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Bank of Japan

## On-Site Examination Policy for Fiscal 2007

### I. Review of Fiscal 2006<sup>1</sup>

#### A. Introduction

During fiscal 2006, the Bank of Japan conducted on-site examinations at a total of 131 financial institutions: 43 domestically licensed banks, 73 *shinkin* banks, and 15 other institutions including securities companies and Japanese branches of foreign banks (Table 1).

In conducting on-site examinations, in order to ease the burden on financial institutions, the Bank continued to reduce the number of sample borrowers extracted from financial institutions' overall loan portfolios for review by examination teams. The number of borrowers extracted reflected the quality of risk management at individual institutions.

#### B. The Condition of Japan's Financial System

This section provides a description of the condition of Japan's financial system and the risk management challenges faced by financial institutions, which the Bank observed through its on-site examinations and off-site monitoring.

##### 1. Overview

The level of nonperforming loans (NPLs) at financial institutions has continued to decline. Profits are at high levels due to lower credit costs (i.e., write-offs and loan-loss provisions for NPLs), and capital adequacy has been strengthened.

With the recovery in their risk-taking capacity, financial institutions are showing greater willingness to extend credit both at home and abroad. Investments in a broad range of capital market instruments are also increasing. Additionally, financial institutions

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<sup>1</sup> The fiscal year in Japan starts in April and ends in March.

are expanding the range of financial services they provide to customers and are allocating more resources in new areas, as they aim to increase fee and commission income. Nonetheless, further strengthening of core profitability continues to be a key challenge.

Financial institutions have been making progress in dealing with changes in the economic and financial environment as well as modifications to the regulatory framework. Risk management continues to improve as more advanced methodologies are introduced. Challenges, however, remain.

Key risk management challenges identified during the Bank's on-site examinations and off-site monitoring are described in detail by major risk category below.

## **2. Credit risk**

Overall credit risk has been decreasing due to the continued reduction in NPLs and low credit costs. However, NPL ratios remain at high levels at some regional financial institutions.

With regard to credit risk management, the quality of individual financial institutions' self-assessments of their assets has improved. The proportion of self-assessments that had to be corrected during on-site examinations decreased from the previous fiscal year (Table 2). Moreover, as the economic expansion continues, the number of cases where banks' support for corporate revitalization is successful (i.e., where borrowers' credit ratings are upgraded) has increased at both major and regional financial institutions. At the same time, the Bank found that risk management at some financial institutions needed improvement. Problems identified include (1) insufficient screening before the extension of credit as well as inadequate monitoring of extended credits, (2) inappropriate assessment and management of real estate taken as collateral, and (3) lapses in the review of corporate restructuring plans submitted by troubled borrowers as well as inadequate advice to such borrowers.

In areas where financial institutions have become more active in extending credit, the Bank noted problems at some regional financial institutions with their screening criteria and monitoring processes for syndicated loans. There was an over-reliance on arrangers

and agents for the management of these loans. With regard to non-recourse real estate loans, loan values were generally well below the value of the cash flow generated from the real estate. However, returns were declining and, in some cases, weaknesses in the assumptions for estimating future cash flows were identified. Financial institutions often use scoring models in screening mortgage loans and uncollateralized small business loans. The Bank found that many financial institutions are still in the process of developing internal databases and have not examined the appropriateness of their scoring models. For such institutions, there clearly is room for improvement in their pool-based credit risk management framework so as to better reflect borrowers' risk characteristics.

Internal credit rating systems and risk quantification tools form the basis for developing an advanced credit risk management framework. The internal credit rating systems of major banks are well established and are being used to assess the creditworthiness of borrowers and to manage lending. The quality of risk quantification is also improving. An increasing number of regional financial institutions are also enhancing their internal credit rating systems and are starting to quantify credit risk. However, some institutions have not introduced robust validation processes to their rating systems due to limitations of their databases, while at other institutions further improvements in the quality of risk quantification are called for.

Major banks have established specialized sections responsible for active credit portfolio management in order to step up their efforts to reduce concentration risk related to large exposures. As a result, the use of credit derivatives and sales of assets are growing. In addition, in order to increase flexibility in their active portfolio management while aiming to enhance their risk/return profiles, some major banks have started to transfer the authority to dispose of certain loans to the specialized sections.

