Risk Management Approach

APPROACH TO RISK MANAGEMENT

The key components of DBS' risk management approach are: strong risk governance; robust and comprehensive processes to identify, measure, control, monitor 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 DBS Group's Integrated Risk Framework, the Board of Directors, through the Board Risk Management Committee, oversees the establishment of robust enterprise-wide risk management policies and processes. Where necessary, DBS sets risk appetite limits to guide risk-taking within the Group.

Management is accountable to the Board for ensuring the effectiveness of risk management and adherence to risk appetite limits. To provide risk oversight, senior management risk committees are mandated to focus on specific risk areas. These oversight committees are the Business Support and Controls Committee, the Group Market Risk Committee, the Group Credit Risk Committee, the Group Asset and Liability Committee, the Group Operational Risk Committee and the Group Commitments and Conflicts 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 also recommend risk appetite and control limits for approval in line with the Integrated Risk 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 potential earnings volatility caused by obligors' inability and/or unwillingness to fulfill their contractual debt obligations. Exposure to credit risks arises primarily from lending activities and also from sales and trading activities, derivatives activities and from participation in payment transactions and securities settlements. Credit exposure includes current as well as potential credit exposure. Current credit exposure is represented by the notional value or principal amount of on-balance sheet financial instruments and off-balance sheet direct credit substitutes, and by the positive market value of derivative instruments. DBS Group also estimates the potential credit exposure over the remaining term of transactions. At DBS Group, a disciplined credit risk management process integrates risk management into the business management processes, while preserving the independence and integrity of risk assessment.

An enterprise-wide Core Credit Risk Policy sets forth the principles by which the Bank and its subsidiaries conduct their credit risk management activities. It ensures credit risk underwriting consistency across the Group, and provides guidance to various credit management units in the formulation of supplementary credit policies specific to their businesses.

The Group Credit Risk Committee serves as an executive forum for discussion and decisions on various aspects of credit risk and its management including the assessment of credit risk taking and adherence to limits, policies, exceptions and other processes; the assessment of the risk-return tradeoffs across the Group; the identification, measurement and monitoring of DBS' credit risk portfolio, including special loan and asset review situations, specific credit concentrations and credit trends affecting the portfolio; as well as recommendation of credit limits and credit policy at the sector, business and country levels. It will also oversee the ongoing monitoring of various aspects of credit risks within the Basel II framework.

Individual corporate credit risks are analysed and approved by experienced credit officers who consider a number of factors in the identification and assessment of credit risk. Each borrower is assigned a rating under the Counterparty Risk Rating process. For large corporate borrowers, the rating is based on the assessment of all relevant factors including the borrower's financial condition 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.

All ratings are reviewed at least annually and more frequently when conditions warrant. The Counterparty Risk Rating process is further enhanced by the Facility Risk Rating System which takes into consideration facility specific considerations such as credit structuring, collateral, third party guarantees and transfer risks. These credit risk-rating tools are used to assess the credit quality of the portfolio, so that deteriorating exposures are quickly identified and appropriate remedial action can be taken.

Consumer credit risk is managed on a portfolio basis. Business specific credit risk policies and procedures including underwriting criteria, scoring models, approving authorities, regular asset quality review and business strategy review as well as systems, processes and techniques to monitor portfolio performance against benchmarks are in place. Risk models are being used for secured loans to update risk level of each loan on a monthly basis, putting Basel II management principles to daily usage and for regular portfolio quality reviews.

The 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, appropriate endorsement of excesses and policy exceptions, and also monitor compliance with credit standards and/or credit covenants established by management and/or regulators.

An independent Credit Risk Review team conducts regular reviews of credit exposures and judgmental 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.

Stress testing of credit risk has assumed increasing importance in the discipline of credit risk management. DBS uses credit risk stress testing approaches to assess the vulnerability of the portfolio to "exceptional but plausible" adverse credit risk events.

