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Bank of Japan

## **Outline of the 2005 Issue of the "Payment and Settlement Systems Report"**

### **Changes in the Financial Environment**

Payment and settlement systems are an important part of the infrastructure supporting a nation's economic activity. Economic activity, such as commercial and financial transactions, can occur smoothly only if there is a high degree of confidence in the integrity of settlement. A failure of payment and settlement systems to function smoothly could have a significant impact on overall economic activity.

The Bank of Japan plays a number of roles in payment and settlement systems. As a provider of means of payment and an operator of payment and settlement systems, the Bank issues banknotes and provides funds transfer services via financial institutions' current accounts held at the Bank. In securities settlement, the Bank operates the Japanese government bond (JGB) book-entry system and the JGB registration system. The Bank oversees Japan's payment and settlement systems in order to promote their safety and efficiency, and also participates in cooperative oversight of cross-border or multicurrency payment and settlement systems with other central banks concerned. In July 2005, the Bank established the Payment and Settlement Systems Department with a view to contributing further to the development of safe and efficient payment and settlement systems.

From the 1980s onward, steady progress has been made in the reform of Japan's payment and settlement systems. In 1980s, given a surge in the number of financial transactions, online communication networks and automated processing of settlement instructions were introduced in the payment and settlement systems. In the 1990s and early 2000s, risk reduction measures were introduced and extensively enhanced in response to growing concerns about the stability of the financial system.

Changes in Japan's financial environment surrounding payment and settlement systems have been significant. Given the constant advances in information and communication technology, operators of and participants in payment and settlement systems are facing challenges in the area of information security. The market for payment and settlement services is undergoing structural changes such as increased "tiering," concentration, and internalization of settlement activities, as a result of the diversification of market participants and financial products, and an increase in cross-border and multicurrency financial transactions. In addition, there is an increasing awareness of the importance of business continuity planning to address a wide range of scenarios, including natural disasters and large-scale terrorist attacks.

Operators of and participants in payment and settlement systems are responsible for enhancing the safety and efficiency of Japan's payment and settlement systems, taking into account such changes in the financial environment surrounding payment and settlement systems.

In the "Payment and Settlement Systems Report," the Bank reviews Japan's payment and settlement systems in light of the changing financial environment. Based on the review, the Bank identifies the issues that need to be addressed.

### **Outstanding Issues**

The following are issues that need to be addressed further, ongoing and future initiatives on those issues, and the Bank's role in further improving the safety and efficiency of Japan's payment and settlement systems.

#### **1. Next-generation RTGS project**

The safety of large-value payments in Japan improved significantly in the late 1990s and early 2000s. Various arrangements for risk management were implemented in deferred net settlement (DNS) systems operated by the private sector. The BOJ-NET Funds Transfer System (BOJ-NET), operated by the Bank, was converted to a full-fledged real-time gross settlement (RTGS) system in January 2001.

Meanwhile, progress in information and communication technology has made it possible for payment systems to reduce risk while requiring less liquidity. Such innovative payment system designs have been implemented in many countries. Similarly in Japan, there is room to further enhance the safety and efficiency of the settlement of large-value payments.

In light of these changes, in November 2005 the Bank announced its proposal for the next-generation RTGS (RTGS-XG) project. Following public consultation, in February 2006 the Bank decided to implement the project and started the system development process. The project consists of two measures. First, the Bank will introduce liquidity-saving features (LSF) into the RTGS mode of the BOJ-NET FTS. Second, the Bank will modify the BOJ-NET FTS to incorporate large-value payments that are currently handled by two private-sector DNS systems -- the Foreign Exchange Yen Clearing System (FXYCS) and the Zengin System -- into the new BOJ-NET FTS with LSF. With the implementation of the RTGS-XG project, participants will be able to reduce the amount of funds and collateral needed for settlement, while achieving intraday finality through RTGS. This will greatly enhance the safety and efficiency of the settlement of large-value payments in Japan.

The Bank plans to introduce LSF into the BOJ-NET FTS and incorporate payments handled in the FXYCS into the new BOJ-NET FTS with LSF during fiscal 2008. The Bank plans to incorporate large-value payments handled in the Zengin System into the new BOJ-NET FTS with LSF in around 2011.

In implementing the RTGS-XG project, the Bank will continue to cooperate closely with relevant parties including system participants and the Tokyo Bankers Association, the operator of the FXYCS and the Zengin System. For example, the Bank intends to support private-sector initiatives in reviewing market practices to adapt to the next-generation RTGS.

## **2. Risk management in private-sector DNS systems**

Risk management in DNS systems operated by the private sector has been significantly strengthened from the late 1990s onward. For example, the FXYCS and the Zengin

System have introduced credit exposure limits, loss-sharing rules, and liquidity-provision arrangements.

Operators of and participants in payment and settlement systems need to identify various risks that may arise in the system and ensure that the system rules and procedures can effectively manage those risks. In doing so, it is particularly important that the risk management arrangements be maintained and further strengthened based on the self-discipline of the operator and participants, even under the current deposit insurance framework which fully protects interbank settlement obligations arising from customer transfers.

It is also important that payment systems remain robust, and achieve international best practices where applicable, in light of changes in the market structure for payment services. For example, mergers in the financial sector and an increase in cases of outsourcing payment activities involving large financial institutions have led to a greater concentration of payment flows to a smaller number of participating financial institutions. As a result, in the Zengin System, some participants have set higher intraday credit exposure limits for ensuring smooth processing on peak settlement days. In such cases, the system has required those participants to post additional collateral to cover the additional exposure. The system may also need to raise the total amount of liquidity available under its liquidity-provision arrangement, in order to ensure the timely completion of daily settlements in the event of an inability to settle by the two participants with the largest individual settlement obligations.