### **3. Market risk**

Throughout fiscal 2006, major banks continued to take a conservative approach regarding the interest risk exposure of their bond investment portfolios. Most regional financial institutions also maintained a cautious stance. However, at regional financial institutions whose securities investment/deposits ratio increased due to slow lending growth, the Bank identified a number of cases where there were deficiencies in risk management. Problems

were noted, for example, in the setting of investment limits reflecting the financial strength of the institution, and in the procedures for internal reporting to senior management.

As for asset-liability management (ALM), major banks and advanced regional financial institutions are analyzing changes in profits and overall interest rate risk taking into account expected changes in interest rates and their possible effect on the maturity structure of assets and liabilities. Some regional financial institutions, on the other hand, are not sufficiently conducting such scenario analyses and need to improve their ALM framework, including the collection of necessary data.

While many financial institutions remained cautious about increasing the total amount of equity holdings, some have increased their equity holdings for investment purposes and others have slightly raised their strategic equity holdings with the aim of developing long-term business relationships. Regarding the risk management of equity holdings, there were some cases where financial institutions, when measuring risks, did not fully take into account the time needed to liquidate positions.

Many financial institutions have been increasing their investment in alternative products such as structured products, credit-related products, and hedge fund investments, with the aim of increasing profits and diversifying the risks of their investment portfolios. The Bank examined the risk management framework covering such products and identified the following weaknesses, mainly among regional institutions. Some had difficulties in identifying the risk profiles of complex products, obtaining sound market valuations and risk amounts. Additionally, others had difficulties in monitoring the changes in credit ratings of key assets included in structured products, and in monitoring the compliance of third-party fund managers with the investment contract.

#### **4. Settlement and liquidity risks**

No serious problems associated with daily funding were observed among financial institutions in an environment where monetary policy had been changed three times since March 2006. The Bank found, however, that some financial institutions needed improvements in their contingency plans for liquidity crises, for example, in the specificity of their plans and in the review of plans' effectiveness.

## **5. Operational risk<sup>2</sup>**

The scope of financial institutions' business has further expanded, and together with the increase in outsourcing of operations and the adoption of more diverse employment practices, the environment surrounding operational risk management has changed substantially. Through its on-site examinations, the Bank assessed financial institutions' operational risk management, focusing on identifying risks inherent in their business processes and examining the effectiveness of measures taken to manage them. The Bank found that some financial institutions still needed improvement in the following areas: (1) the development of an overall risk management framework for business operations, such as the introduction of a comprehensive set of internal rules and manuals and the establishment of an effective framework for checks and balances; (2) sufficient monitoring of actual business procedures at branches; (3) effective training to ensure that staff are capable of taking necessary corrective measures in the case of operational problems; and (4) effective control over third-party service providers.

As for the operation of computer systems, the number of large-scale malfunctions at financial institutions has been decreasing. However, as more institutions set up joint information and computer systems to reduce costs, problems at joint operational centers are occurring. The Bank's on-site examinations focused on reviewing the management of operational systems (including joint operational centers) of financial institutions in which a malfunction may have a large impact on the overall payment and settlement system, and on the management of projects aimed at computer system integration and joint system development. There were cases where financial institutions needed to improve, for example, monitoring of the progress in and their quality management of specific projects, and their control of third-party service providers. The Bank also identified a number of cases where substantial improvements in information security were needed.

In the area of business continuity arrangements, in addition to major banks and large foreign banks, an increasing number of other financial institutions have established back-up facilities (computer centers and offices). However, there was room for further

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<sup>2</sup> In this document, operational risk refers to risks related to overall business operations, including, for example, risks related to computer systems and business continuity.

improvements in business continuity arrangements by drawing up more specific timetables for the recovery of crucial business operations and by enhancing the effectiveness of business continuity arrangements through periodic drills.

## **II. On-Site Examination Policy for Fiscal 2007**

### **A. Core Elements**

The key aim of on-site examinations will continue to be the effective evaluation of the overall condition of financial institutions in order for the Bank to be ready to act as the lender of last resort. The Bank will also focus on supporting the efforts of financial institutions to improve their risk and business management and to provide financial services tailored to changes in the economic and financial environment and customer needs. These steps aim to contribute to the enhancement of the functioning and robustness of the overall financial system.

