Approach to Risk Management

Financial institutions have been greatly affected by changes in the economic and financial environments in recent years. Under these conditions, prompted by the growing diversity and complexity of their operations, financial institutions have been pressed to construct appropriate risk management systems to sustain and enhance their business soundness while fulfilling their social responsibilities.

Cognizant of this fact, the Bank has established a Risk Management Basic Policy, with the aim of further enhancing its risk management capabilities. This policy serves as the road map for the Bank’s risk management activities and clearly lays out the types of risks to be addressed as well as the relevant management structures and mechanisms.

With this in mind, the Bank separates the risks that it must manage into two broad categories. One comprises risks actively taken on to generate profits (i.e., credit risk and market risk), and the other comprises risks passively incurred in the course of carrying out operations (i.e., settlement risk and legal risk). Specific risks are dealt with in accordance with individual guidelines based on risk type, while an integrated approach is taken to manage risk on a Bank-wide basis.

Comprehensive Risk Management

The Bank has constructed a portfolio comprising various assets based on the concept of globally diversified investments. The Bank considers the comprehensive management of differing risks, risk taking commensurate with its capacity and the appropriate management of these risks essential to maintaining business soundness.

With this understanding, the Bank quantifies its exposure to various risks and constrains the aggregate amount to within its equity capital. To accomplish this, the Bank has adopted the concept of economic capital management and allocates economic capital to individual sectors.

The Bank categorizes “risk” as market risk, credit risk and operational risk, and allocates economic capital on an integrated basis in market-oriented divisions for the purpose of utilizing globally diversified investments to the maximum extent possible. As such, this strategy enables the Bank to allocate and distribute assets in conformance with its business model. Furthermore, every six months, the Board of Directors decides on the allocation of economic capital in accordance with investment policy. The middle office, meanwhile, measures and monitors risk levels on a daily basis.

Credit Risk Management

For the Bank, transactions involving credit risk are a key source of earnings, in line with its business strategy. In addition to assessments of individual credit risk assets, including loans, the Bank conducts comprehensive risk management from the perspective of its overall credit risk portfolio. In this way, the Bank seeks to generate earnings commensurate with its level of credit risk. Also, as a financial institution whose base consists of agricultural, forestry and fishery cooperatives, the Bank aims to promote these industries through “cooperative lending” while carrying out due risk management as a private financial institution.
Credit Risk Management System
The Bank’s credit risk management system centers on three committees comprised of top management. One of them is the Credit Risk Management Committee, which deliberates on specific strategies related to transactions involving credit risk other than those connected with cooperative lending. It also makes determination on large and/or material loans on an individual basis. On the other hand, the Cooperative Finance Committee considers specific strategies concerning cooperative lending in order to fulfill its mission of providing effective and efficient funding.

The Credit Committee is a venue for deliberating on basic rules and policies of risk management, and specific strategies determined by the Credit Risk Management Committee, the Cooperative Finance Committee and the Market Risk Management Committee—which is discussed later in this report—must be consistent with these basic frameworks. These basic frameworks include such systems as credit ceilings by country and individual company, the internal rating system and self-assessments. The Credit Committee also deliberates
on basic directions from the perspective of strengthening risk management in accordance with the concept of comprehensive risk management.

At the same time, monitoring of the credit risk portfolio is carried out by the Risk Monitoring Division established separately from the front office.

**Credit Analysis System**

While continually strengthening its credit analysis capabilities, the Bank conducts highly specialized checks of borrowers, taking into account their respective characteristics as cooperatives, general companies, public corporations or non-residents. To conduct credit analyses on private corporations and public corporations, the Bank has established the Credit Risk Management Division, which is separate from the Corporate Business Management & Strategy Division. The division conducts industry-based credit analyses, making full use of the expertise the Bank has cultivated. Specifically, to achieve greater accuracy, each senior credit analyst in charge of a certain industry assesses each client and business through comparisons with competitors in the same business, a method that makes active use of industry research functions. With regard to credit for non-resident borrowers, the Bank has adopted a country ceiling system that takes into account risks that differ from those of domestic loans, such as analyses of political and social conditions of each country. In addition to a business-type-based credit analysis, a region-based senior credit analyst evaluates loan applications, thereby carrying out optimal risk management.

