Risk Management

Managing risk is an integral part of our business strategy. Our risk management approach focuses on ensuring continued financial soundness and safeguarding the interests of our stakeholders, while remaining nimble to seize value-creating business opportunities in a fast changing environment. We are committed to upholding high standards of corporate governance, sound risk management principles and business practices to achieve sustainable, long-term growth. We continually strive towards best risk management practices to support our strategic objectives.

2017 Highlights

Enhancing Risk Frameworks and Systems to Support Sustainable Growth

In 2017, Group Risk Management instituted several enhancements to manage evolving risks better. We enhanced our Group Technology Risk Management Framework with refinements in the methodology for managing technology risk. We also enhanced our Governance, Risk and Compliance (GRC) system to improve efficiency and incorporate new regulatory requirements on outsourcing. We will continue to enhance the GRC to achieve automation and standardisation of key compliance, operational risk and audit activities for all business and support units across all subsidiaries and branches.

2017 also saw our dedicated Integrated Fraud Management (IFM) unit establish an IFM strategy and framework for fraud prevention, detection, response, remediation and reporting. The framework covers the roles and responsibilities of the First Line of Defence with integrated oversight by the Second Line of Defence and audit assurance by the Third Line of Defence. We also established dedicated IFM teams in our overseas subsidiaries and ensured all First Line business and support units received structured training on IFM requirements.

Significant investments were made in 2017 to ensure our market risk management capabilities kept pace with the dynamic environment. These included investments in system projects to improve risk limit monitoring, profit and loss reporting and enhancements to improve our efficiency in acquiring, validating, storing and distributing market data within the Bank.

For liquidity and interest rate risks, we have enhanced our systems to meet regulatory and industry standards for Net Stable Funding Ratio and Interest Rate Risk in the Banking Book (IRRBB). The IRRBB enhancements were notably completed ahead of the 2019 regulatory implementation date. The strengthened system capacity has significantly pushed ahead the Group's capability to optimise, to monitor, to report and to manage its liquidity and interest rate risks. We also achieved good progress in projects to support the upcoming regulatory requirements arising from the Fundamental Review of the Trading Book. These projects are on schedule to meet the stipulated regulatory implementation date.

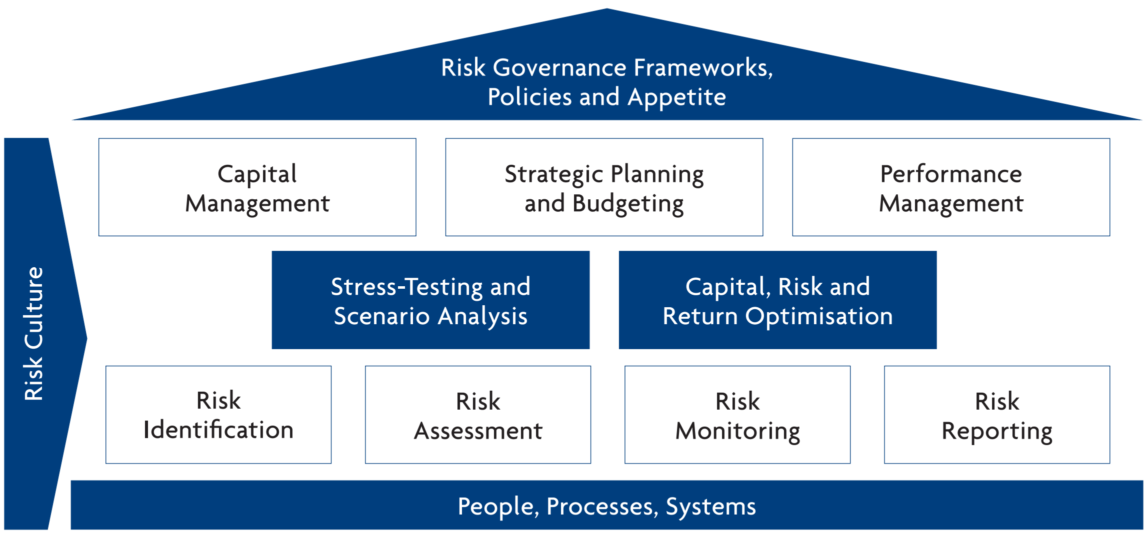
We recognise the material reputational and credit risk implications that environmental, social and governance issues (ESG) could have on the Bank. In 2017 we enhanced our policy on responsible financing and intensified our capacity-building efforts in this area*. UOB is committed to responsible financing and will work closely with our customers to manage the ESG impact of their businesses. We will continue to engage our stakeholders to ensure that material ESG concerns are duly considered and adequately addressed.

* More information on our responsible financing policy and efforts can be found in the Sustainability Approach and Customers sections.

Our Approach

UOB's risk management structure, as shown in the following diagram, aims to promote a risk aware culture throughout the Group. This requires the various risk and control oversight functions to work together with the business and support units to identify their risks and to facilitate their risk and control self-assessments.

Risk Management Structure



Our risk management strategy is targeted at ensuring proper risk governance so as to facilitate ongoing effective discovery, management and mitigation of risks arising from external factors and our business activities and to set aside adequate capital efficiently to address these risks. Risks are managed within levels established by the senior management committees and approved by the Board and its committees. We have put in place a framework of policies, methodologies, tools and processes that will help us identify, measure, monitor and manage material risks faced by the Group. This enables us to concentrate our efforts on the fundamentals of banking and to create long-term value for all our stakeholders.

The Group's risk governance frameworks, policies and appetite provide the overarching principles and guidance for the Group's risk management activities. They help to shape our key decisions for capital management, strategic planning and budgeting, and performance management to ensure that the risk dimension is appropriately and sufficiently considered. In particular, the Group Risk Appetite is part of the Group's Internal Capital Adequacy Assessment Process (ICAAP), which incorporates stress-testing to ensure that the Group's capital, risk and return are within acceptable levels under stress scenarios. We also take into consideration the Group's risk appetite in the development of risk-related key performance indicators (KPIs) for performance measurement. This serves to embed a risk management mindset and culture throughout the organisation.

Our risk governance frameworks, policies and appetites are implemented through identification, assessment, monitoring and reporting processes. Risk reports are regularly submitted to Management and the Board to keep them apprised of the Group's risk profile.

Risk Governance

UOB's responsibility for risk management starts with the Board overseeing a governance structure that is designed to ensure that the Group's business activities are:

- conducted in a safe and sound manner and in line with the highest standards of professionalism;
- consistent with the Group's overall business strategy and risk appetite; and
- subjected to adequate risk management and internal controls.

