Risk Exposures and Risk Management Approach

Approach to Risk Management

DBS embraces risk management as a core discipline to uphold the integrity of our business practices and ensure the safety and soundness of our operating environment. We consider having world-class skills in monitoring, interpreting and forecasting our risk profile a critical internal capability. Our approach to risk management has several components: comprehensive risk management processes, early identification systems, accurate risk measures, investments in people and technology to interpret and manage risk on a daily basis, stress tests and comprehensive process reviews in conjunction with internal auditors, external auditors and regulatory officials.

Risk Governance

Although business units have primary responsibility for managing specific risk exposures, Group Risk Management is the central resource for quantifying and managing the portfolio of risks taken by the Group as a whole. Group Risk Management performs the following roles:

- Develops, implements, maintains, improves and communicates a consistent risk management framework
- Recommends risk limits and concentration limits
- Develops and implements an infrastructure that will qualify DBS for risk-based regulatory capital requirements
- Provides senior management and Board with independent and timely assessment of the aggregate risk profile concerning significant risk concentrations, portfolio composition and quality
- Develops framework for economic capital
- Identifies opportunities to optimise risk-based return on capital

DBS Group has implemented policies and procedures to identify, measure, analyse and control risk across the firm. These policies and procedures rely on constant communication, judgment, knowledge of products and markets, and controls by business and support units.

To assist the Board of Directors in fulfilling its duties, the Board Risk Management Committee oversees matters relating to the management of risk. Management is accountable to the Board for maintaining an effective control environment that reflects established risk appetite and business objectives. Five senior management risk committees provide forums for discussion on specific risk areas: the Market Risk Committee, the Credit Risk Committee, the Group Asset and Liability Committee, the Group Operational Risk Committee and the Commitments, Compliance and Conflicts Committee.

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.

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

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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.

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 guidelines established by management and regulators.

An independent Risk Review team conducts regular reviews of credit exposures and processes. These reviews provide senior Management with objective and timely assessments of the effectiveness of credit risk practices and ensure group-wide policies and guidelines are being adopted consistently across different business units including relevant subsidiaries.

In the past few years, various "shocks" in the financial market had adversely impacted the creditworthiness of borrowers. As a result, stress testing of credit risk has assumed increasing importance in the discipline of credit risk management. DBS uses a combination of "top-down" and "bottom-up" credit risk stress testing approaches to assess the vulnerability of the portfolio to "exceptional but plausible" adverse credit risk events.

DBS has developed an Economic Capital-at-Risk Framework for the measurement and management of credit concentration risk to individual borrowers, borrower groups and industry sectors. The Economic Capital-at-Risk Framework also provides the basis for economic capital attribution.

Information on credit exposures by geographical area, business line and industrial classification, and the breakdown of investment and dealing securities are disclosed in Notes 23, 24, 25, 27 and 40.1 to the Financial Statements and the Management Discussion and Analysis chapter.

Country Risk

The management of cross-border risk is embedded in a Country Risk Management Framework, which was approved at the Board level. The Framework includes an internal country risk rating system which taps into the expertise of the Bank within the markets it operates, and where the country assessments are made independent of business decisions. Benchmark country limits are set to delineate when exposures approach 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 environment scanning process is in place, with proactive action as warranted to expand or roll back country exposures.

Trading Market Risk

Trading market risk arises from changes in market rates such as interest rates, foreign exchange rates, equity prices and credit spreads, as well as in their correlation and implied volatilities. DBS Group takes trading market risk in the course of market making, structuring and packaging products for investors and issuers, as well as to benefit from market opportunities.