Markets for so-called products involving the securitization of assets—which are backed by account receivables, real estate and other assets—have been expanding in recent years. Aside from credit risk analysis of individual borrowers, senior credit analysts specializing in the structure of investment products focus on a proper understanding of the risks associated with such products while conducting ongoing monitoring and reviews of investment products.

Under this credit analysis system, the Bank conducts sophisticated credit risk management based on strict screening standards and on its own methods for analyses of financial position and cash flow, as well as follow-up monitoring.

In addition to strengthening these reliable analysis methods, the Bank uses management methods that address credit analysis from the perspective of the portfolio as a whole, sets credit limits in accordance with internal ratings, and screens individual companies to control risk volume. Simultaneously, the Bank seeks to set interest rates in accordance with internal ratings and security statues and thereby secure returns commensurate with risk.

**Quantifying Credit Risk**

Through the above various ceiling systems and credit analysis for each transaction, credit risk is managed to prevent overconcentration in a specific industry, company or product to enable balanced portfolio management. At the same time, the Bank measures risk volumes using statistical methods as described below.
Credit risk measurement methods
Credit risk encompasses economic losses of granted credit due to depreciation of market prices for corporate bonds and delinquent loan repayment resulting from deterioration in the business conditions of issuers or borrowers. The Bank works to measure volumes of such credit risks.

The Bank measures credit risk for off-balanced swap transactions as well as on-balanced loans, guarantees, foreign exchange and securities such as corporate bonds, which covers issuers and borrowers of domestic and overseas corporations and financial institutions.

The Bank works to accumulating statistical data related to credit risk such as rating transition ratios (probability of rating changes) that are determined both by past and future business performance, default ratios by rating and recovery ratios in the event of default, and then simulates several tens of thousands of potential scenarios such as defaults as well as rating changes for customers and products. Through these methods, the Bank plots the distribution of potential losses.

For the above potential losses, the Bank calculates two risk volumes: the “expected loss” that corresponds to the loss that can be expected on average over the next year; and the “probable maximum loss” which is defined as losses that can be expected under the worst case scenario. By doing so, the Bank validates expected profitability against risk and determines risk capital to be allocated to each business category.
**Market Risk Management**

The Bank has positioned its market transactions as an important source of income as well as a means to hedge risks. Interest rate and price fluctuation risks are properly controlled using comprehensive risk management systems to generate profits and stabilize financial positions.

To ensure the implementation of these management strategies, the Bank has created a mutual checking system where decision-making, execution and monitoring functions are systematically separated and organized into independent units. These activities are carried out to realize appropriate risk management.

Looking forward, the Bank will work to further enhance its technical capabilities, including systems, personnel and the quantitative analysis of risk volume, thereby optimizing its risk management.

**Banking Operations (ALM)**

The optimal management of risks in banking operations is indispensable to the stability of financial institutions.

The Bank began risk management at an early stage through asset-liability management (ALM) that places emphasis on a balance of maintaining financial soundness and strengthening profitability. Both static and dynamic interest rate sensitivities of cash flow are analyzed, and basis point values are calculated. Based on the analyses conducted from various angles, the Bank works to construct a flexible financial structure that can respond promptly to changes in financial conditions.

**Market Portfolio Management**

In banking operations, the Bank places special emphasis on analyzing and managing market risk in view of the importance of its portfolio of marketable securities. This framework is described below.

1. **Decision making**
   Important decisions on market transactions are made at the managerial level. The Market Risk Management Committee, composed of members of management as well as the general managers of related divisions, considers, discusses and authorizes final decisions concerning specific policies related to market transactions.

   At the time of analysis, in addition to the examination of the investment environment, including market trends and the economic outlook, the Committee makes appropriate decisions taking ALM and the Bank's securities portfolio into consideration. The Market Risk Management Committee meets, in general, once per month. In addition, meetings are held on an ad-hoc basis when it is necessary to formulate flexible measures to deal with market trends or other such factors. In addition, to facilitate the close exchange of day-to-day information related to market movements, management and general managers of related divisions hold weekly meetings to share information that enables the making of swift and optimal decisions.