DBS uses various metrics, to measure and manage credit concentration risk to individual borrowers, borrower groups and industry sectors. Information on credit exposures by geographical area, business line and industrial classification, and the breakdown of investment and dealing securities are disclosed in Notes 18, 19, 20, 21, 22 and 52 to the Financial Statements and the Management Discussion and Analysis chapter.

COUNTRY RISK

The principles and approach in the management of cross-border 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. Benchmark country limits are set to alert the bank when exposures rise to levels that may imply concentration risk. Day-to-day operational country limits, called working limits, are also imposed to manage the shape and growth of the cross-border exposures as they build up. A rigorous scanning process is established, with the objective of adjusting country exposures according to risks perceived at the global, regional and country level. There are close consultations with the businesses and credit management in right sizing cross-border exposures to take into account not only of risks and opportunities, but also the strategic intent of DBS.

TRADING MARKET RISK

Trading market risk arises from the impact on trading positions of changes in foreign exchange rates, commodity prices, equity prices, interest rate yields and credit spreads. It also includes the impact from changes in the correlations and volatilities of the above risk factors. The Group manages trading 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'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 the management of market risk within the Group including limit setting and independent model validation, monitoring and valuation.

The Group's trading Value-at-Risk (VaR) methodology uses a historical simulation approach (at a 99% confidence level over a one-day holding period, using a 2-year historical observation period) to forecast the Group's trading market risk. DBS Group computes VaR daily for each trading business unit and location, and at the Group level. VaR is back-tested against the profit and loss of the trading book in line with policy in order to monitor its predictive power. Quantitative data regarding the Group's VaR may be found in Note 48.1 to the Financial Statements.

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

The Group Market Risk Committee oversees DBS' market risk management infrastructure, sets market risk control limits and provides enterprise-wide oversight of all market risks and their management.

NON-TRADING MARKET RISK

Non-trading market risk arises from changes in foreign exchange rates, interest rates and equity prices. Non-trading market risk arises in the course of (a) the Group's management of funds arising from banking intermediation and (b) the Group's banking business and investments; specifically, from mismatches in the interest rate profile of assets and liabilities, from the effect of exchange rate movements on the Group's earnings, capital accounts and investments denominated in foreign currencies and from the effect of changes in equity prices on the carrying value of strategic investments in associates and other major stakes.

To optimise its income and balance sheet management, the Group deploys funds in debt securities, equities and funds or in the interbank market. Derivatives may be used to hedge non-trading market risk. An Investment Framework governs the Group's investment of its surplus funds. The Framework requires these investments to be subject to Board and senior management limits on the portfolio size, credit quality, and product and sector concentrations. The market risk arising in the course of managing funds comprises interest rate and equity price risks. These risks are monitored using risk sensitivity measures and valuation action triggers.

Senior management committees oversee non-trading market risk and allocate core limits to regional/local asset and liability committees in the different countries and ensure that the consolidated exposures of the Group are within prudent levels. Regional/local asset and liability committees (ALCOs) are responsible for managing the risks in their respective areas of responsibility, including the setting of operational limits and guidelines to refine risk management, consistent with the Asset and Liability Management Policy.

Interest rate risk arising from mismatches in the interest rate profile of assets and liabilities has several aspects: basis risk arising from different interest rate benchmarks, interest rate re-pricing risk, yield curve risks and embedded optionality. This risk is subject to the Asset and Liability Management Policy. To monitor this risk, the Group uses various tools, including re-pricing gap reports, sensitivity analysis and income scenario simulations.

Foreign currency loans and investments in fundable currencies are generally funded in the same foreign currencies. However, positions arising from investments in currencies which have high hedging costs or which are illiquid or controlled are reviewed by senior management and may be managed with alternative strategies or left unhedged. This foreign exchange risk is subject to the Group's Structural Foreign Exchange Policy and is monitored using foreign exchange net open position reports.

LIQUIDITY RISK

Liquidity risk is the risk arising from being unable to fund portfolio assets at reasonable rates due to maturing liabilities or commitments. Liquidity obligations arise from withdrawals of deposits, repayments of purchased funds at maturity, extensions of credit and working capital needs. The Group seeks to manage its liquidity to meet its obligations under normal as well as adverse circumstances, and take advantage of arising lending and investment opportunities.

