RISK MANAGEMENT

THIS REPORT FORMS PART OF DBS’ AUDITED FINANCIAL STATEMENTS, EXCEPT FOR SECTIONS MARKED WITH AN ASTERISK.

RISK MANAGEMENT APPROACH

The Group sees strong risk management capabilities as vital to the success of a well-managed bank. The Risk Management Group function is the central resource for driving such capabilities in DBS, and complements the risk and control activities of other functions including Group Audit and Group Legal & Compliance.

The key components of DBS’ risk management approach are: strong risk governance; robust and comprehensive processes to identify, measure, monitor, control and report risks; sound assessments of capital adequacy relative to risks; and a rigorous system of internal control reviews involving internal and external auditors.

Risk Governance

Under the Group’s risk management framework, the Board of Directors, through the Board Risk Management Committee, oversees the establishment of robust enterprise-wide risk management policies and processes, and sets risk limits to guide risk-taking within the Group.

The Chief Risk Officer (CRO) has been appointed to oversee the risk management function. The CRO has a direct reporting line to the Board which is also responsible for the appointment, remuneration, resignation or dismissal of the CRO. Working closely with the established risk and business committees, the CRO is responsible for the following:

- Management of the risk management systems including processes to identify, measure, monitor, control and report risks;
- Engagement of senior management on material matters relating to the various types of risks and development of risk controls and mitigation processes

Management is accountable to the Board for ensuring the effectiveness of risk management and adherence to the risk appetite established by the Board. To provide risk oversight, senior management committees are mandated to focus on specific risk areas. These oversight committees are the Risk Executive Committee, the Group Credit Risk Committee, the Group Market and Liquidity Risk Committee, and the Group Operational Risk Committee.

On a day-to-day basis, business units have primary responsibility for risk management. In partnership with business units, independent control functions provide senior management with a timely assessment of key risk exposures and the associated management responses. These units, reporting to the CRO, also recommend risk appetite and control limits for approval in line with the risk management framework. There are detailed policies and procedures to identify, measure, analyse, and control risk across all locations where the Group has operations.

CREDIT RISK

Credit risk is the risk of loss resulting from the failure of borrowers or counterparties to meet their debt or contractual obligations. Exposure to credit risks arises from lending, sales and trading as well as derivative activities. Lending exposures are typically represented by the notional value or principal amount of on-balance sheet financial instruments. Financial guarantees and standby letters of credit, which represent undertakings that the Group will make payments in the event that a customer cannot meet its obligations to third parties, carry the same credit risk as loans even though they are of contingent nature. Documentary and commercial letters of credit, which are undertakings by the Group on behalf of a customer, are usually collateralised by the underlying shipments of goods to which they relate and therefore exhibit different risk characteristics from direct lending. Commitments to extend credit include unused portions of loan commitments, guarantees or letters of credit. The majority of unused commitments are contingent upon customers observing or meeting certain credit terms and conditions.

Risk Governance and Organisation

The oversight committee for credit risk is the Group Credit Risk Committee. This committee serves as an executive forum for discussion on credit trends and all aspects of credit risk management, including the identification, measurement, monitoring, mitigation and control processes. It also provides oversight of credit risk committees that are established in the key markets in which the Group operates. This structure ensures that key credit management decisions are effectively cascaded to the appropriate country, business and functional units.

Credit Policies

An enterprise-wide Core Credit Risk Policy sets forth the principles by which the Group conducts its credit risk management activities. The policy ensures consistency in credit risk underwriting across the Group, and provides guidance in the formulation of business-specific and/or location-specific credit policies. The Core Credit Risk Policy is considered and approved by the Risk Executive Committee based on recommendations from Group Credit Policy Committee. The business-specific and/or location-specific credit policies are established to provide greater details on the implementation of the credit principles within the Core Credit Risk Policy and are adapted to reflect different credit environments and portfolio risk profiles.
Senior management sets the overall direction and policy for managing credit risk at the enterprise level. In so doing, it directs the risk appetite and underwriting activities for various countries, industries and counterparties taking into account factors such as prevailing business and economic conditions.