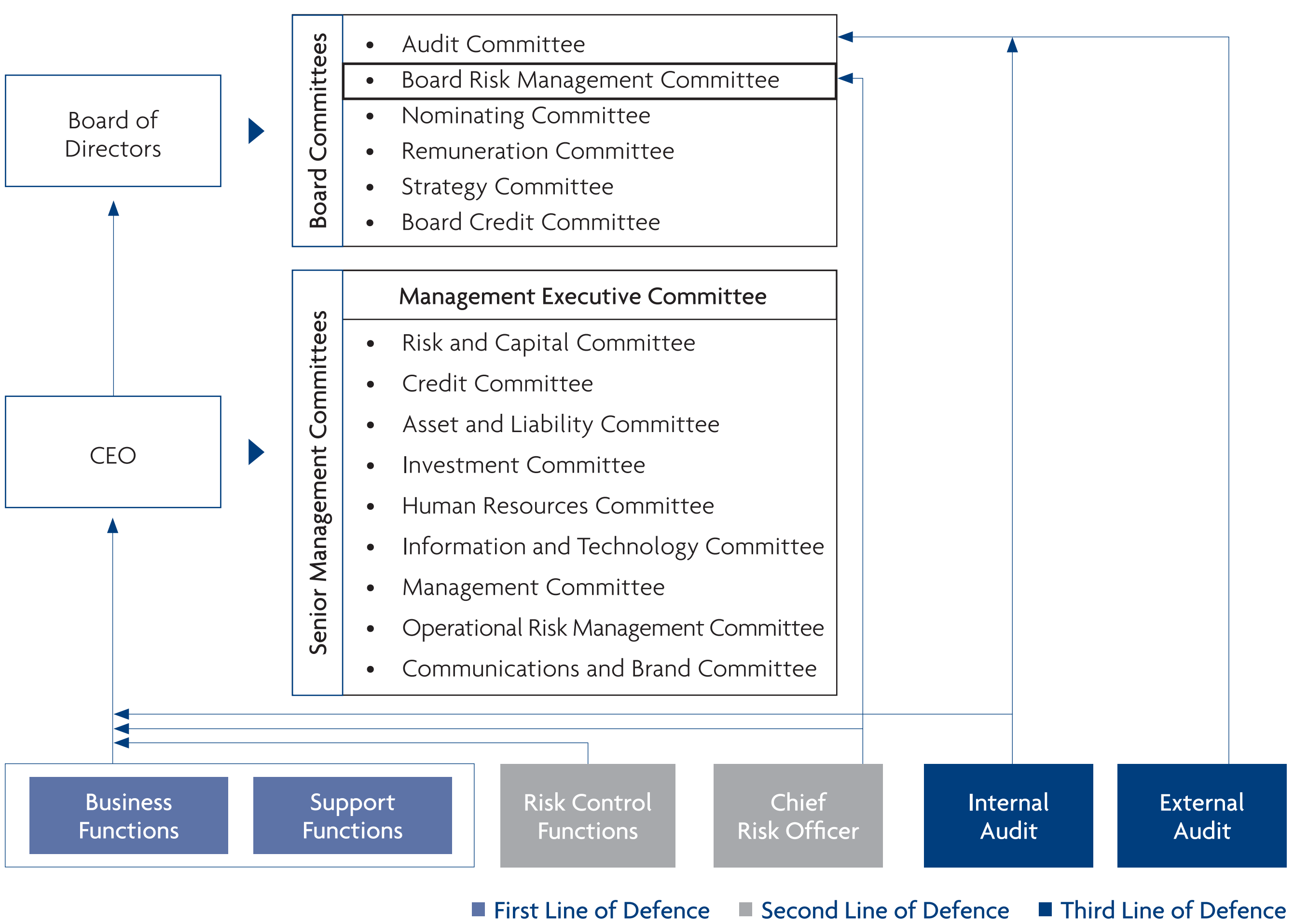
In this regard, the Board is primarily assisted by the Board Risk Management Committee (BRMC). The BRMC reviews the overall risk appetite and level of risk capital to be maintained for the Group.

The CEO has established senior management committees to assist in making business decisions with due consideration to risks and returns. The main senior management committees involved in this are the Management Executive Committee, Asset and Liability Committee (ALCO), Credit Committee (CC), Operational Risk Management Committee (ORMC) and the Risk and Capital Committee (RCC). These committees also assist the Board Committees in specific risk areas.

Management and the senior management committees are authorised to delegate risk appetite limits by location, business units and/or broad product lines.

Risk management is also the responsibility of every employee in the Group. Risk awareness and accountability are embedded in our culture through an established framework that ensures appropriate oversight and accountability for the effective management of risk throughout the Group and across risk types. This is executed through an organisation control structure that provides three Lines of Defence as follows:

Risk Governance Structure



First Line of Defence – The Risk Owner:
The business and support functions have primary responsibility for implementing and executing effective controls for the management of risks arising from their business activities. This includes establishing adequate managerial and supervisory controls to ensure compliance with risk policies, appetite, limits and controls and to highlight control breakdowns, inadequacy of processes and unexpected risk events.

Second Line of Defence – Risk Oversight:
The risk and control oversight functions (Group Credit and Risk Management, and Group Compliance) and the Chief Risk Officer (CRO) provide the Second Line of Defence.

The risk and control oversight functions support the Group's strategy of balancing growth with stability by establishing risk frameworks, policies, appetite and limits within which the business functions must operate. The risk and control oversight functions are also responsible for the independent review and monitoring of the Group's risk profile and highlighting any significant vulnerabilities and risk issues to the respective management committees.

The independence of risk and control oversight functions from business functions ensures the necessary checks and balances are in place.

Third Line of Defence – Independent Audit:
The Group's internal and external auditors conduct risk-based audits covering all aspects of the First and Second Lines of Defence to provide independent assurance to the CEO, Audit Committee and the Board, on the effectiveness of the risk management and control structure, policies, frameworks, systems and processes.

The Group's governance framework also provides oversight for our overseas banking subsidiaries through a matrix reporting structure. Our subsidiaries, in consultation with Group Risk Management, adapt the governance structure, frameworks and policies accordingly to comply with local regulatory requirements. This ensures the approach across the Group is consistent and sufficiently flexible to suit local operating environments.