The risk profiles of financial institutions vary according to their business line-up and balance sheet structure, and consequently the appropriate risk management framework as well as the commensurate target level for risk management skills will also vary from institution to institution. The basic concept of the new capital adequacy framework (Basel II), which encourages individual financial institutions to make voluntary efforts to advance their risk management capabilities, also reflects such a spectrum. In the discussions during on-site examinations, the Bank will seek to examine and advise individual financial institutions giving due consideration to their risk profiles and risk management capabilities.

Through on-site examinations, the Bank will review and aim to have in-depth discussions with financial institutions to assess whether appropriate internal control systems have been put in place. Senior management needs to use these systems effectively to identify key management issues, including major risks, and take necessary steps to deal with them.

Based on the above principles, the following six points constitute the core elements of the Bank's on-site examinations in fiscal 2007.

## **1. Effective risk management in a changing economic and financial environment**

The overall financial system remains stable at a time when the financial environment has been changing as economic activity, especially in the corporate sector, continues to expand. In fiscal 2007, the Bank will examine whether financial institutions have put in place an effective risk management framework which enables them to take on the challenges brought about by the changes in the economic and financial environment.

As for the management of market risk, the Bank will examine whether financial institutions are sufficiently prepared for possible fluctuations in interest rates and market prices. For instance, financial institutions need to conduct stress-testing that covers not only their investment portfolios, but also deposits and their loan portfolios. The results of such analyses should be reflected in investment policy guidelines and ALM strategies. Moreover, some financial institutions, especially among major banks, have started to increase equity holdings for investment purposes and/or strategic equity holdings aimed at developing long-term business relationships while the volatility of stock prices is rising. The Bank will examine whether financial institutions are appropriately managing the risks associated with their equity holdings, factoring in the objectives of their equity holdings and past experiences in the liquidation of positions.

The Bank will examine credit risk management systems, focusing on areas where financial institutions have become more active in extending credit. For example, real estate transactions are increasing in the metropolitan areas, and mergers and acquisitions (M&A) targeting Japanese firms are also growing. Financial institutions are actively extending credit in connection with such activities. In this environment, the Bank will check whether financial institutions have properly applied discounted cash flow (DCF) methods to evaluate the economic value of their loans, and whether they have developed management systems to prevent concentration in their overall credit portfolios. As for syndicated loan business, the Bank will examine whether financial institutions participating in the syndication recognize the existence of loss-sharing provisions in the loan contract and have established adequate risk management systems accordingly. As for uncollateralized small business loans and mortgage loans, concentrating on financial institutions which apply statistical rating models in their screening process, the Bank will examine whether they conduct ex post validation of the models using internal databases, manage such loans

on a pooled basis reflecting borrowers' risk characteristics, and review their business and pricing strategies.

## **2. Effective risk management of complex financial assets and transactions**

In recent years, an increasing number of non-bank companies, such as hedge funds, have become active in the financial intermediation process, both domestically and globally. Japanese financial institutions have also started to take part in the provision of funds not only through traditional bank lending, but also through various types of debt and equity investments.

Specifically, financial institutions are increasing their investments in various funds at home and abroad as well as in other capital market instruments, such as securitized products. They often aim at increasing their relative rate of return by using third-party investment management specialists. Many of these types of investments involve securities with complex risk profiles. They also involve a range of third-party specialists, such as fund managers and servicers, all playing a separate role in the overall investment process. As a result, financial institutions need to take a range of steps, such as holding individual discussions with these fund managers, in order to understand how investment decisions are made and how funds are being managed. Moreover, many regional financial institutions are evaluating the market value of alternative investment products and quantifying risks using systems and services provided by third parties. In these cases, the Bank will examine whether the financial institutions understand the risk profiles of these products and are proactively taking steps to manage the risks.

Through these examinations and discussions with financial institutions, the Bank, as the central bank, will aim to accumulate expertise on the possible risk contagion channels arising from the changes in financial intermediation mechanisms such as the increase in hedge funds' activity. The steps will help to meet the Bank's objectives of preventing the materialization of systemic risk and securing the robustness of the financial system.