**Consumer Credit**
Retail exposures comprise mainly residential mortgages, credit cards, auto loans and other unsecured loans. Retail exposures are typically managed on a portfolio basis and assessed based on credit scoring models supplemented by risk acceptance criteria.

**Wholesale Credit**
Wholesale exposures comprise sovereign, bank, corporate, corporate small business, specialised lending and securitisation exposures. Wholesale exposures are assessed using approved credit models, and reviewed and analysed by experienced credit risk managers taking into consideration the relevant credit risk factors. Credit extensions are proposed by the business unit and approved by the credit risk function based on the business strategies determined by senior management.

**Traded Products and Securities**
Counterparty risk that may arise from traded products and securities is viewed similarly to loan exposures and included under the Group’s overall lending limits to counterparties. Issuer Default Risk that may arise from traded products and securities are generally measured based on Jump To Default computations.

The Group actively monitors and manages its exposure to counterparties in over-the-counter derivative trades to protect its balance sheet in event of counterparty default. Counterparty risk exposures which may be materially and adversely affected by market risk events are identified, reviewed and acted upon by management and highlighted to the appropriate risk committees. In addition, the Group takes into account any strong relationship between the creditworthiness of a counterparty and the expected future replacement value of a relevant transaction (so called wrong-way risk) during the risk onboarding process. The current exposure method is used for calculating the Group’s net credit exposure and regulatory capital for counterparty exposures, using the mark-to-market exposures with an appropriate add-on factor for potential future exposures.

DBS further manages its credit exposure by entering into master netting arrangements with counterparties where it is appropriate and feasible to do so. The credit risk associated with favourable contracts is reduced by a master netting arrangement to the extent that if an event of default occurs, all amounts with the counterparty are settled on a net basis.

The Group may also enter into Credit Support Annexes with counterparties for credit risk reduction and increased competitiveness. These are governed by internal guidelines with respect to the eligibility of various collaterals and the frequency of collateral calls.

**Collateral Posting**
As at 31 December 2011, for a one notch downgrade of its Standard & Poor’s Ratings Services and Moody’s Investors Services ratings, the Group would have had to post additional collateral amounting to $10 million and $49 million respectively.

**Internal Credit Risk Models**
The Group adopts rating systems for the different asset classes under Internal Ratings Based Approach (IRBA). There is a robust governance process for the development, independent validation and approval of a credit risk model. Credit risk models developed are validated by an independent risk unit in the Group to ensure they are fit for purpose. The models are placed through a rigorous review process prior to endorsement by the Group Credit Risk Committee and the Risk Executive Committee and have to be approved by the Board Risk Management Committee before use.

To ensure the adequacy and robustness of these rating systems on an ongoing basis, Risk Management Group – Credit Portfolio Analytics conducts monthly performance monitoring on these rating systems and reports the results to the Group Credit Risk Committee and the Board Risk Management Committee on a periodic basis. This process will highlight any material deterioration in the credit systems for management attention. In addition, an independent risk unit, Risk Management Group – Model Validation, conducts formal validation annually for each of the rating systems. The validation processes are also subject to an independent review by Group Audit.

The internal credit risk ratings produced by credit rating models are used to calculate the IRBA capital requirements. In addition, the ratings from the credit models are used as the basis to support the underwriting of credit, monitor the performance of the portfolios and determine business strategies.

The Group applies the supervisory Loss Given Default (LGD) estimate provided by the Monetary Authority of Singapore (MAS) for its Foundation IRBA portfolios. These supervisory LGD estimates are used in the computation of risk weights and regulatory capital calculations. For its Advanced IRBA portfolios, the LGD is estimated using internal models, and used in capital calculations and risk return assessments.
Exposure or Exposure at Default (EAD) is the sum of the on-balance sheet amount and/or credit equivalent of the off-balance sheet amount (multiplied by a credit conversion factor) determined in accordance with MAS Notice 637.

**Retail Exposures**
Retail portfolios are categorised into asset classes under the Advanced IRBA, namely residential mortgages, qualifying revolving retail exposures and other retail exposures, including vehicle loans extended to individuals.