The primary tool of monitoring liquidity is the maturity mismatch analysis, which is monitored over successive time bands and across major functional currencies. This analysis includes behavioural assumptions on, inter-alia, customer loans, customer deposits and reserve assets. This is tested under normal and adverse market scenario conditions.

The Group ALCO and country ALCOs are the primary parties responsible for liquidity management based on guidelines approved by the Board Risk committee. Limits are set on maturity mismatches over books under normal and stress scenarios, liquidity ratios and deposit concentration risks. As part of the liquidity management, DBS sets limits to ensure that the funding requirements will not exceed the available funding and liquid assets available for both normal and stress scenarios. The Group focuses on a number of components, including maintaining sufficient liquid assets, maintaining diversified sources of liquidity, preserving necessary funding capacity and contingency planning.

Information on the Group's financial assets and liabilities in relation to exposures to non-trading market risk and liquidity risk can be found in Notes 48.2, 48.3, 48.4 and 49 to the Financial Statements.

OPERATIONAL RISK

Operational risk is the risk of loss resulting from inadequate or failed internal processes, people or systems, or from external events. An Operational Risk Management Framework has been developed to ensure that operational risks within the DBS Group are properly identified, monitored, managed and reported in a structured, systematic and consistent manner. 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. To manage and control operational risk, the Framework is supplemented with various tools including, control self-assessment, risk event management, key risk indicator monitoring and process risk mapping. Major operational risk mitigation programmes include Business Continuity Management and the Global Insurance Programme.

A firm-wide Operational Risk Management system has been implemented. It is an integrated web-based system, incorporating the individual components of the Framework and facilitates an enhanced analysis and reporting of operational risk data. In addition, a process risk mapping framework was developed to identify the key risks and controls in an end-to-end transaction cycle.

The Group Operational Risk Committee oversees DBS' operational risk management infrastructure, including the Framework, policies, processes, information, methodologies and systems. The Committee also performs regular review of the operational risk profiles of the Group, and endorses and recommends corporate operational risk policies to be approved by the Business Support & Controls Committee.

The Group Operational Risk function is responsible for implementing the Framework in partnership with the business and support units. The day-to-day operational risk management lies with the business and support units. To reinforce accountability and ownership of risk and control, Unit Operational Risk Managers are appointed to assist the unit heads in driving the overall risk and control agenda and programmes.

As part of Group Audit's review process, the quality of the operational risk management programmes of the business and support units are taken into account in assigning a "Management Control Awareness" rating.

BASEL II PROGRAMME

DBS views Basel II as a firm-wide programme that will ensure that our credit, market and operational risk management practices continue to meet international best practices. It is an initiative for us to further embed sound risk management practices and culture within our businesses, and ensure that DBS continues to expand our businesses across segments and markets with the right risk management discipline, practices and processes in place. To underscore the importance of this initiative and ensure a concerted effort towards the successful implementation of various aspects of the programme, an integrated Basel II Governance and Programme Management structure is put in place.

A Group Basel II Steering Committee ("Steering Committee"), chaired by the Group CFO, oversees the implementation of all programme work streams to ensure that relevant entities in the DBS Group are on track for Basel II qualification in their respective jurisdictions. The Steering Committee is supported by sub-committees for each major work stream. Reporting to the Steering Committee, the Basel II Programme Management Office works with the respective work stream sponsors and dedicated project managers to drive the overall Basel II programme.

In 2007, the Monetary Authority of Singapore (MAS) approved DBS' application to adopt the Basel II Internal Ratings-Based Approach (IRBA), with effect from 1 January 2008, for computing part of its regulatory capital requirements. The approved wholesale portfolios are on the Foundation IRBA, while the approved retail portfolios are on the Advanced IRBA. This is an important milestone. DBS will extend the adoption of IRBA, subject to approval from the MAS and other regulators.