## **3. Effective operational risk management framework**

The scope of financial services provided by financial institutions has further expanded and more operations have been outsourced and/or are performed by temporary staff, while at the



same time financial institutions need to provide a higher level of information security. In such an environment, it has become more difficult for financial institutions to conduct a comprehensive review of each and every element of their operations. Therefore, the Bank will examine (1) whether financial institutions have established management systems which allow them to identify potential major risks in their operational procedures and computer systems, (2) whether they have established an appropriate operational risk management framework and whether this is clearly set out in internal rules and manuals, and (3) whether operations actually comply with the framework.

#### **4. Development and implementation of integrated risk management**

In order for financial institutions to manage their business more efficiently, it is important for them to develop an integrated risk management framework covering relevant risks and to utilize this framework when reviewing their capital adequacy, evaluating risks and returns, and determining capital allocation. Some financial institutions, such as major banks, have already introduced such a risk management framework. At such institutions, the Bank will first examine the appropriateness of risk quantification as well as their overall capital adequacy. The Bank will also discuss with these financial institutions how to actually apply the integrated risk management framework in their business, such as when pricing financial products, reviewing the profitability of business units and transactions, and evaluating business performance. The Bank will also assess their risk management capabilities on a consolidated basis.

Other financial institutions are still in the process of implementing an integrated risk management framework. In such cases, the Bank will work with the institutions to develop a common understanding with their senior management and staff regarding the challenges and issues they face in introducing and implementing an integrated risk management framework. The principles outlined in the new capital adequacy framework (Basel II) will be used as a guideline.

The development and implementation of an integrated risk management framework will differ from institution to institution depending on business objectives, risk profiles, and operational structure. The Bank will ensure that discussions held in the examination process are flexible and reflect such variations.

## **5. Active credit portfolio management**

If financial institutions objectively assess the risk/return profiles of their exposures, this allows them to optimize their credit portfolios through measures such as the active reshuffling of their loan assets, which in turn leads to a growth in loan sales and asset securitization and hence to the enhanced functioning of the financial system.

The Bank will, through its on-site examinations, review financial institutions' efforts toward introducing active credit portfolio management, taking into account their risk profiles. It also plans to hold discussions and work together with financial institutions to review and enhance the legal framework and business practices which provide the basis for effective active credit portfolio management strategies.

## **6. Ensuring smooth settlement and business continuity**

Financial institutions are expected to manage their liquidity effectively and to provide smooth and secure payment and settlement operations. In order to prevent the materialization of systemic risk, the Bank will identify risks inherent in the overall payment and settlement system and also continue to examine financial institutions' liquidity risk management.

The Bank will continue to examine projects aimed at computer system integration and joint system development by multiple financial institutions. The Bank will also verify that the stability, reliability, and security of such systems are ensured, taking into account factors such as the complexity of systems and changes in system technology. In addition, the Bank, to ensure the smooth and stable operation of the overall payment and settlement system, will examine the system management framework at financial institutions, especially those with heavy payment flows via, for example, the Bank of Japan Financial Network System (BOJ-NET). Examinations will also cover other entities, including financial institutions' joint operation centers.

Regarding business continuity arrangements, the Bank will examine whether financial institutions have (1) set up necessary back-up facilities and arrangements, (2) established necessary business continuity plans, and (3) confirmed the effectiveness of such plans. The extent of these examinations will depend on the presence of the individual

financial institution in the payment and settlement system. From the viewpoint of enhancing the effectiveness of business continuity plans, the Bank will also place emphasis on examining whether such plans are effectively tested through drills and updated according to the results of the drills. In addition, the Bank intends to hold in-depth discussions with financial institutions on business continuity plans in case of terrorist attacks and new types of pandemics, and on the further enhancement of infrastructures necessary for strengthening business continuity arrangements.

Based on the six core elements outlined above, the Bank has prepared a list of key points by major risk category which it will focus on in its on-site examinations in fiscal 2007 (see Attachment).

#### **B. General Principles for Practical Implementation**

In conducting its on-site examinations in fiscal 2007, the Bank intends to maintain a close dialogue with financial institutions' senior management and work together to seek solutions for problems. This will enable financial institutions to use examinations as an opportunity to enhance their risk and business management frameworks taking into consideration their specific financial and business situation. In this process, the Bank will take further steps to coordinate the examinations with off-site monitoring and seminars hosted by the Center for Advanced Financial Technology. The Bank also intends, where necessary, to continue to exchange views through trilateral discussions with external auditors.