Within each asset class, exposures are managed on a portfolio basis. Each account is assigned to a risk pool, taking into consideration factors such as borrower characteristics and collateral type. Loss estimates are based on historical default and realised losses within a defined period. The definition of default is applied at the level of a particular facility, rather than at the level of the obligor.

Business-specific credit risk policies and procedures including underwriting criteria, scoring models, approving authorities, frequency of asset quality and business strategy reviews, as well as systems, processes and techniques to monitor portfolio performance against benchmarks are in place. Credit risk models for secured and unsecured portfolios are used to update the risk level of each loan on a monthly basis, reflecting the broad usage of risk models in portfolio quality reviews in accordance with Basel II principles.

**Wholesale Exposures**
Wholesale exposures are assessed under the Foundation IRBA. The risk ratings for the wholesale exposures (other than securitisation exposures) have been mapped to likely corresponding external rating equivalents. A description of the rating grades is provided in the table to give a qualitative explanation of the risk benchmarks.

Sovereign exposures are risk rated using internal risk rating models and guidelines in line with IRBA portfolios. Country-specific macroeconomic risk factors, political risk factors, social risk factors and liquidity risk factors are reviewed objectively in the sovereign rating models to assess the sovereign credit risk in a disciplined and systematic approach.

Bank exposures are assessed using a bank rating model covering various credit risk factors such as capital levels and liquidity, asset quality, earnings, management and market sensitivity. The risk ratings derived are benchmarked against external credit risk ratings to ensure that the internal rating systems are well aligned and appropriately calibrated.

Large corporate credits are assessed using approved models as well as reviews by designated credit approvers. Credit factors considered in the risk assessment process include the obligor’s financial standing and outlook, industry and economic conditions, market position, access to capital and management strength. The counterparty risk rating assigned to smaller business borrowers is primarily based on the borrower’s financial position and strength, which are assessed via the use of a validated quantitative tool. This is supplemented by expert judgement of qualitative factors, such as management strength, by credit officers.

Credit ratings under the IRBA portfolios are, at a minimum, reviewed on an annual basis unless credit conditions require more frequent assessment. The counterparty risk rating process is reinforced by the facility risk rating system, which considers other exposure risk mitigants, such as collateral and third party guarantees.

A default is considered to have occurred with regard to a particular obligor when either or both of the two following events have taken place:

- **Subjective default:** Obligor is unlikely to pay its credit obligations in full, without recourse by the Group to actions such as realising security (if held).
- **Technical default:** Obligor is past due more than 90 days on any credit obligation to the Group.

This is consistent with the guidance provided under MAS Notice 637.
A description of the internal ratings used for the various portfolios is as follows:

### RISK GRADES DESCRIPTION

<table>
<thead>
<tr>
<th>DBS Probability of Default (PD) Grade (ACRR)</th>
<th>Description of Rating Grade</th>
<th>Internal Classification</th>
<th>Likely Corresponding MAS Classification</th>
<th>Likely Corresponding S&amp;P Rating Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD Grade 1</td>
<td>Taking into account the impact of relevant economic, social or geopolitical conditions, capacity to meet its financial commitment is exceptional</td>
<td>Exceptional</td>
<td>Passed</td>
<td>AAA</td>
</tr>
<tr>
<td>PD Grade 2</td>
<td>Taking into account the impact of the relevant economic, social or geopolitical conditions, capacity to meet its financial commitment is excellent</td>
<td>Excellent</td>
<td>Passed</td>
<td>AA+, AA, AA-</td>
</tr>
<tr>
<td>PD Grade 3</td>
<td>More susceptible to adverse economic, social, geopolitical conditions and other circumstances. Capacity to meet its financial commitment is strong</td>
<td>Strong</td>
<td>Passed</td>
<td>A+, A, A-</td>
</tr>
<tr>
<td>PD Grade 4A/4B</td>
<td>Adequate protection against adverse economic, social or geopolitical conditions or changing circumstances. More likely to lead to a weakened capacity of the obligor to meet its financial commitment.</td>
<td>Good</td>
<td>Passed</td>
<td>BBB+/BBB</td>
</tr>
<tr>
<td>PD Grade 5</td>
<td>Relatively worse off than an obligor rated “4B” but exhibits adequate protection parameters</td>
<td>Satisfactory</td>
<td>Passed</td>
<td>BBB-</td>
</tr>
<tr>
<td>PD Grade 6A/6B</td>
<td>Satisfactory capacity to meet its financial commitment but capacity may become inadequate due to adverse business, financial, economic, social or geopolitical conditions and changing circumstances</td>
<td>Acceptable</td>
<td>Passed</td>
<td>BB+/BB</td>
</tr>
<tr>
<td>PD Grade 7A/7B</td>
<td>Marginal capacity to meet its financial commitment but capacity may become inadequate or uncertain due to adverse business, financial, economic, social or geopolitical conditions and changing circumstances</td>
<td>Marginal</td>
<td>Passed</td>
<td>BB-</td>
</tr>
<tr>
<td>PD Grade 8A</td>
<td>Sub-marginal capacity to meet its financial commitment. Adverse business, financial, or economic conditions will likely impair the obligor’s capacity or willingness to meet its financial commitment</td>
<td>Sub-Marginal</td>
<td>Passed</td>
<td>B+</td>
</tr>
<tr>
<td>PD Grade 8B/8C</td>
<td>Low capacity to meet its financial commitment. Adverse business, financial, or economic conditions will likely impair the obligor’s capacity or willingness to meet its financial commitment</td>
<td>Special Caution</td>
<td>Special Mention</td>
<td>B/B-</td>
</tr>
<tr>
<td>PD Grade 9</td>
<td>Vulnerable to non-payment and is dependent upon favourable business, financial, and economic conditions for the obligor to meet its financial commitment. Likely to have little capacity to meet its financial commitment under adverse conditions</td>
<td>Sub-Performing</td>
<td>Sub-Standard (Non-Defaulting)</td>
<td>CCC-C</td>
</tr>
<tr>
<td>PD Grade 10 and Above</td>
<td>An obligor rated ‘10’ and above is in default (as defined under Basel II)</td>
<td>Default</td>
<td>Sub-Standard and Below (Defaulting)</td>
<td>D</td>
</tr>
</tbody>
</table>
**Specialised Lending Exposures**
Specialised lending IRBA portfolios, consisting of income-producing real estate, project finance, object finance, hotel finance and commodities finance, adopt the supervisory slotting criteria specified under Annex 7V of MAS Notice 637. The supervisory slotting criteria guidelines under the supervisory rating categories are used to determine the risk weights to calculate the credit risk-weighted exposures.

**Securitisation Exposures**
The Group is not active in securitisation activities that are motivated by credit risk transfer or other strategic considerations.

The Group’s investments in securitised assets are accounted for using the principles of Financial Reporting Standards 39. Refer to Note 2.7 to the Financial Statements for the Group’s accounting policies on financial assets.

Where securitised assets are rated by external rating agencies, the Ratings-Based Method is used to calculate the risk weights of the exposures. The Group only accepts ratings from Standard & Poor’s, Moody’s and Fitch for such exposures.

The Group has processes in place to monitor the credit risk of the bank’s securitisation exposures.

**Credit Exposures Falling Outside of Internal Credit Risk Models**
The Group applies the Standardised Approach (SA) for portfolios which are individually immaterial in terms of both size and risk profile and for transitioning portfolios. These portfolios include:

- IRBA-transitioning retail and wholesale exposures
- IRBA-exempt retail exposures
- IRBA-exempt wholesale exposures

The transitioning retail and wholesale exposures are expected to transit to the Advanced IRBA and Foundation IRBA respectively over the next few years, subject to certification by MAS. In the meantime, the SA has been applied.

The portfolios under the SA are subject to the Group’s overall governance framework and credit risk management practices. Under this framework, the Group continues to monitor the size and risk profile of these portfolios and will look to enhance risk measurement processes should these risk exposures become material.

The Group uses external ratings for credit exposures under the SA, where relevant, and the Group only accepts ratings from Standard & Poor’s, Moody’s and Fitch in such cases. The Group follows the process prescribed in MAS Notice 637 to map the ratings to the relevant risk weights.

