assess customer, product and geographical risks. • Risk surveillance capabilities that leverage artificial intelligence and data analytics for the dynamic monitoring and detection of emerging financial crime trends and typologies.
Third-Party Risk	• Designated functional specialists across various functions within the Bank who provide guidance in their respective areas of expertise throughout the third-party risk management process.
Physical and People Security Risk	• Active monitoring of external events that may pose a threat to OCBC locations, people and assets. • Advisories and response procedures to better prepare the Bank and our employees to handle risk events, including risks posed to staff on business travel.
Conduct Risk	• New initiatives to promote good culture and conduct, effective risk governance and employee accountability. These include peer recognition programmes, the Employee Pulse Survey, the Code of Conduct Annual Assessment and enhancements to the Group Disciplinary Framework. • Active monitoring culture and conduct-related matters such as customer complaint trends, staff attrition rates, regulatory breaches, and whistleblowing investigations. • An Employee Conduct Triggers (ECT) Programme featuring clear and measurable conduct indicators.
Business Continuity Risk	• Robust recovery strategies and business recovery plans that are reviewed and tested annually. • Annual attestation by senior management to the RMC on the maturity of the business continuity programme, key initiatives and alignment with regulator’s guidelines.
Unauthorised Trading Risk	• Trade surveillance and investigation by an independent control assurance function to detect and address potential control issues so as to prevent rogue or unauthorised trading.

Regulatory Risk	• A Regulatory Compliance Matrix that provides a central platform to map applicable compliance laws, rules and standards to the relevant units in OCBC. • A risk assessment methodology to identify business activities with a higher level of compliance risk. Compliance testing and reviews are performed to determine if the established processes and procedures are effective in managing the risk. • Designated Divisional Compliance Officers at business units to provide insights and perspective on risk mitigation and compliance within their functions.
Legal Risk	• Staffing of qualified legal professionals to advise and review transactions, documents and process. • Monitoring, managing and reporting potential and actual disputes and court processes delivered to the Bank. • Setting up and maintaining legal compliance matrix, monitoring and disseminating changes to laws. • Conducting and organising legal training to relevant internal stakeholders. • Management of trademark registration.
Fiduciary Risk	• Standards relating to fiduciary or fiduciary-like business activities such as Fair Dealing, Insider Trading and Chinese Wall and Code of Conduct to guide decisions and behaviour throughout the organisation.
Reputational Risk	• Dedicated committees such as the Fair Dealing Committee and Reputational Risk Review Group, helmed by senior management, provide oversight and focus on areas such as fair dealing and responsible financing to manage our responsibilities towards stakeholders and protect our reputation.

SHARIAH GOVERNANCE

Overview

OCBC Al-Amin Bank Berhad (OABB) is governed under Islamic Financial Services Act 2013 (IFSA) which requires Islamic Financial Institutions (IFI) to ensure that its aims and operations, business, affairs and activities are Shariah compliant and in accordance with the advice or ruling issued by the Shariah Advisory Council (SAC). BNM has issued the Shariah Governance Framework (SGF) that sets out the expectations on an IFI's Shariah governance structures, processes and arrangements to ensure that all its operations and business activities are in accordance with Shariah. SGF also provides a comprehensive guidance to the board, Shariah Committee and management of the IFI in discharging its duties in matters relating to Shariah and outlines the functions relating to Shariah review, Shariah audit, Shariah risk management and Shariah research. In 2019, BNM issued the revised policy document on Shariah Governance that outlines strengthened regulatory expectations for effective Shariah governance arrangements that are well-integrated with business and risk strategies of the IFI. In this respect, OABB operationalizes the SGF requirements in its internal Shariah Governance Framework.

Shariah Risk Management

Shariah risk management is a function that systematically identifies, measures, monitors and reports Shariah non-compliance risks in the operations, business, affairs and activities of OABB. Shariah non-compliance risk refer to the risk of legal or regulatory sanctions, financial loss or non-financial implications including reputational damage, which OABB may suffer arising from failure to comply with the rulings of the Shariah Advisory Council of Bank Negara Malaysia (SAC), standards on Shariah matters issued by BNM pursuant to section 29(1) of the IFSA, or decisions or advice of the OABB's Shariah Committee. The Shariah risk management function involves:

(i) integrate Shariah non-compliance risk considerations with enterprise-wide risk management;
(ii) identify Shariah non-compliance risk exposures in the business operations and activities of OABB;
(iii) assess Shariah non-compliance risk and measure the potential impact of the risk exposures to OABB;
(iv) establish appropriate risk mitigation measures;
(v) monitor Shariah non-compliance risk exposures and effectiveness of the risk mitigation measures;
(vi) report to the Board, Shariah Committee and senior management on the Shariah non-compliance risk exposures; and
(vii) constructively challenge decisions that may give rise to Shariah non-compliance risks.