The Bank will continue to give due consideration to easing the burden of on-site examinations on financial institutions. Specifically, the Bank, taking into consideration the risk profile of each financial institution and its potential of impact on the financial system, plans to increase the number of targeted short-term examinations.

Furthermore, the Bank intends to make greater use of the online data exchange system in order to enhance the efficiency and data security of both on-site examinations and off-site monitoring.

**Table 1: Number of Financial Institutions Examined**

	<b>Fiscal 2004</b>	<b>Fiscal 2005</b>	<b>Fiscal 2006</b>
<b>Domestically licensed banks</b>	46	42	43
<i>Shinkin</i> banks	67	73	73
<b>Other institutions including securities companies and Japanese branches of foreign banks</b>	40	45	15
<b>Total</b>	153	160	131

**Table 2: Financial Institutions' Self-Assessments of Borrowers' Creditworthiness**

100 borrowers, except where otherwise noted

	<b>Number of borrowers examined (a)</b>	<b>Number of corrections<sup>1</sup> (b)</b>	<b>Ratio (b/a, percent)</b>
<b>Fiscal 2002</b>	259	17	6.7
<b>Fiscal 2003</b>	302	19	6.4
<b>Fiscal 2004</b>	235	10	4.5
<b>Fiscal 2005</b>	175	8	4.7
<b>Fiscal 2006</b>	115	4	3.9

Note: 1. Corrections of self-assessments refer to cases in which as a result of on-site examinations, financial institutions had to make changes in borrowers' credit ratings based on the definition of the Financial Services Agency or in the value of classified loans.

**Areas of Focus for On-Site Examinations in Fiscal 2007 by Risk Category**

**1. Credit Risk**

**Concentration in credit portfolios**

● In the area of credit portfolio management, examine whether financial institutions properly identify and manage the concentration risk in their credit portfolios. This covers both individual name concentration and sector concentration, including firms that are categorized as "normal" borrowers with respect to their creditworthiness.

-- For financial institutions facing concentration risks, examine whether senior management is aware of the risks and has taken concrete measures to address the situation. For the other institutions, examine whether they have adequately developed and implemented risk management systems which can prevent such risks from increasing.

-- For financial institutions which extend credit to individual borrowers and projects through multiple channels, examine whether they manage the credit risk exposure on an aggregated basis.

**Risk management of new types of credits**

● As for credits extended in anticipation of future cash flows such as real estate project financing and M&A financing, examine whether financial institutions have appropriately developed and are implementing risk management systems that sufficiently reflect the risk profiles of these credits.

-- In real estate project financing, examine whether (1) future cash flows are appropriately estimated, (2) returns such as cap rates are set fully taking into account the location and the condition of the real estate, and (3) the real estate is sufficiently reviewed to assess potential flaws.

-- In M&A financing, some large deals heavily depend on outside borrowing. For financial institutions that are becoming more active in this area, examine whether they are properly evaluating the future cash flows of the business being acquired.

-- As for subordinated financing using mezzanine debt and equity, examine whether financial institutions' risk assessments sufficiently reflect the characteristics of such transactions.

### **Syndicated loans**

- Regarding syndicated loans, examine whether financial institutions participating in the syndication, at the initial screening phase, properly evaluate borrowers' credit condition as well as other lending conditions such as lending rates and covenants. Additionally, for extended loans, review whether continuous monitoring is being effectively conducted.

### **Management of pools of small loans**

- Small loans, such as mortgage loans and uncollateralized small business loans, are often managed on a pooled basis. For such loans, examine whether financial institutions have developed a framework to compile data such as borrowers' risk characteristics, and are monitoring the portfolio using the data. Also, examiners will evaluate profitability after deducting credit costs. In cases where scoring models are used for screening and managing such loans, examine whether financial institutions are validating the accuracy of such models.

### **Securitization of loan assets**

- For financial institutions that securitize loan assets, examine the valuation of the underlying credit pool and remaining exposures such as credit enhancements. The structure of securitization schemes will also be assessed.