**Credit Monitoring and Control**
Day-to-day monitoring of credit exposures, portfolio performance and the external environment that may have an impact on our credit risk profiles is key to our philosophy of effective credit risk management. Risk reporting on credit trends, which may include industry analysis, early warning alerts and key weak credits, is provided to the various credit committees, and key strategies and action plans are formulated and tracked.

Credit control functions ensure that credit risks are being taken and maintained in compliance with Group-wide credit policies and guidelines. These functions ensure proper activation of approved limits, ensure appropriate endorsement of excesses and policy exceptions, and monitor compliance with credit standards and credit covenants established by management and regulators.

An independent credit risk review team conducts regular reviews of credit exposures and judgemental credit risk management processes. It also conducts independent validation of internal credit risk rating processes on an annual basis. These reviews provide senior management with objective and timely assessments of the effectiveness of credit risk management practices and ensure Group-wide policies, internal rating models and guidelines are being adopted consistently across different business units including relevant subsidiaries.

**Credit Risk Mitigants**

**Collateral**
Where possible, the Group takes collateral as a secondary recourse to the borrower. Collateral includes cash, marketable securities, properties, trade receivables, inventory and equipment and other physical and financial collateral. The Group may also take fixed and floating charges on the assets of borrowers. It has put in place policies to determine the eligibility of collateral for credit risk mitigation, which include requiring specific collaterals to meet minimum operational requirements in order to be considered as effective risk mitigants. Collateral taken for financial market operations is marked to-market on a mutually-agreed period with the respective counterparties. Collateral taken for commercial banking is revalued periodically ranging from daily to annually, depending on the type of collateral. While real estate properties constitute the largest percentage of collateral assets, the Group generally considers the collateral assets to be diversified.

**Other Risk Mitigating Factors**
The Group also uses guarantees, credit derivatives, master netting agreements, credit support annexes and credit insurance as credit risk mitigants. While the Group may accept guarantees from any counterparty, it sets internal thresholds for considering guarantors to be eligible for credit risk mitigation. Credit derivatives are used as credit risk mitigating factors...
mainly in structured transactions and for financial market operations. Master netting agreements and credit support annexes are used to mitigate counterparty credit risks. Credit insurance is used for risk sharing in various products such as factoring.

Credit Concentration
The Group’s risk management processes aim to ensure that an acceptable level of risk diversification is maintained across the Group on an ongoing basis. Limits are established and regularly monitored in respect of country exposures and major industry groups, as well as for single counterparty exposures. Control structures are in place to ensure that appropriate limits are in place, exposures are monitored against these limits, and appropriate actions are taken if limits are breached.

Stress Testing*
Comprehensive stress tests are conducted for assessing the potential impact to the Group for changes in various specific key risk factors, as well as the potential impact of stress scenarios that are adverse but plausible. Stress tests are also employed in assessing the sensitivity of the portfolio to various risk parameters associated with the IRB Approach.

The stress tests are either directed by senior management (in the assessment of specific key risk factors) or articulated by the credit risk stress testing working group (in the design and performance of specific scenario stress tests). The working group is also responsible for developing and maintaining a robust stress testing model as well as to execute the stress testing process and analysis effectively. Stress test results are also reviewed by the Group Credit Risk Committee and the Group Board Risk Management Committee.

Stress tests form an integral part of the Group’s credit risk management process. The results are analysed to assess the capital adequacy of the Group and are used as inputs for capital planning. For each stress test, remedial actions are formulated as risk mitigation plans to be taken in the event of stress. Early warning monitoring is also considered to signal an impending period of stress.

Non-Performing Loans and Impairments
The Group classifies its credit facilities in accordance with MAS Notice to Banks No. 612, “Credit Files, Grading and Provisioning” issued by the MAS. These guidelines require the Group to categorise its credit portfolios according to its assessment of a borrower’s ability to repay a credit facility from his normal sources of income. There are five categories of assets as follows:

Performing Assets
• Pass grade indicates that the timely repayment of the outstanding credit facilities is not in doubt.
• Special mention grade indicates that the credit facilities exhibit potential weaknesses that, if not corrected in a timely manner, may adversely affect future repayments and warrant close attention by the Group.