All potential Shariah Non-Compliance Events (SNCEs) are initially assessed by Shariah Review Department (SRD) as the control function that is responsible for the assessment and submitted to OABB's Shariah Committee for confirmation and decision in order to determine the status of the events and potential Shariah non-compliant income. All actual SNCEs upon confirmation by Shariah Committee are to be reported to BNM within the required timeframe set by BNM. In ensuring a robust oversight on Shariah non-compliance risk, periodic reporting on Shariah non-compliance risk is submitted to Risk Management Committee.

Note:
In this document, for whatever that is related to Islamic Banking, the following terms shall apply:

1. Risk Weighted Capital Adequacy Framework (RWCAF) also refers to Capital Adequacy Framework for Islamic Bank (CAFIB) (inclusive of Disclosure Requirements for Pillar 3 where applicable);
2. Loan also refers to Financing;
3. Borrower also refers to Customer;
4. Interest also refers to Profit;
5. Interest Rate also refers to Profit Rate;
6. Lending also refers to Financing.

Basel II Pillar 3 Market Disclosure

(OCBC Bank (M) Berhad Group – Position as at 31 December 2022)

The purpose of this disclosure is to provide the information in accordance with BNM Risk Weighted Capital Adequacy Framework (Basel II) – Disclosure Requirements (Pillar 3) and Capital Adequacy Framework for Islamic Bank (CAFIB - Basel II) – Disclosure Requirements (Pillar 3) Guidelines. This supplements the disclosure in the Risk Management Chapter as well as related information in the Notes to the Financial Statements.

Exposures and Risk Weighted Assets (RWA) by Portfolio

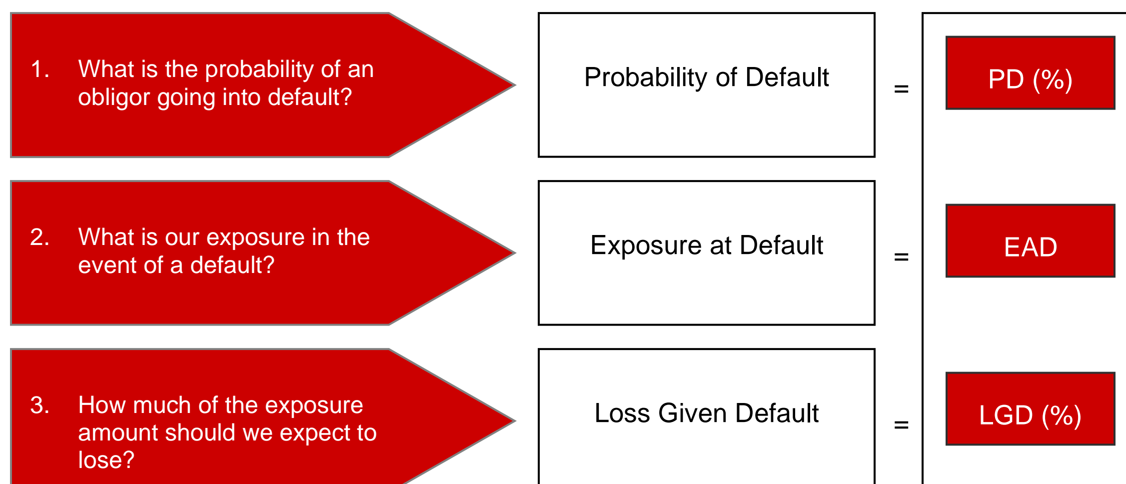
	EAD[1] RM million	RWA RM million
Credit Risk		
Standardised Approach		
Corporate	159	156
Sovereign & Central Bank	20,911	46
Public Sector Entities	669	285
Retail	103	95
Equity	110	110
Securitisation	-	-
Others	549	402
Total Standardised	**22,501**	**1,094**
Internal Ratings-Based (IRB) Approach		
Foundation IRB		
Corporate	41,435	35,611
Bank	11,720	1,342
Advanced IRB		
Residential Mortgage	23,287	3,896
Qualifying Revolving Retail	1,758	561
Other Retail - Small Business	8,245	3,064
Specialised Lending under Supervisory Slotting Criteria	192	234
Total IRB	**86,637**	**44,708**
Total Credit Risk	**109,138**	**45,802**
Market Risk		
Standardised Approach		1,016
Total Market Risk		**1,016**
Operational Risk		
Standardised Approach[2]		5,454
Total Operational Risk		**5,454**
Total RWA		**52,272**

Note:

[1] EAD refers to exposure at default after credit risk mitigation
[2] OCBC Bank (M) Berhad Group and OCBC Bank (M) Berhad have adopted the Standardised Approach, while OCBC Al-Amin Bank Berhad is on the Basic Indicator Approach.