### **Internal credit rating systems and risk quantification**

- Examine whether financial institutions have established systems to collect and verify the data that form the basis for internal credit rating systems. Also examine the accuracy of such systems by reviewing the differences between estimates and actual records of past defaults.

-- For financial institutions that are in the process of introducing or have just introduced internal credit rating systems, provide advice, taking into account each institution's situation, regarding the development of the overall framework such as collection and verification of credit data and the effective use of internal ratings.

● Financial institutions that have already established internal credit rating systems should assess possible concentration in their credit portfolios and the effects of the business cycle by measuring expected losses (EL) and unexpected losses (UL) and conducting scenario analyses. Based on the results, examiners will discuss credit risk control methodologies and the risk-adjusted profitability of the overall credit portfolios.

-- Verify the adequacy of the various risk parameters on which the risk measurements are based, by examining (1) actual records of borrower defaults, (2) data related to loss given default (LGD) such as records of foreclosures, and (3) whether exposures to borrowers which are part of a corporate group are managed on a group-wide basis.

#### **Active credit portfolio management**

● Develop a common understanding on the framework for active credit portfolio management with financial institutions, taking into account each institution's situation. Also discuss measures necessary to enhance active portfolio management, including the objective assessment of risks and returns, the possible review of the legal framework and business practices, and the enhancement of the market infrastructure.

## **2. Market Risk**

### **Basic framework for risk management**

● Examine whether financial institutions are fully aware of the importance of preparing for possible fluctuations in interest rates and market prices, and whether they have established and are operating appropriate risk management systems recognizing such market risk.

-- Examine whether financial institutions have appropriately developed and are employing concrete risk management policies such as ensuring effective checks and balances among sections, and the establishment of risk ceilings and loss limits. Verify that the effectiveness of such market risk management systems is being appropriately monitored.

- Examine whether financial institutions have developed and are operating ALM methods, which factor in the possibility of changes in the maturity structure of assets and liabilities (e.g., changes in the composition of demand and time deposits) caused by fluctuations in interest rates.
- For some financial institutions, mortgage loans, including complex products which switch from an initial fixed rate to a floating rate structure, account for a large proportion of their business. With such institutions, have in-depth discussions on how they manage interest rate risk, for example, whether in their overall ALM they take into account the possibility that, under various interest rate scenarios, customers may switch to different products or borrowers may prepay their mortgage loans.

#### **Alternative investments**

- For financial institutions that invest in alternative investment products such as structured products, hedge funds, and other capital market products, examine whether their senior management and staff understand well the features and risks involved. Assess whether investment decisions are made based on appropriate internal procedures. Also examine whether financial institutions have appropriately developed and are operating systems for the continuous monitoring of investments.
  - Confirm that financial institutions are fully aware of the likely price fluctuations of these investments arising from various changes in the market conditions and of the effects of such price fluctuations on their profitability and capital adequacy. This includes cases where third-party pricing models and analyst information are used to assess the prices of the alternative investment products. Also, examine whether financial institutions have formulated measures and rules regarding procedures when unrealized losses in such investments increase, and whether they are fully aware of the risks associated with the termination of such investments.
  - Confirm that financial institutions are fully aware of the risk of entrusting funds to a third party and are managing risks associated with hedge fund investments on an on-going basis by evaluating qualitative aspects such as fund managers' performance and their compliance with investment policies.



### **Equity investments**

- Examine whether price fluctuation risks associated with equity investments are appropriately quantified and managed according to the purpose of such equity holdings (i.e., equity holdings for investment purposes or strategic equity holdings with the aim of developing long-term business relationships), while also taking into account past experiences in the liquidation of positions.

### **3. Settlement and Liquidity Risks**

- Identify risks inherent in the overall payment and settlement system with a view to preventing the materialization of systemic risk. Continue to examine whether financial institutions sufficiently recognize settlement and liquidity risks in their operations, and have developed and are operating risk management systems adapted to the changes in financial markets.

-- Examine financial institutions' settlement and liquidity risks management systems for both yen and foreign currencies. Also examine the effectiveness of financial institutions' contingency plans in the event of funding difficulties in terms of specific plans and tests.