Risk Appetite

UOB has established a risk appetite framework to define the amount of risk we are able and willing to take in pursuit of our business objectives. The objective of establishing a risk appetite framework is not to limit risk-taking but to ensure that the Group's risk profile remains within well-defined and tolerable boundaries. The framework was formulated based on the following key criteria:

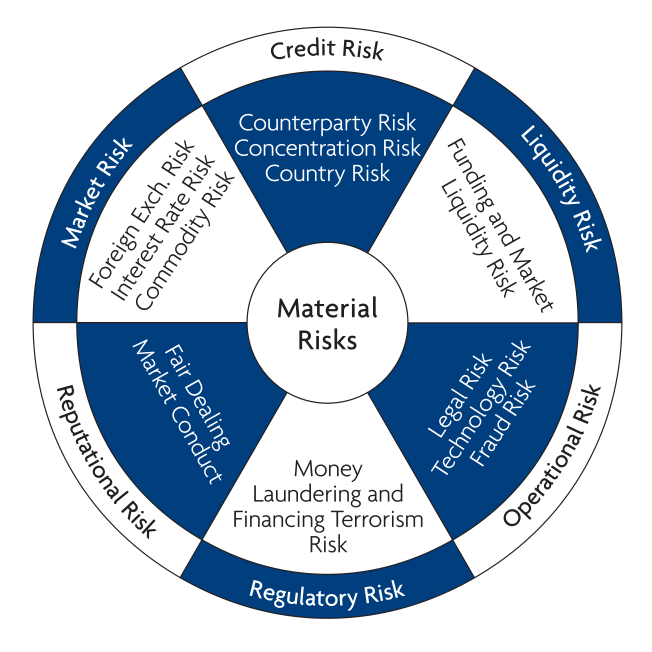
- relevance to respective stakeholders, with appropriate levels of granularity;
- practical, consistent and easy to understand metrics for communication and implementation;
- alignment to key elements of the Group's business strategy; and
- analytically substantiated and measurable metrics.

The risk appetite defines suitable thresholds and limits across key areas including but not limited to credit risk, country risk, market risk, liquidity risk, operational risk and reputation risk. Our risk-taking approach is focused on businesses which we understand and are well-equipped to manage the risk involved. Through this approach, we aim to minimise earnings volatility and concentration risk and to ensure that our high credit rating, strong capital and funding base remain intact. This allows us to be a steadfast partner of our customers through changing economic conditions and cycles.

UOB's risk appetite framework and risk appetite are reviewed and approved annually by the Board. Management monitors and reports the risk profiles and compliance with the risk appetite to the Board.

Material Risks

UOB's business strategies, products, customer profiles and operating environment expose us to a number of financial and non-financial risks. Identifying and monitoring key risks are integral to the Group's approach to risk management. It enables us to make proper assessments and to mitigate these risks proactively across the Group. The key risks which could impact the success of achieving the Group's strategic objectives are as follow:



UOB has adopted the Basel Framework and observes the Monetary Authority of Singapore (MAS) Notice to Banks No. 637 – Notice on Risk Based Capital Adequacy Requirements for Banks incorporated in Singapore. We continue to adopt a prudent and proactive approach in navigating the evolving regulatory landscape, with emphasis on sound risk management principles in delivering sustainable returns.

We have adopted the Foundation Internal Ratings-Based (FIRB) Approach for our non-retail exposures and the Advanced Internal Ratings-Based (AIRB) Approach for our retail exposures. For market risk and operational risk, the Group has adopted the respective Standardised Approaches (SA).

Risk Management

We have also adopted the ICAAP to assess on an ongoing basis the amount of capital necessary to support our activities. We review the ICAAP periodically to ensure that the Bank remains well-capitalised after considering all material risks. Stress-testing is conducted to determine capital adequacy under stressed conditions.

The Group's Pillar 3 Quantitative Disclosure Policy addresses the disclosure requirements specified in MAS Notice 637. Please refer to the 'Pillar 3 Disclosure' section for further information.

Credit Risk

Credit risk is the risk of loss arising from any failure by a borrower or counterparty to meet its financial obligations when such obligations are due. Credit risk is the single largest risk that we face in our core business as a commercial bank, arising primarily from loans and other lending-related commitments to retail, corporate and institutional borrowers. Treasury and capital market operations and investments also expose the Group to counterparty and issuer credit risks.

Integral to the management of credit risk is a framework that clearly defines policies and processes relating to the measurement and management of credit risk. The framework helps to foster a robust culture of identification, measurement and management of credit risk within the Group. The Group adopts an holistic approach towards assessing credit risk and ensures that managing credit risk is part of an integrated approach to enterprise risk management. We review and stress-test the Group's portfolio regularly. We continually monitor the operating environment to identify emerging risks and to formulate mitigating actions.

Credit Risk Governance and Organisation

The CC is the key oversight committee for credit risk and supports the CEO and Board Credit Committee (BCC) in managing the Group's overall credit risk exposures. It serves as an executive forum for discussions on all credit-related issues including the credit risk management framework, policies, processes, infrastructure, methodologies and systems. The CC also reviews and assesses the Group's credit portfolios and credit risk profiles.

The Country and Credit Risk Management Division under Group Risk Management develops Group-wide credit policies and guidelines, and focuses on facilitating business development within a prudent, consistent and efficient credit risk management framework. It is responsible for the reporting, analysis and management of all elements of credit risk to the CC and the BCC. The comprehensive credit risk reports cover business segments at the overall portfolio level by various dimensions including industry, product, country and banking subsidiaries.

Credit Risk Policies and Processes

We have established credit policies and processes to manage credit risk in the following key areas:

Credit Approval Process

To maintain the independence and integrity of the credit approval process, our credit origination and approval functions are clearly segregated. Credit approval authority is delegated to officers based on their experience, seniority and track record. All credit approval officers are guided by credit policies and credit acceptance guidelines which are periodically reviewed to ensure their continued relevance to the Group's business strategy and the business environment. Credit approval is based on a risk-adjusted scale according to a borrower's credit rating.

Counterparty Credit Risk

Unlike normal lending risk where the notional at risk can be determined with a high degree of certainty during the contractual period, counterparty credit risk exposure fluctuates with market variables. Counterparty credit risk is measured as the sum of current mark-to-market value plus an appropriate add-on factor for potential future exposure (PFE). The PFE factor is an estimate of the maximum credit exposure over the remaining life of the foreign exchange (FX) / derivative transaction and is used for limit setting and internal risk management.

The Group also has established policies and processes to manage wrong-way risk, i.e. where the counterparty credit exposure is positively correlated with its default risk. Transactions that exhibit such characteristics are identified and reported to Management on a regular basis. In addition, transactions with specific wrong-way risk are generally rejected at the underwriting stage.