CREDIT RISK

With Basel II implementation, OCBC Bank (M) Berhad Group has adopted the Internal Ratings-Based (IRB) Approach for major credit portfolios, where 3 key parameters – Probability of Default (PD), Exposure at Default (EAD) and Loss Given Default (LGD) are used to quantify credit risk.



Credit Exposures under Standardised Approach

Credit exposures under standardised approach are mainly exposures to sovereign and central bank. Rated exposures relate mainly to sovereign and central bank while unrated exposures relate mainly to Islamic personal financing and other assets.

Risk Weight	EAD RM million
0%	21,349
20% - 35%	4
50% - 90%	127
100%	910
>100%	1
Total	**22,391**
Rated exposures	21,320
Unrated exposures	1,071

Note: Excludes Equity

Equity Exposures under Standardised Approach

Equity exposures for regulatory capital computation are risk weighted in accordance with BNM Risk-Weighted Capital Adequacy Framework (Basel II – Risk-Weighted Assets Computation) under the standardised approach.

Equity Exposures under Standardised Approach

Risk Weight	EAD RM million
100%	110
200%	-
Total	**110**

Securitisation Exposures

There was no securitisation and re-securitisation exposure in the banking and trading books as at 31 December 2022.

Specialised Lending Exposures under Supervisory Slotting Criteria

Specialised lending exposures include project and object financing.

	EAD RM million	Average Risk Weight
Strong	-	-
Good	-	-
Satisfactory	192	122%
Weak	-	-
Default	-	NA
Total	**192**	**122%**

Credit Exposures under Foundation Internal Ratings-Based Approach (F-IRBA)

Corporate exposures are mainly exposures to corporate and institutional customers, major non-bank financial institutions as well as financing of income-producing real estate. Bank exposures are mainly exposures to commercial banks.

Corporate Exposures

PD Range	EAD RM million	Average Risk Weight
up to 0.05%	205	11%
> 0.05 to 0.5%	13,741	54%
> 0.5 to 2.5%	17,828	93%
> 2.5 to 9%	6,819	136%
> 9%	1,231	196%
Default	1,611	NA
Total	**41,435**	**86%**

Bank Exposures

PD Range	EAD RM million	Average Risk Weight
up to 0.05%	8,788	9%
> 0.05 to 0.5%	2,923	18%
> 0.5 to 2.5%	9	58%
> 2.5 to 9%	-	-
> 9%	-	-
Default	#	NA
Total	**11,720**	**11%**

"#" represents amount less than RM0.5 million

Credit Exposures under Advanced Internal Ratings-Based Approach (A-IRBA)

Residential Mortgages are loans to individuals secured by residential properties. Qualifying Revolving Retail exposures are credit card facilities to individuals. Other Retail – Small Business exposures include lending to small businesses and commercial property loans to individuals.

Residential Mortgages

	EAD	Undrawn Commitment	EAD Weighted Average	
PD Range	**RM million**	**RM million**	**LGD**	**Risk Weight**
up to 0.5%	9,792	1,365	8%	5%
> 0.5 to 3%	9,802	371	9%	15%
> 3 to 10%	623	17	11%	46%
> 10%	1,787	20	12%	69%
100%	1,283	17	18%	35%
Total	**23,287**	**1,790**	**9%**	**17%**

Qualifying Revolving Retail Exposures

	EAD	Undrawn Commitment	EAD Weighted Average	
PD Range	**RM million**	**RM million**	**LGD**	**Risk Weight**
up to 0.5%	1,181	2,002	75%	11%
> 0.5 to 3%	379	384	64%	38%
> 3 to 10%	141	79	75%	128%
> 10%	53	26	75%	210%
100%	4	-	75%	0%
Total	**1,758**	**2,491**	**73%**	**32%**

Other Retail - Small Business Exposures

	EAD	Undrawn Commitment	EAD Weighted Average	
PD Range	**RM million**	**RM million**	**LGD**	**Risk Weight**
up to 0.5%	4,495	1,508	26%	14%
> 0.5 to 3%	1,970	152	31%	38%
> 3 to 10%	453	27	33%	53%
> 10%	914	102	34%	75%
100%	413	11	44%	180%
Total	**8,245**	**1,800**	**29%**	**37%**