### **4. Operational Risk**

#### **Basic framework for risk management**

- Examine (1) whether financial institutions have established management systems which allow them to identify potential major risks in their operational procedures and computer systems, (2) whether they have established an appropriate operational risk management framework and whether this is clearly set out in internal rules and manuals, and (3) whether operations actually comply with the framework.

-- The extent of examinations will depend on the potential impact on the business of financial institutions should such risks materialize.

### **Risks concerning computer systems**

- In order to ensure the stable operation of the overall payment and settlement system, examine (1) whether financial institutions have developed and are operating computer systems appropriately, especially systems linked with large-scale settlement systems such as the BOJ-NET, (2) whether they have in place a risk management framework that ensures the smooth operation of computer systems, and (3) whether risks concerning computer systems are well managed within this framework.

- As for projects aimed at computer system integration and joint system development by multiple financial institutions, examine the process at an appropriate time taking into consideration the implementation schedule of such projects. Targeted short-term examinations will also be used.

- In examining financial institutions whose major computer systems are being developed and operated by third parties (including joint operation centers), check the risk management systems of such third parties.

- Given the increasing use of open systems and the development of networks, examine whether financial institutions are properly managing risks posed by new technology, including those connected with information security, and are developing and operating systems compatible with these new risks.

### **Business continuity arrangements**

- With the aim of enhancing the overall business continuity capability of the financial system, examine whether each financial institution has established the necessary business continuity arrangements taking into account the impact a disruption of its operations would have on the financial system.

- Examine business continuity plans from the following perspectives: (1) whether risks which could cause operational disruptions have been identified, (2) whether crucial business operations which should be given priority in terms of business continuity have been specified and an expected timetable for recovery has been drawn up, and (3) whether financial institutions' coordination with relevant external counterparties has been established. Also, hold in-depth discussions with financial institutions on business continuity plans in case of terrorist attacks and new types of pandemics.

- Place emphasis on confirming whether periodic drills and constant updates of plans according to the results of the drills are conducted in order to maintain the effectiveness of business continuity arrangements.
- With respect to financial institutions with advanced business continuity arrangements and the disruption of whose business would have a large impact on the overall payment and settlement system, hold in-depth discussions on the further enhancement of infrastructures necessary for strengthening business continuity arrangements. As for financial institutions that are in the process of developing business continuity arrangements, check development plans and review actual progress.

#### **Quantification of risks**

- Hold in-depth discussions with financial institutions that are making efforts in risk quantification in order to further advance operational risk management. The discussions will cover areas such as the collection of data and quantification methods.

### **5. Financial Strength and Integrated Risk Management**

#### **Financial strength**

- Review the sufficiency of the current and future financial strength of financial institutions by assessing their earnings based on expected risks and returns.

#### **Integrated risk management**

- At financial institutions that have already implemented an integrated risk management framework, examine whether their risk quantification is appropriate and review their overall capital adequacy. Also, hold in-depth discussions on how to actually apply the integrated risk management framework in their business, such as when pricing financial products, reviewing the profitability of business units and transactions, and evaluating business performance.

- Discuss how to use stress-testing in the management of financial institutions in a manner that corresponds to their specific situation.

- At financial institutions that allocate a considerable amount of capital to strategic equity holdings aimed at developing long-term business relationships, examine whether overall risks are assessed taking into account the objectives of their equity holdings and past experiences in the liquidation of positions. The treatment of unrealized capital gains on equities is also a factor to be considered.
- With financial institutions and financial groups that are further diversifying their services, including through investments in subsidiaries, hold in-depth discussions on how risks are managed on a consolidated basis.
- With financial institutions that are in the process of developing an integrated risk management framework, hold discussions as necessary on appropriate risk quantification methods while taking into consideration the individual factors relevant to each institution.

**Internal controls**

- Verify whether internal control systems have been put in place and are functioning effectively to support the achievement of management goals.
- Taking into consideration the overall internal control environment of each financial institution, confirm whether senior management is sufficiently aware of the risks involved, and examine the effectiveness of internal control mechanisms, including checks and balances and internal control procedures to deal with each type of risk. Also, confirm whether internal rules and manuals have been prepared and implemented effectively in line with major risks. Examine the functioning of monitoring activities conducted by the internal audit section and senior auditors, including how detected problems are dealt with.