Exposures arising from FX, derivatives and securities financing transactions are typically mitigated through agreements such as the International Swaps and Derivatives Association (ISDA) Master Agreements, the Credit Support Annex (CSA) and the Global Master Repurchase Agreements (GMRA). Such agreements help to minimise credit exposure by allowing us to offset what we owe to a counterparty against what is due from that counterparty in the event of a default.

In addition, derivative transactions are cleared through Central Counterparties (CCP), where possible, to reduce counterparty credit exposure further through multilateral netting and the daily margining process.

The Group's foreign exchange-related settlement risk has been reduced significantly through our participation in the Continuous Linked Settlement (CLS) system. This system allows transactions to be settled irrevocably on a delivery versus payment basis.

As at 31 December 2017, UOB would be required to post additional collateral of US$5 million with our counterparties if our credit rating were downgraded by two notches.

Credit Concentration Risk

Credit concentration risk may arise from a single large exposure or from multiple exposures that are closely correlated. This is managed by setting exposure limits on obligor groups, portfolios, borrowers, industries and countries, generally expressed as a percentage of the Group's eligible capital base.

We manage our credit risk exposures through a robust credit underwriting, structuring and monitoring process. While the Group proactively minimises undue concentration of exposure in our portfolio, our credit portfolio remains concentrated in Singapore and Malaysia. The Group's cross-border exposure to China has seen a pronounced increase over the years, consistent with rising trade flows between China and Southeast Asia. The Group manages our country risk exposures within an established framework that involves setting limits for each country. Such limits are based on the country's risk rating, economic potential measured by its gross domestic product and the Group's business strategy.

The Group's credit exposures are well-diversified across industries, with the exception of the Singapore real estate sector (due mainly to the high home ownership rate). We remain vigilant about risks in the sector and have taken active steps to manage our exposure while continuing to maintain a prudent stance in approving real estate-related loans.

We perform regular assessments of emerging risks and in-depth reviews on industry trends to provide a forward-looking view on developments that could impact the Group's portfolio. We also conduct frequent stress-testing to assess the resilience of the portfolio in the event of a marked deterioration in operating conditions.

Credit Stress Tests

Credit stress-testing is a core component of the Group's credit portfolio management process. The three objectives of stress-testing are: (i) to assess the profit and loss and balance sheet impact of business strategies, (ii) to quantify the sensitivity of performance drivers under various macroeconomic and business planning scenarios; and (iii) to evaluate the impact of Management decisions on capital, funding and leverage. Under stress scenarios such as a severe recession, significant losses from the credit portfolio may occur. Stress tests are used to assess if the Group's capital can withstand such losses and their impact on profitability and balance sheet quality. Stress tests also help us to identify the vulnerability of various business units and would enable us to formulate appropriate mitigating actions thereafter.

Our stress-test scenarios consider potential and plausible macroeconomic and geopolitical events in varying degrees of likelihood and severity. We also consider varying strategic planning scenarios where the impact of different business scenarios and proposed managerial actions are assessed. These are developed in consultation with relevant business units and are approved by Management.

Credit Risk Mitigation

Our potential credit losses are mitigated through a variety of instruments such as collateral, derivatives, guarantees and netting arrangements. As a fundamental credit principle, the Group generally does not grant credit facilities solely on the basis of the collateral provided. All credit facilities are granted based on the credit standing of the borrower, source of repayment and debt servicing ability.

Collateral is taken whenever possible to mitigate the credit risk assumed and the value of the collateral is monitored periodically. The frequency of valuation depends on the type, liquidity and volatility of the collateral value. Our collateral are mostly properties while other types of collateral taken by the Group include cash, marketable securities, equipment, inventories and receivables. We have in place policies and processes to monitor collateral concentration. Appropriate haircuts are applied to the market value of collateral, reflecting the underlying nature of the collateral, quality, volatility and liquidity. In addition, collateral taken by the Group has to fulfil certain criteria (such as legal certainty across relevant jurisdictions) in order to be eligible for the Internal Ratings-Based Approach (IRBA) purposes.

In extending credit facilities to small- and medium-sized enterprises (SMEs), we also often take personal guarantees as a form of moral support to ensure moral commitment from the principal shareholders and directors. For IRB purposes, we do not recognise personal guarantees as an eligible credit risk protection. Corporate guarantees are often obtained when the borrower's creditworthiness is not sufficient to justify an extension of credit. To recognise the effects of guarantees under the FIRB Approach, we adopt the Probability of Default (PD) substitution approach whereby the PD of an eligible guarantor of an exposure will be used for calculating the capital requirement.

Credit Monitoring and Remedial Management

The Group monitors regularly credit exposures, portfolio performance and emerging risks that may impact our credit risk profile. The Board and Management are updated on credit trends through internal risk reports. The reports also provide alerts on key economic, political and environmental developments across major portfolios and countries, so that mitigating actions can be taken where necessary.

Delinquency Monitoring

We monitor closely the delinquency of borrowing accounts as it is a key indicator of credit quality. An account is considered delinquent when payment has not been received by the payment due date. Any delinquent account, including a revolving credit facility (such as an overdraft) with limit excesses, is closely monitored and managed through a disciplined process by officers from business units and the risk management function. Where appropriate, such accounts are also subject to more frequent credit reviews.

Classification and Loan Loss Impairment

We classify our credit portfolios according to the borrowers' ability to repay the credit facility from their normal source of income. There is an independent credit review process to ensure the appropriateness of loan grading and classification in accordance with MAS Notice 612.

All borrowing accounts are categorised into 'Pass', 'Special Mention' or 'Non-Performing' categories. Non-Performing or Impaired accounts are further categorised as 'Substandard', 'Doubtful' or 'Loss' in accordance with MAS Notice 612. Any account which is delinquent or past due (or in excess of the approval limit for a revolving credit facility such as an overdraft) for more than 90 days will be automatically categorised as 'Non-Performing'. In addition, any account that exhibits weaknesses which are likely to jeopardise repayment on existing terms may be categorised as 'Non-Performing'.

Upgrading and de-classification of a Non-Performing account to 'Pass' or 'Special Mention' status must be supported by a credit assessment of the repayment capability, cash flows and financial position of the borrower. We must also be satisfied that once the account is de-classified, the account is unlikely to be classified again in the near future.

A credit facility is restructured when a bank grants concessions (usually non-commercial) to a borrower because of a deterioration in the financial position of the borrower or the inability of the borrower to meet the original repayment schedule.