The Bank will continue to support initiatives taken by private-sector payment systems to maintain and further strengthen their risk management arrangements.

### **3. Reform of securities settlement systems**

Steady progress has been made in the reform of Japan's securities settlement systems. Full dematerialization was achieved for JGBs, CP, and other debt securities, with the establishment of a comprehensive legal framework applicable to all types of securities. Progress has also been made in the implementation of the delivery-versus-payment (DVP) mechanism and straight-through processing (STP), a seamless integration of systems and

processes to automate the trade process from trade execution to settlement.

Priorities for further improvement would be the realization of full dematerialization for beneficiary certificates of investment trusts and stocks as scheduled, and the start of substantial discussions about remaining issues, which were identified during the review of securities settlement systems on the basis of internationally recognized standards, such as the shortening of settlement cycles for JGB transactions (i.e., the achievement of T+1 settlement).

In furthering the reform of Japan's securities settlement systems, it is vital to improve securities settlement infrastructures that are the foundation of the reform. In this regard, given the recent surge in the number of transactions at securities exchanges, it is important to set up a framework to ensure the smooth functioning of securities clearing and settlement systems and a rapid recovery from computer system malfunction.

The Bank will continue to support the reform of Japan's securities settlement systems by expanding the use of DVP and STP by linking its BOJ-NET FTS with various securities settlement systems. The Bank will closely monitor the developments in securities settlement infrastructures from various aspects including their operational reliability.

#### **4. Foreign exchange settlement risk**

Overall, foreign exchange settlement risk has been reduced. The volume and value of foreign exchange transactions settled in the Continuous Linked Settlement (CLS) system have continued to increase since the system's launch in 2002. CLS eliminates principal risk in the settlement of foreign exchange transactions by settling the two relevant currencies on a payment-versus-payment basis.

In order for CLS to continue to function as an effective mechanism for reducing foreign exchange settlement risk, it is important for it to maintain stable operation in accordance with strict procedures for managing the risks that arise in the course of its settlement process.

When financial institutions settle foreign exchange transactions outside CLS, they need to operate under strict procedures for managing credit exposures that may arise due to the time

lag between the settlements of the two currency legs.

As part of the ongoing effort to reduce foreign exchange settlement risk, the Bank and other central banks will carry out, during the second quarter of 2006, a survey on how banks and other financial institutions manage risks they may incur in settling foreign exchange transactions.

## **5. Cooperative oversight of international payment and settlement systems**

Reflecting the globalization of financial markets, cross-border payment and settlement systems and service providers such as CLS and Society for Worldwide Interbank Financial Telecommunication (SWIFT) are expanding their business.

The Bank will continue to oversee CLS and SWIFT in cooperation with other central banks concerned to ensure that CLS and SWIFT have appropriate risk control mechanisms and robust business continuity plans.

## **6. Information security of bank account access services**

Operators of payment systems and financial institutions are facing new challenges in the area of information security. With the expansion of automated teller machine (ATM) networks and the introduction of online banking via the Internet, the range and availability of bank account access services have expanded. In these circumstances, banks are confronting an increasing number of fraud cases involving unauthorized access to such accounts. Such fraud cases include illegal cash withdrawals using stolen or forged ATM cards and phishing attacks.

Vulnerabilities in information security could undermine public confidence in payment instruments and in the payment system as a whole. Financial institutions and operators of payment and settlement systems therefore need to make a strong commitment to implement sufficient security measures.

The Bank will make further efforts to raise the overall level of information security in the financial services industry. For example, the Bank will continue to conduct research on

innovative security solutions, exchange information with experts, and discuss information security issues with financial institutions through interviews, on-site examinations, and other activities. As the secretariat of the Technical Committee on Financial Services of the International Organization for Standardization (ISO/TC68), the Bank will make further contributions to the establishment of international standards in this area.

## **7. Business continuity planning**

In Japan, financial institutions and operators of payment and settlement systems have traditionally taken steps to prepare for emergencies such as earthquakes and other natural disasters. Nevertheless, there appears to be an increased threat of events of a different nature and impact, such as terrorist attacks and the outbreak of severe acute respiratory syndrome (SARS) and avian flu.

Strengthening the resilience of the Japanese financial system requires individual and cooperative efforts by financial institutions and operators of payment and settlement systems. Individual entities need to develop effective business continuity plans in order to ensure that they will be able to continue their critical operations, including settlement operations, in the event of a disruption. Given the nature of the financial system network, the relevant entities also need to cooperate and coordinate with each other in order to minimize the systemic effects of a disruption. Examples of coordination mechanisms include developing communication protocols and clarifying the roles played by different entities in the event of operational disruption. Industry-wide tests also need to be further enhanced to verify the effectiveness of coordination mechanisms.

The Bank will make further efforts to strengthen the resilience of the Japanese financial system. As the operator of the BOJ-NET FTS and BOJ-NET JGB Services, the Bank has already put in place various business continuity arrangements, including backup facilities in Osaka and joint tests with system participants. The Bank will further enhance these arrangements. Through interviews, on-site examinations, and other activities, the Bank will promote business continuity planning at financial institutions and payment and settlement systems. The Bank will also support private-sector initiatives to develop market-wide arrangements.