Classified or Non-Performing Assets
• Substandard grade indicates that the credit facilities exhibit definable weaknesses either in respect of business, cash flow or financial position of the borrower that may jeopardise repayment on existing terms.
• Doubtful grade indicates that the credit facilities exhibit severe weaknesses such that the prospect of full recovery of the outstanding credit facilities is questionable and the prospect of a loss is high, but the exact amount remains undeterminable.
• Loss grade indicates the amount of recovery is assessed to be insignificant.

The Group may also apply a split classification to any credit facility where appropriate. For instance, when a non-performing loan is partially secured, the portion covered by the amount realisable from a collateral may be classified as substandard while the unsecured portion of the loan is classified as doubtful or loss, as appropriate.

Restructured Non-Performing Assets
Credit facilities are classified as restructured assets when the Group grants concessions to a borrower because of deterioration in the financial position of the borrower or the inability of the borrower to meet the original repayment schedule. A restructured credit facility is classified into the appropriate non-performing grade depending on the assessment of the financial condition of the borrower and the ability of the borrower to repay based on the restructured terms. Such credit facilities are not returned to the performing status until there are reasonable grounds to conclude that the borrower will be able to service all future principal and interest payments on the credit facility in accordance with the restructured terms.

Repossessed Collateral
When required, the Group will take possession of collateral it holds as securities and will dispose of them as soon as practicable, with the proceeds used to reduce the outstanding indebtedness. Repossessed collateral is classified in the balance sheet as other assets. The amounts of such other assets for 2011, 2010 and 2009 were not material.
**Transfer Risk**

The principles and approach in the management of transfer risk are set out in the Group’s Country Risk Management Framework. The framework includes an internal country (and sovereign) risk rating system where the assessments are made independent of business decisions. Transfer risk limits are set in accordance to the bank’s risk appetite. Limits for non-strategic countries are set using a model-based approach. Limits for strategic countries may be allowed to exceed model generated limits, after examining country-specific strategic business considerations and the extent of potential loss versus the risk appetite. There are close consultations with the businesses and credit management in right-sizing cross-border exposures to take into account not only risks and opportunities, but also the strategic intent of the Group.

**MARKET RISK**

Market risk affects the economic values of financial instruments held by the Group, and arises from changes in interest rate yields, foreign exchange rates, equity prices, commodity prices, credit spreads and changes in the correlations and volatilities of these risk factors.

The Group manages market risk in the course of market-making, structuring and packaging products for investors and other clients, as well as to benefit from market opportunities. The Group also manages banking book interest rate risk arising from mismatches in the interest rate profile of assets, liabilities and capital instruments (and associated hedges), including basis risk arising from different interest rate benchmarks, interest rate re-pricing risk, yield curve risks and embedded optionality. Behavioural assumptions are applied in managing the interest rate risk of banking book deposits with indeterminate maturities. To optimise its income and balance sheet management, the Group deploys funds in debt securities, equities and funds or in the interbank market. All types of foreign exchange risk (including structural foreign exchange risk arising from the Group’s investment in strategic investments) are risk managed as part of the trading book.

The Group’s market risk framework identifies the types of the market risk to be covered, the risk metrics and methodologies to be used to capture such risk and the standards governing market risk management within the Group including limit setting and independent model validation, monitoring and valuation.

The Board establishes the Group’s risk appetite for market risk. The CEO delegates responsibility to the Risk Executive Committee to allocate risk appetite limits to risk-taking units. The Group Market & Liquidity Risk Committee, which reports into the Risk Executive Committee, oversees the Group’s market risk management infrastructure, sets market risk control limits and provides enterprise-wide oversight of all market risks and their management.

The independent market risk management function comprising risk control, risk analytics, production and reporting teams reports to the CRO and is responsible for day-to-day market risk monitoring and analysis.

The principal market risk appetite measures for market risk are Value-at-Risk (VaR) and stress loss. The VaR is supplemented by risk control measures, such as sensitivities to risk factors as well as loss triggers for management action.