A restructured account is categorised as 'Non-Performing' and placed on the appropriate classified grade based on our assessment of the financial condition of the borrower and the ability of the borrower to repay under the restructured terms. A restructured account must comply fully with the requirements in accordance with MAS Notice 612 before it can be de-classified.

The Group provides for impairment of our overseas operations based on local regulatory requirements for local reporting purposes. Where necessary, additional impairment is provided for to comply with the Group's impairment policy and the MAS' requirements.

Group Special Asset Management

Group Special Asset Management (GSAM) is an independent division that manages the restructuring, workout and recovery of the Group's Non Performing Asset (NPA) portfolios. The primary objectives are (i) to nurse the NPA back to financial health whenever possible for transfer back to the business unit for management; and (ii) to maximise recovery of the NPA that the Group intends to exit.

Write-Off Policy

A non-performing account will be written off when the prospect of a recovery is considered poor or when all feasible avenues of recovery have been exhausted.

Internal Credit Rating System

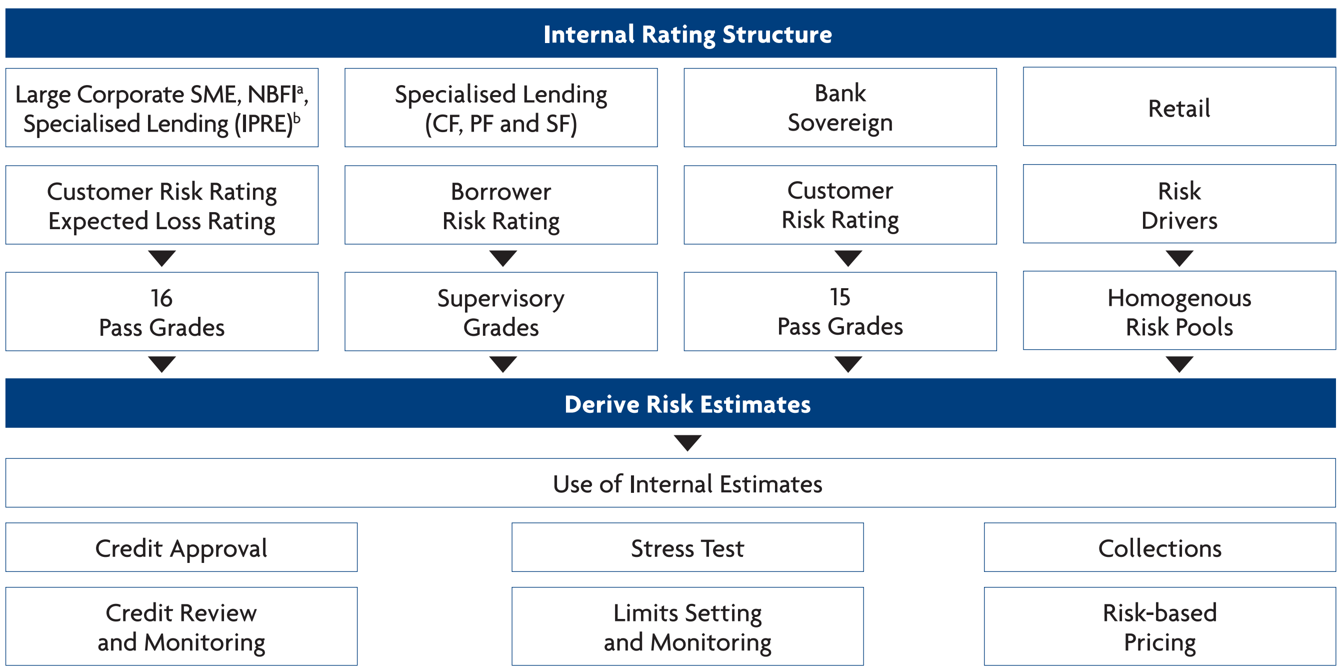
We employ internal rating models to support the assessment of credit risk and the assignment of exposures to rating grades or pools. Internal ratings are used pervasively by the Group in the areas of credit approval, credit review and monitoring, credit stress-testing, limits setting, pricing and collections.

The Group has established a credit rating governance framework to ensure the reliable and consistent performance of our rating systems. The framework defines the roles and responsibilities of the various parties in the credit rating process, including model changes, model performance monitoring, annual model validation and independent reviews by Group Audit.

Credit risk models are independently validated before they are implemented to ensure that they are fit for the purpose. We monitor the robustness of these rating models on an ongoing basis, and all models are subject to annual reviews conducted by model owners to ascertain that the chosen risk factors and assumptions continue to remain relevant for the respective portfolios. All new models, model changes and annual reviews are approved by the CC or the BCC, depending on the materiality of the portfolio.

The Group's internal rating structure is illustrated as follows:

Internal Credit Rating Structure



a NBFI: Non-bank Financial Institution
b We apply a 16-rating grade structure to the Group's Income Producing Real Estate (IPRE) exposures, with the exception of our banking subsidiary in Thailand which maps the internal risk grades to four prescribed supervisory grades.

Non-Retail Exposures

We have adopted the FIRB Approach for our non-retail exposures. Under this approach, the internal models estimate a PD or supervisory slot for each borrower. These models cover 76.4 per cent of the Total Credit Risk risk-weighted assets (RWA) and employ qualitative and quantitative factors to provide an assessment of the borrower's ability to meet their financial obligations. The models are calibrated to provide an estimate of the likelihood of default over a one-year time horizon. A default is considered to have occurred if:

- the obligor is unlikely to pay its credit obligations in full to the Group, without recourse by the Group to actions such as realising the security; or
- the obligor is past due for more than 90 days on any credit obligation to the Group.

Supervisory loss given default (LGD) and exposure at default (EAD) parameters prescribed by the MAS are used together with the internal credit ratings to calculate risk weights and regulatory capital requirements.

While the Group's internal risk rating grades may show some correlation with the rating grades of External Credit Assessment Institutions (ECAIs), they are not directly comparable with or equivalent to the ECAI ratings.

Corporate Portfolio

We have developed models to rate Non-bank Financial Institution (NBFI), Large Corporate and SME portfolios. Credit risk factors used to derive a borrower's risk rating include the borrower's financial strength, quality of management, business risks and the industry in which it operates. The borrower risk rating process is augmented by facility risk ratings, which take into account the type and structure of the facility, availability and type of collateral and seniority of the exposure.