The trading market risk framework comprises the following elements:

- Limits to ensure that risk-takers do not exceed aggregate risk and concentration parameters set by senior management and the Board
- Independent validation of valuation and risk models and methodologies
- Independent mark-to-market valuation, reconciliation of positions and tracking of stop-loss for trading positions on a timely basis
- New product/service process whereby risk issues are identified before new products and services are launched

DBS adopts a Daily-Earnings-at-Risk (DEaR) methodology to estimate the Group's trading market risk with a 99% level of confidence. DEaR is computed using a combination of parametric (variance-covariance) and historical simulation approaches. It takes into account all pertinent risk factors and covers all financial instruments which expose the Group to market risk across all geographies. On a daily basis, DBS computes DEaR for each trading business unit and for each risk type such as foreign exchange, interest rate or equity which are then rolled up to the Group level. The DEaR figures are backtested against profit and loss of the trading book to validate its robustness.

Daily Earnings at Risk

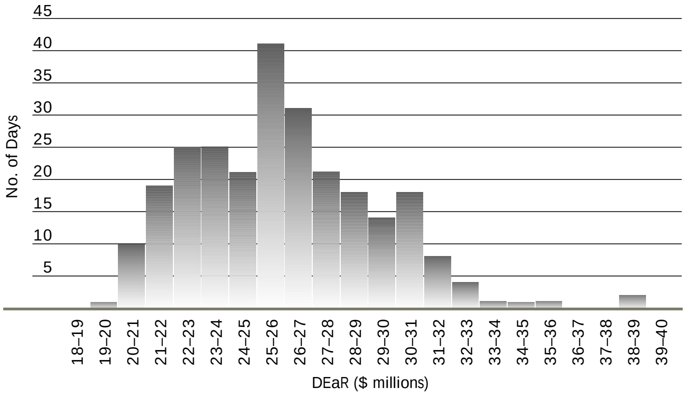
The table below provides the year-end, average, high and low DEaR for the trading risk exposure of DBS Group during the year:

	As at 31 Dec 2004	1 Jan 2004 to 31 Dec 2004		
	In $ millions	Average	High[1]	Low[1]
Interest Rate	24.6	28.2	39.8	21.5
Foreign Exchange	3.7	6.2	14.2	2.7
Equity	5.5	5.5	8.7	3.1
Diversification Effect	(11.8)	(14.0)	–	–
Total	22.0	25.9	38.4	19.9

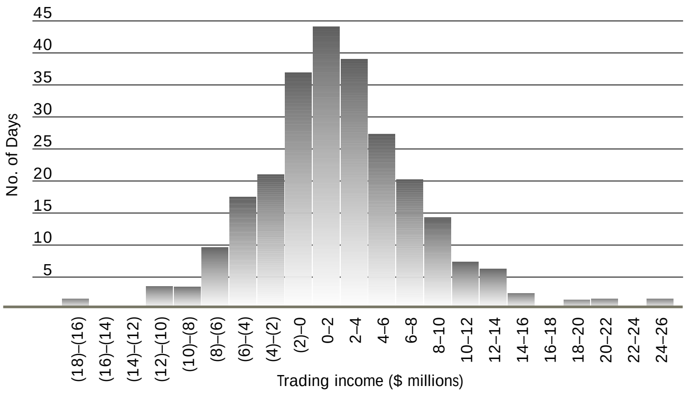
1) The high (& low) DEaR figures reported for each risk class did not necessarily occur on the same day as the high (& low) reported for total. A corresponding diversification effect cannot be calculated and is therefore omitted from the table.

The charts below provide the range of DEaR and the daily distribution of trading income in the trading portfolio for the year ended December 31 2004:

DBSH Group DEaR for Trading Book



Daily Distribution of Group Trading Income



Although DEaR provides valuable insights, no single measure can capture all aspects of trading market risk. To complement the DEaR framework, daily stress testing is carried out to monitor the Group's vulnerability to unlikely but plausible shocks to individual market factors. Stress limits are also established accordingly. On a monthly basis, a set of scenarios (historical or hypothetical) are developed and applied on the trading books to further assess the potential impact from simultaneous shocks on all market rates, prices and their implied volatilities.

The Group's Market Risk Committee meets fortnightly to review and give direction on the level of market risk taken within DBS Group; its breakdown by desk and geography risk type; trading profit and loss; stress testing results; risk model backtesting performance; and requests for limit changes. The Greater China Market Risk Committee focuses on the same market risk metrics and issues within the Greater China area.