The Group’s general market risk VaR methodology uses a historical simulation approach to forecast the Group’s potential loss from market risk. The methodology is also used to compute stressed VaR and average tail loss metrics. VaR risk factor scenarios are aligned to parameters and market data that are used for valuation. The scenarios are maintained in the risk system and are used to compute VaR for each business unit and location, and at Group level. Trading book VaR is back-tested against the corresponding profit and loss to monitor its predictive power.

Although VaR provides valuable insights, no single measure can capture all aspects of market risk. Therefore, regular stress testing is carried out to monitor the Group’s vulnerability to shocks.

**LIQUIDITY RISK**

Funding liquidity risk (or liquidity risk) is the current and prospective risk arising from the inability of the Group to meet its contractual or regulatory obligations when they come due without incurring substantial losses. Liquidity obligations arise from withdrawals of deposits, repayments of purchased funds at maturity, and extensions of credit and working capital needs. The Group seeks to project, monitor and manage its liquidity needs under normal as well as adverse circumstances.

The primary tool of monitoring liquidity risk is the maturity mismatch analysis, which presents the profile of future expected cashflows under pre-defined scenarios. This is monitored against available funding and liquid assets across successive time bands and across major currencies under normal and adverse scenarios. In addition, other monitoring metrics (for example, liquidity ratios, deposit concentration ratio, and balance sheet analysis) are used as complementary tools to the maturity mismatch analysis.

On a strategic level, the Board Risk Management Committee is responsible for approving the principles and baseline standards
under the Group’s liquidity risk management framework, as
well as defining the Group’s tolerance towards liquidity risk.
The Risk Executive Committee, which reports to the Board Risk
Management Committee and is supported by the Group
Market & Liquidity Risk Committee, provides liquidity risk
control across the Group and its management. On a business
and tactical level, the Group Asset and Liability Committee
(GALCO) and country ALCOs are the primary committees
responsible for ensuring the Group’s liquidity management
profile is in accordance with the Group’s liquidity risk
management framework and policies.

To manage liquidity risk within the tolerance defined by the
Board, limits and triggers are set on maturity mismatches under
normal and adverse scenarios and other monitoring metrics.
Such limits seek to ensure that adequate funding and liquid
assets are available to meet liquidity needs under both normal
and stress scenarios.

As part of its management of liquidity risk inherent in its
financial liabilities, the Group employs a number of strategies.
These include maintaining sufficient liquid assets, maintaining
diversified sources of liquidity, and having robust internal
control processes and contingency plans.

**OPERATIONAL RISK**

Operational risk is the risk of loss resulting from inadequate or
failed internal processes, people or systems, or from external
events, including legal risk, but does not include strategic or
reputational risk which are managed separately under other
governance processes. An Operational Risk Management
framework (the Framework), approved by the Board Risk
Management Committee, has been developed with the
objective of ensuring that operational risks within the Group
are identified, monitored, managed and reported in a
structured, systematic and consistent manner.

To manage and control operational risk, the Framework
encompasses various tools including control self-assessment,
risk event management and key risk indicators monitoring.
Risk events, including any significant incidents that may impact
the Group’s reputation, are required to be reported based on
certain established thresholds. Key risk indicators with pre-
deﬁned escalation triggers are employed to facilitate risk
monitoring in a forward looking manner. The Group has
implemented a system that supports multiple operational risk
management processes and tools including risk event reporting,
control self-assessment, key risk indicators, tracking of issues or
action plans and operational risk reporting.

A key component of the Framework is a set of core operational
risk standards which provides guidance on the baseline controls
to ensure a controlled and sound operating environment. Each
new product, service or outsourcing initiative is subject to a risk
review and sign-off process in which relevant risks are identified
and assessed by departments independent of the risk-taking
unit proposing the product or service. Variations of existing
products, services and outsourcing initiatives are also subject to
a similar process. Major operational risk mitigation programmes
include business continuity management and a global insurance
programme. On an annual basis, the CEO provides an
attestation to the Board on the state of business continuity
management of the Group, including any residual risks.

The Group Operational Risk Committee oversees the Group’s
operational risk management infrastructure, including the
Framework, policies, processes, information, methodologies
and systems. The committee also performs regular reviews of
the operational risk proﬁles of the Group, and endorses and
recommends corporate operational risk policies to be approved
by senior management.