The Group's internal rating grade structure for the NBFI, Large Corporate and SME models consists of 16 pass grades. The models are mapped to the rating scale by calibration that takes into account the respective portfolio's long-term average default rate.

Specialised Lending Portfolio

We have also developed models for four Specialised Lending portfolios, namely (i) Income Producing Real Estate (IPRE); (ii) Commodities Finance (CF); (iii) Project Finance (PF); and (iv) Ship Finance (SF). These models produce internal risk grades which are derived based on a comprehensive assessment of financial and non-financial risk factors.

Risk grades derived for the CF, PF and SF portfolios are mapped to four supervisory slotting categories as prescribed under MAS Notice 637, which determines the risk weights to be applied to such exposures.

The rating grade structure for the IPRE portfolio follows that of the Corporate models, with 16 pass grades, with the exception of our banking subsidiary in Thailand which maps the internal risk grades to the four prescribed supervisory slotting categories.

Sovereign Portfolio

Exposures in our Sovereign portfolio are rated by our internal Sovereign model, which considers public debt levels, balance of payments, fiscal budgets and other macroeconomic, stability and political risk factors to assess sovereign credit risk in a structured and holistic manner. The model has an internal rating grade structure consisting of 15 pass grades.

Bank Portfolio

Exposures in our Bank portfolio are rated by our internal Bank model, which takes into account asset quality, capital adequacy, liquidity, management, regulatory environment and robustness of the overall banking system. The model has an internal rating grade structure consisting of 15 pass grades.

Retail Exposures

We have adopted the AIRB Approach for our retail exposures, which consist of residential mortgages, qualifying revolving retail exposures (QRRE) and other retail exposures. Exposures within each of these asset classes are not managed individually, but as part of a pool of similar exposures that are segmented based on borrower and transaction characteristics. As loss characteristics of retail exposures are geography and product specific, bespoke PD, LGD and EAD segmentation models are developed using empirical loss data for the respective exposures across the Group. Where internal loss data are insufficient to provide robust risk estimates, the segmentation models may incorporate internal and/or external proxies, and where necessary, may be augmented with appropriate margins of conservatism. These models cover 10.0 per cent of the Total Credit RWA and are regularly validated.

Retail Probability of Default Models

Retail PD models are based on pools of homogeneous exposures segmented by a combination of application scores, behavioural scores and other risk drivers reflecting borrower, facility and delinquency characteristics. PD pools are calibrated through-the-cycle using at least five years of historical data that cover a full economic cycle. For low default portfolios, internal and/or external proxies that are highly correlated with internal defaults are used to estimate the long-run average PD. A regulatory floor of 0.03 per cent is applied to all PD pools.

In general, the long-run observed default rates are largely lower than the PD estimates due to the model's calibration philosophy and the application of conservative overlays to account for model risk.

Retail Loss Given Default Models

Retail LGDs are estimated directly using historical default and recovery data via the 'workout' approach, which considers the economic losses arising from different post-default scenarios such as cured, restructured and liquidated. LGD models are segmented using material pre-default risk drivers such as facility and collateral characteristics.

LGD models are calibrated to reflect a portfolio's economic downturn experience. In addition, for residential mortgages, an LGD floor of 10 per cent is applied at the segment level.

Retail Exposure at Default Models

For revolving products, EAD is computed based on the current outstanding balance and the estimated potential drawdown of undrawn commitments, which is statistically determined based on historical data. For closed-end products, the EAD is the current outstanding balance. EAD models are generally segmented by material pre-default risk drivers such as facility type, limit and utilisation. EAD models are calibrated to reflect the portfolio long-run averages, except for portfolios that exhibit positive correlation between LGD and PD values, in which case, these portfolios' EAD models are calibrated to reflect their economic downturn conditions. EADs must be at least equal to the current outstanding balances.

Securitisation Exposures
The Group has investments in asset-backed securities in our investment portfolio. Securitised assets are valued at average bid prices sourced through brokers, banks and independent third-party pricing vendors. This is based on the assumption that the asset can be sold at these bid prices. There is no change to the methods and key assumptions for valuing positions from the previous period.

From time to time, the Group arranges and invests in securitisation transactions. Any decision to invest in such a transaction is subject to independent risk assessment and approval. Processes are in place to monitor the credit risk of the securitisation exposures and are subject to regular review. The special purpose entities involved in these transactions are managed by third parties and are not controlled by the Group. In these transactions, the Group may also act as a liquidity facility provider, working capital facility provider or swap counterparty.

Risk weights for securitisation exposures are computed using the Ratings-Based Method for such exposures as prescribed under MAS Notice 637.

Credit Exposures Subject to Standardised Approach (SA)
We have obtained MAS' approval to adopt the IRBA for the majority of our portfolios, with 28 per cent of our exposures treated under AIRB and 63 per cent under FIRB. The Group applies the SA for the remaining portfolios which are immaterial in terms of size and risk profile and for transitioning portfolios. We will migrate progressively our transitioning portfolios, such as UOB Indonesia's exposures, to the IRBA over the next few years, subject to the approval of the MAS.

For exposures subject to the SA, we use approved ECAI ratings and prescribed risk weights based on asset class in the computation of regulatory capital.

The ECAIs used are Fitch Ratings, Moody's Investors Service and Standard & Poor's. They are mainly in the Bank asset class. ECAI ratings are mapped to a common credit quality grade prescribed by the MAS.

Market Risk

Market risk is governed by the ALCO, which meets monthly to review and to provide directions on market risk matters. The Market Risk Management (MRM) and Balance Sheet Risk Management (BSRM) Divisions support the BRMC, RCC and ALCO with independent assessment of the market risk profile of the Group.

The Group's market risk framework comprises market risk policies, practices and the control structure with appropriate delegation of authority and market risk limits. We employ valuation methodologies that are in line with sound market practices and validate valuation and risk models independently. In addition, a Product/Service Programme process ensures that market risk issues identified are addressed adequately prior to the launch of products and services. We review and enhance our management of derivatives risks continually to ensure that the complexities of the business are controlled appropriately.

Our overall market risk appetite is balanced at the Group, Bank and business unit levels with targeted revenue and takes into account the capital position of the Group and the Bank. This ensures that the Group and the Bank remain well-capitalised, even under stress conditions. The risk appetite is translated into risk limits that are delegated to business units. These risk limits have proportional returns that commensurate with the risks taken.