Actual Loss and Expected Loss for Exposures under Foundation and Advanced IRB Approaches

Actual loss refers to net impairment loss allowance and direct write-off to the statement of profit or loss during the year. Expected loss ("EL") represents model derived and/or regulatory prescribed estimates of future loss on potential defaults over a one-year time horizon. Comparison of the two measures has limitations because they are calculated using different methods. EL computations are based on LGD and EAD estimates that reflect downturn economic conditions and regulatory minimums, and PD estimates that reflect long run through-the-cycle approximation of default rates. Actual loss is based on accounting standards and represents the point-in-time impairment experience for the financial year.

	Actual Loss for the 12 months ended 31 December 2022 RM million	Regulatory Expected Loss (Non-defaulted) as at 31 December 2021 RM million
Corporate	188	322
Bank	-	1
Other Retail - Small Business	73	173
Retail	142	107
Total	**403**	**603**

Exposures Covered by Credit Risk Mitigation

	Eligible Financial Collateral RM million	Other Eligible Collateral RM million	Amount by which credit exposures have been reduced by eligible credit protection RM million
Standardised Approach			
Corporate	98	-	-
Sovereign & Central Bank	-	-	-
Public Sector Entities	-	-	384
Retail	14	-	-
Others	52	-	-
Total	**164**	**-**	**384**
Foundation IRB Approach			
Corporate	884	9,755	172
Bank	560	-	-
Total	**1,444**	**9,755**	**172**

Note:
1. Not all forms of collateral or credit risk mitigation are included for regulatory capital calculations.
2. Does not include collateral for exposures under Advanced IRB Approach and Specialised Lending.

Counterparty Credit Risk Exposures

	RM million
Replacement Cost	1,125
Potential Future Exposure	1,681
Less: Effects of Netting	1,095
EAD under Current Exposure Method	**1,711**
Analysed by type:	
Foreign Exchange Contracts	1,060
Interest Rate Contracts	524
Equity Contracts	127
Gold and Precious Metals Contracts	-
Other Commodities Contracts	#
Credit Derivative Contracts	#
Less: Eligible Financial Collateral	410
Net Derivatives Credit Exposure	**1,301**

Note: Not all forms of collateral or credit risk mitigation are included for regulatory capital calculations.

"#" represents amount less than RM0.5 million

Credit Derivatives

	Notional Amount RM million	
	Bought	**Sold**
Credit Derivatives Swap		
for own credit portfolio	-	-
for intermediation activities	893	865
Total	**893**	**865**

Note: Credit derivatives for own credit portfolio include trading portfolio and hedges, if any.

MARKET RISK

Exposure, Risk Weighted Assets and Capital Requirement by Market Risk Type under Standardised Approach

	Gross Exposure		Risk Weighted	Min. Capital
	Long Position	Short Position	Assets	Requirement
	RM million	RM million	RM million	RM million
Interest Rate Risk	41,979	41,614	671	54
Foreign Currency Risk	132	322	322	26
Equity Risk	4	-	6	#
Commodity Risk	-	-	-	-
Inventory Risk	-	-	-	-
Options Risk	2	#	17	1
Total	**42,117**	**41,936**	**1,016**	**81**

"#" represents amount less than RM0.5 million

EQUITY EXPOSURES

Equity exposures comprised investments in quoted and unquoted equity instruments.

Disclosures on accounting policy and fair value measurement of equity securities are the same with the audited financial statements for the financial year ended 31 December 2022.

Carrying Value of Equity Exposures	RM million
Quoted equity exposure - Fair value through profit or loss ("FVTPL")	-
Unquoted equity exposure - Fair value through other comprehensive income ("FVOCI")	110
Quoted equity exposure - Associates	-
Unquoted equity exposure - Associates	-
Total	**110**

Realised and Unrealised Gains and Losses	RM million
Gains/(losses) from disposal of equities	10
Unrealised gains/(losses) included in fair value reserve	97
Total	**107**

Interest Rate Risk in Banking Book

Based on a 100 bps parallel rise in yield curves on the OCBCM's exposure to major currency i.e. Malaysian Ringgit and US Dollar, net interest income is estimated to increase by MYR160.6million, or approximately +9.4% of reported net interest income. The corresponding impact from a 100 bps decrease is an estimated reduction of MYR159.3 million in net interest income, or approximately -9.3% of reported net interest income.