Information on the Group's financial assets and liabilities in relation to exposures to interest rate and foreign exchange risks can be found in Notes 37.2.2 and 37.2.3 to the Financial Statements.

Structural Market Risk

The Group Asset and Liability Committee ("Group ALCO" or "GALCO") oversees the structural interest rate risk, structural foreign exchange risk and funding liquidity risk in the Group. It allocates core limits to regional/local ALCOs in the different countries and ensures that the consolidated exposures of the Group are within prudent levels. Regional/local ALCOs are responsible to manage the risks in their areas including the setting of operational limits and guidelines to fine tune risk management, consistent with the Group's Asset and Liability Management ("ALM") Policy.

Structural interest rate risk arises from mismatches in the interest rate profile of customer loans and deposits. This interest rate risk has several aspects: basis risk arising from different interest rate benchmarks, interest rate repricing risk, yield curve movements and embedded optionality.

In managing structural interest rate risk, the Bank tries to achieve a desired profile given the strategic considerations and market conditions of the various business segments. To monitor the structural interest rate risk, various tools are used including repricing gap reports, sensitivity analysis and income simulations under various scenarios. These measures take into account both economic value and earnings perspectives.

In structural foreign exchange exposures, the Group's policy is to manage the effect of exchange rate movements on its earnings and capital accounts. Foreign currency loans and investments in fundable currencies are generally funded with the same foreign currencies. Non-fundable or illiquid currencies may be hedged with instruments such as non-deliverable forwards. For currencies with high hedging costs or lack of liquidity, alternative strategies may be used.

An Investment Framework governs the Group's investment of funds arising from the banking business. These investments are separately subject to Board and senior management limits on the portfolio size, credit quality, product and sector concentrations and market risk sensitivities under the Framework. Investment market risk is monitored by risk type using sensitivities and by valuation action triggers. Valuation as well as validation of models used in valuation and risk management are carried out by independent support units.

Liquidity Risk

Liquidity risk is the potential earnings volatility arising from being unable to fund portfolio assets at reasonable rates over required maturities. Liquidity obligations arise from withdrawals of deposits, repayments of purchased funds at maturity, extensions of credit and working capital needs. DBS seeks to manage its liquidity risk across all classes of assets and liabilities to ensure that even under adverse conditions, DBS has access to funds at a reasonable cost.

The primary tool for monitoring liquidity is the maturity mismatch analysis, which is monitored over successive time bands and across 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. Limits are established by the Board and senior management for the maximum cumulative cash outflows over successive time bands. Various liquidity ratios, concentration and stress limits are additional tools employed by the Bank to manage funding liquidity risk.

As part of its liquidity risk management, DBS Group focuses on a number of components, including tapping available sources of liquidity, preserving necessary funding capacity and contingency planning.

Information on the Group's financial assets and liabilities in relation to exposures to interest rate risk, currency risk and liquidity risks can be found in Notes 37.2.2, 37.2.3 and 37.2.6 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. Key elements of the Framework include control self-assessment, risk event management and key risk indicator monitoring. To reinforce accountability and ownership of risk and control by the business units and support units, Unit Operational Risk Managers are appointed to assist the unit heads in driving the overall risk and control agenda and programmes at the units.

The day-to-day management of operational risk exposures is through the maintenance of a comprehensive system of internal controls, supported by an infrastructure of robust systems and procedures to monitor transaction positions and documentation. A set of Core Operational Risk Standards have been established to provide guidance to business units and support units on the baseline internal controls to be put in place to ensure the safety and soundness of their operating environment. Other major operational risk mitigation programmes include Business Continuity Management and the Global Insurance Programme that apply to all DBS entities and units in all locations.

Each new product or service introduced is subject to a rigorous risk review and signoff process where all relevant risks are identified and assessed by departments independent of the risk-taking unit proposing the product. Variations of existing products, as well as outsourcing and process centralisation initiatives, are also subject to a similar process.

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