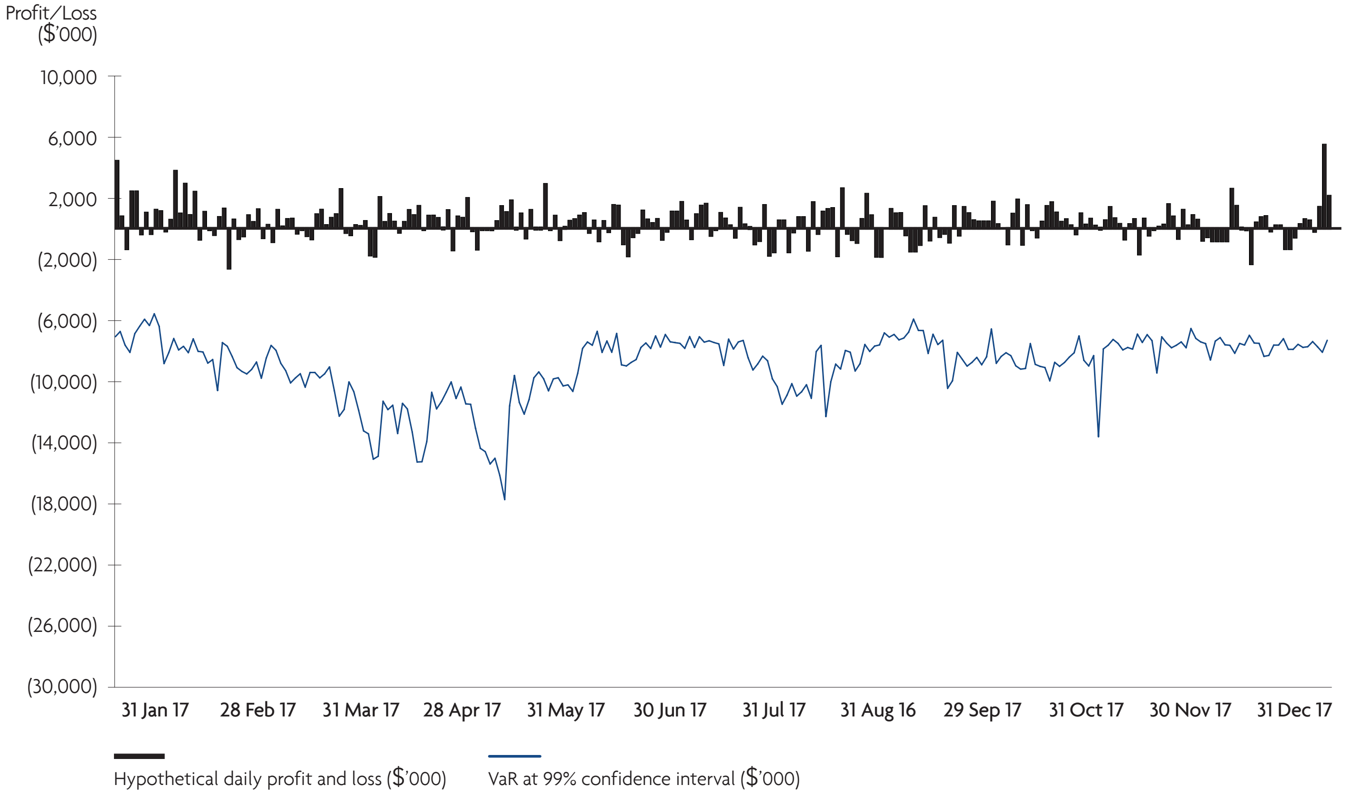
Market risk appetite is provided for all trading exposures within the Group and the Group's non-trading FX exposures. The majority of the non-trading FX exposures arises from our investment in overseas subsidiaries in Asia.

Standardised Approach
The Group currently adopts the SA for the calculation of regulatory market risk capital but uses the Internal Models Approach to measure and to control trading market risks. The financial products which are warehoused, measured and controlled with internal models include FX and FX options, plain vanilla interest rate contracts and interest rate options, government and corporate bonds, equities and equity options, commodities contracts and commodity options.

Internal Model Approach
The Group estimates a daily Value-at-Risk (VaR) within a 99 per cent confidence interval, using the historical simulation method, as a control for market risk. The method assumes that possible future changes in market rates may be implied by observed historical market movements.

Group Trading Backtesting Chart

(Hypothetical daily profit and loss versus VaR at 99% confidence interval)

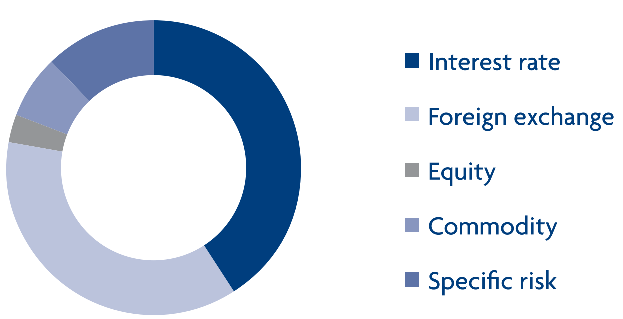


As VaR is the statistical measure for potential losses, the VaR measures are backtested against profit and loss of the trading book to validate the robustness of the methodology. The backtesting process analyses whether the exceptions are due to model deficiencies or market volatility. All backtesting exceptions are tabled at the ALCO with recommended actions and resolutions.

To complement the VaR measure, we perform stress and scenario tests to identify the Group's vulnerability to event risk. These tests serve to provide early warnings of plausible extreme losses for which proactive management of market risk is taken.

The Group's daily VaR on 31 December 2017 was $7.21 million.

Group Trading VaR for Market Risk by Risk Class



Interest Rate Risk in the Banking Book

The ALCO maintains oversight of the effectiveness of the interest rate risk management structure. The BSRM Division supports the ALCO in monitoring the interest rate risk profile of the banking book.

Our primary objective of interest rate risk management is to protect and to enhance capital or economic net worth through adequate, stable and reliable growth in net interest earnings under a broad range of possible economic conditions.

Banking book interest rate risk exposure is quantified on a monthly basis using a combination of static analysis tools and dynamic simulation techniques. Static analysis tools include repricing schedules and sensitivity analysis. They provide indications of the potential impact of interest rate changes on interest income and price-value through the analysis of the sensitivity of assets and liabilities to changes in interest rates. Interest rate sensitivity varies with different repricing periods, currencies and embedded options. Mismatches in the longer tenor will experience greater change in the price-value of interest rate positions than similar positions in the shorter tenor.