2. **Execution**
   The front offices buy and sell securities and hedge risks based on policies set by the Market Risk Management Committee. These activities are executed efficiently while monitoring market trends to enable new proposals for investment strategies.

3. **Monitoring**
   The Risk Monitoring Division checks whether the operations conducted by the front offices conform to the policies set by the Market Risk Management Committee. In addition to measuring risk, the division also performs a monitoring function in that it measures risk volumes. Results of the monitoring carried out on a daily basis are periodically reported to management. The Market Risk Management Committee uses the results as the basis for confirming the risk condition of the portfolio and for exploring specific policies for the future.
(4) Alarm system
The Bank has adopted an alarm system, called the “Checkpoint System,” as a tool for risk management. This system requires the Market Risk Management Committee, which includes top management, to discuss actions when the risk volume in the overall portfolio reaches a certain level stipulated in the Bank's tolerance limits. An alarm is activated when the risk volume radically changes in the short term and exceeds a certain level. In such cases, relevant personnel from top management and ranks below are obliged to meet and discuss appropriate actions. This mechanism enables the Bank to quickly and appropriately manage risks; however, the Bank is committed to establishing an even more optimal risk management system in the future.

(5) Risk measurement methods
Market risk is the potential for losses to occur from changes in revenues due to interest rate fluctuations and/or changes in asset and liability values as a result of market fluctuations, including interest rates, stock prices and exchange rates. Controlling revenues and expenses in line with interest rate fluctuations is very important in banking operations, making it necessary to grasp the degree of impact on revenues and expenses from a certain change in interest rates. The Bank calculates the interest rate sensitivity of its assets and liabilities and measures cash flow fluctuations of assets and liabilities (as measured by the changes in interest margins or unrealized gains and losses in cases where the standard interest rate moves by one percentage point). This scheme is combined with scenario-based simulation methods to measure the impact of interest rate changes on cash flows in overall banking operations.

In addition, the Bank regularly carries out the measurement of the risk volume by taking account of price fluctuation risk involved with bonds, stocks and foreign currency exchange. Furthermore, simulations under stress conditions are also performed for the overall banking account. The Bank uses these processes to determine the impact of market movements on the value of held assets.

Trading
The Bank maintains distinct organizational separation between its trading operations, which conduct transactions with the aim of generating profits from short-term market fluctuations, and sections that carry out other transactions. Also, the Bank has established a trading framework for front sections, including predetermined position limits and loss limits, from the perspective of risk and return. The objective of this framework is to achieve profit targets.

(1) Alarm system
Front sections are notified and warned when positions and/or losses exceed specified levels. They are then obligated to take corrective action, reduce trading volume, halt trading or otherwise respond to the levels.

(2) Risk measurement methods
The Bank measures the risk in its trading operations by adopting such methods as basis point value (BPV), slope point value (SPV), option risk parameters and VaR to monitor compliance with risk limits.

The precision of the internal model for measuring risk volumes is increased through the continual comparison of fluctuations in actual gains and losses with those projected by the model (back testing). At the same time, the Bank strives to further increase the sophistication of its measurement methods by adopting new financial and information technologies.

Moreover, the validity of the model developed by the Bank has been proven by objective quantitative and qualitative audits conducted by an outside audit corporation. The model is also used for calculating market risk volume and required capital volume as stipulated by the BIS at the end of March 1998.
Results of Back Testing (Trading Divisions, Interest Rate VaR (1 day))

From April 1, 2004 to March 31, 2005 (consisting of 245 business days), the negative value of fluctuations in daily profit and loss exceeded VaR (1-day holding period) zero times. As shown in the diagram above, the model has been proven valid within the specified probability range (one-tailed confidence interval of 99%).

Glossary

- BPV (basis point value)
  BPV indicates the change in the value of a current position given a 0.01% change in interest rates. The Bank uses total delta as the indicator of the impact assuming a parallel shift in the yield curve.