In the dynamic simulation process, we apply both the earnings and Economic Value of Equity (EVE) approaches to assess interest rate risk. We estimate the potential effects of interest rate change on interest income by simulating the possible future course of interest rates, expected changes in business activities over time, as well as the effects of embedded options. Embedded options may be in the form of loan prepayment and deposit pre-upliftment. Changes in interest rates are simulated using different interest rate scenarios such as changes in the shape of the yield curve, including high and low rates, as well as positive and negative tilt scenarios.

In EVE sensitivity simulations, we compute the present values for repricing cash flows, with the focus on changes in EVE under different interest rate scenarios. This economic perspective measures interest rate risks across the full maturity profile of the balance sheet, including off-balance sheet items.

We also perform stress tests 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 warning of potential extreme losses, facilitating the proactive management of interest rate risks in an environment of rapid financial market changes.

The risks arising from the trading book, such as interest rates, FX rates and equity prices are managed and controlled under the market risk framework.

Liquidity Risk

The Group maintains sufficient liquidity to fund our day-to-day operations, to meet deposit withdrawals and loan disbursements, to participate in new investments and to repay borrowings. Hence, liquidity is managed in a manner to address known as well as unanticipated cash funding needs.

Liquidity risk is managed in accordance with a framework of policies, controls and limits approved by the ALCO. These policies, controls and limits enable the Group to monitor and to manage liquidity risk to ensure that sufficient sources of funds are available over a range of market conditions. These include minimising excessive funding concentrations by diversifying the sources and terms of funding, and maintaining a portfolio of high quality and marketable debt securities.

We take a conservative stance on the Group's liquidity management by continuing to gather core deposits, ensuring that liquidity limits are strictly adhered to and that there are adequate liquid assets to meet cash shortfall.

The distribution of deposits is managed actively to ensure a balance between cost effectiveness, continued accessibility to funds and diversification of funding sources. Important factors in ensuring liquidity are competitive pricing, proactive management of the Group's core deposits and the maintenance of customer confidence.

Our liquidity risk is aligned with the regulatory liquidity risk management framework and is measured and managed on a projected cash flow basis. The Group is monitored under business-as-usual and stress scenarios. Cash flow mismatch limits are established to limit the Group's liquidity exposure. We also employ liquidity early warning indicators and trigger points to signal possible contingency situations. With regard to the regulatory requirements on the Liquidity Coverage Ratio (LCR) which are effective from 1 January 2015, the Group's ratios were above 100 per cent for both the All Currency LCR and the Singapore Dollar LCR as at 31 December 2017*.

We have contingency funding plans in place to identify potential liquidity crises using a series of warning indicators. Crisis management processes and various strategies including funding and communication have been developed to minimise the impact of any liquidity crunch.

* Quarterly updates are available on UOB's website at www.UOBgroup.com/investor/financial/overview.html

Risk Management

Operational Risk

Operational risk is the risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events. Operational risk includes banking operations risk, fraud risk, legal risk, regulatory compliance risk, technology risk and reputational risk but excludes strategic risk.

Our objective is to manage operational risk at appropriate levels relative to the markets in which the businesses operate.

Operational Risk Governance, Framework and Programmes

Operational risk is managed through a framework of policies and procedures by which business and support units properly identify, assess, monitor, mitigate and report their risks. The ORMC meets monthly to provide oversight of operational risk matters across the Group.

The Operational Risk Governance structure adopts the Three Lines of Defence Model. The business and support functions, as the First Line of Defence, are responsible for establishing a robust control environment as part of their day-to-day operations. Each business and support unit is responsible for implementing the operational risk framework and policies, embedding appropriate internal controls into processes and maintaining business resilience for key activities.

The Operational Risk Management Division, as the Second Line of Defence, oversees the management of operational risk. It exercises governance over operational risk through providing relevant frameworks, policies, programmes and systems, quality assurance of internal controls as well as operational risk measurement. It also monitors and reports operational risks and events to Management, the relevant Management committees and the Board.

Group Audit acts as the Third Line of Defence by providing an independent and objective assessment on the overall effectiveness of the risk governance framework and internal control through periodic audit reviews.

A key component of the operational risk management framework is risk identification and control self-assessments. This is achieved through the Group-wide implementation of a set of operational risk programmes. Several risk mitigation policies and programmes are in place to maintain a sound operating environment.

We have business continuity and crisis management programmes in place to ensure prompt recovery of critical business and support units should there be unforeseen events. Management provides an annual attestation to the Board on the state of business continuity readiness of the Group.

We have also established a technology risk management framework to enable the Group to manage technology risks in a systematic and consistent manner. We will continue to enhance our cyber risk management to ensure stringent cyber risk governance and cybersecurity management.

Regulatory risk refers to the risk of non-compliance with laws, regulations, rules, standards and codes of conduct. We identify, monitor and manage this risk through a structured governance framework of compliance policies, procedures and guidelines maintained by the Group. The framework also manages the risk of regulatory breaches and sanctions relating to anti-money laundering and countering the financing of terrorism.

Legal risk arises from unenforceable, unfavourable, defective or unintended contracts, lawsuits or claims, developments in laws and regulations, or non-compliance with applicable laws and regulations. Business and support units work with the Bank's legal counsel and external legal counsel to ensure that legal risks are effectively managed.

Reputational risk is the risk of adverse impact on earnings, liquidity or capital arising from negative stakeholder perception or opinion of the Group's business practices, activities and financial condition. The Group recognises the impact of reputational risk and has developed a policy to identify and to manage the risk across the Group.

The Group's insurance programme which covers crime, fraud, civil liability, cyber liability, property damage, public liability, as well as directors' and officers' liability enables us to mitigate operational losses resulting from significant risk events.

Fraud Risk

The Group actively manages fraud and bribery risks. The Group Fraud Risk Management framework and policy were established to institutionalise our approach to fraud risk management. They articulate the strategy and governance structures and espouse a strong anti-fraud awareness and mindset. A fraud hotline, an independent investigations function and a fraud risk awareness training programme were established to manage such risks. All employees are guided by a Code of Conduct, which includes anti-bribery and anti-corruption provisions.

The Integrated Fraud Management Division under Group Risk Management drives strategy and governance for fraud risk management as well as conducts independent fraud investigation across the Group. The division works closely with business and support units to strengthen their current practices across the five pillars of prevention, detection, response, remediation and reporting. Using data analytics and technology, the division will implement proactive measures to deter fraud risks and to improve the overall effectiveness of fraud risk management across functions and geographies.

The corporate governance of fraud risk is provided by the Audit Committee at Board level, and primarily by the ORMC at Management level.