- SPV (slope point value)
  SPV is an indicator of the impact assuming a non-parallel shift in the yield curve. Because each yield curve grid is a compilation of absolute values for BPV, SPV indicates the changes in value of the Bank’s positions when the interest rate moves against the Bank’s positions by 0.01% in each grid.

- VaR (value at risk)
  VaR is the maximum possible loss over a specified holding confidence interval. The Bank calculates VaR using a variance-covariance matrix with two distinct holding periods (1 day and 10 business days) and a 99% confidence interval (standard deviation of 2.33).
Liquidity Risk Management
The Bank manages liquidity risk as prescribed in its Liquidity Risk Management Guidelines using the following definitions: (1) market liquidity risk—the risk that rapid changes in the market environment will prevent fast and accurate price formation for a position or its liquidation; and (2) cash flow risk—the risk of disrupting the settlement of transactions due to reduced liquidity funds or suffering from losses by having no means but to procure funds at interest rates much higher than normal.

The Bank conducts market liquidity risk-oriented investigations when setting concrete investment strategies by taking into account these factors critical to investment decisions and by assessing the liquidity (marketability) for each investment product.

A premise necessary for ongoing operations and portfolio management, cash flow risk is managed by the Bank on a daily basis for each currency, product and office in terms of both funds management and procurement. Based on daily and monthly funds targets, the Bank works to maintain a stable level of liquidity while taking into account market movements.

Settlement Risk Management
The Bank defines settlement risk as the risk of losses due to the failure of a counterparty to settle a transaction for some reason. The Bank manages settlement risk according to its Settlement Risk Management Guidelines.

Settlement risk encompasses credit risk, liquidity risk, operational risk and legal risk, and the Bank continually upgrades its internal management system in accordance with the various conditions of settlement risk and strengthened policies for dealing with settlement risk should it materialize. Additionally, by implementing measures in line with settlement system reforms, the Bank strives to achieve highly smooth, safe settlement by using its current account at the Bank of Japan, the real-time gross settlement (RTGS) system for settling Japanese government bond (JGB) transactions and the continuous linked settlement (CLS) system for settling foreign exchange transactions.

Legal Risk Management
The Bank manages legal risk as prescribed in its Legal Risk Management Guidelines. The Bank defines legal risk as the risk of adverse transactions or damage to the Bank from illegal or inappropriate contracts in the execution of management decisions or individual operations.

In addition to conventional financial services, the Bank offers new financial services using its enhanced and expanded credit business. The Bank also proactively conducts investment operations. Under these conditions, the Bank has made legal risk management one of the top management priorities at all of its business and is working to upgrade its management procedures and techniques.

Specifically, the Bank has created a database of all banking-related laws and regulations by office and operation to enable swift and accurate assessment in response to legal and regulatory changes. The Bank also works to minimize legal risk by fully supporting each concerned office and branch with regard to legal checks of individual items and the drafting and screening of contracts.
Operational Risk Management
The Bank manages operational risk according to its Operations Risk Management Guidelines. The Bank defines operational risk as the risk of losses from improper clerical operations. This includes executives and employees failing to carry out operations in accordance with established procedures due to a variety of causes, such as accidents and improper conduct or failure to conduct the proper clerical operations. This failure may stem from inadequate procedures and/or manuals and/or actions inconsistent with these procedures and manuals.

The Bank continually improves its clerical operations while working to reduce risk through various efforts such as assessment of the circumstances that have resulted in accidents and errors and implementation of self-examinations, self-inspections and risk assessments.

Systems Risk Management
The Bank does not limit system risk to IT or security-related risks but broadly defines it to include consistency with business strategies and compliance with laws and regulations. The Bank manages the system risk in accordance with its Systems Risk Management Guidelines. In addition, to enable appropriate management of information assets such as information and information systems, the Bank continually improves its security by establishing internal rules and regulations under “Security Policy” and “Security Standards”.

Various committees (Information Security Committee, etc.) are to be held to enable prompt management decisions. Also, “systems risk management plans” are formulated for each fiscal year.

Furthermore, the Bank has set up backup sites and carries out contingency training to prepare for serious system failures in the event of a disaster.