Masaaki Shirakawa: The Central Bank from the viewpoint of "law and economics"

Lecture by Mr Masaaki Shirakawa, Governor of the Bank of Japan, at the Faculty of Law, University of Tokyo, Tokyo, 21 October 2009.

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I. Introduction

I am happy to be speaking to you from this podium at the law faculty today. I feel that I have made something of a long detour in life before reaching this classroom. I entered the University of Tokyo in 1968 to advance to the faculty of law, but my interests led me instead to the faculty of economics, so I never stepped inside a law faculty classroom during my undergraduate days. So I am now filled with an inexpressible feeling as I stand here finally after 40 years.

Nevertheless, I have felt a sense of familiarity with the world of law for a long time. While you might imagine that work at the Bank of Japan frequently employs knowledge of economics, there are also many tasks that require knowledge of law or the so-called legal mind. During some 34 years of service at the Bank before I assumed my current position, I carried out a variety of responsibilities related to monetary policy, research and studies, financial markets and the payment and settlement system, and the disposal of failed financial institutions. In those days, I keenly felt the importance of having knowledge not only of economics but also of law. Today, therefore, I will talk about the role of a central bank from the viewpoint of "law and economics."

First, I will briefly explain the mission and role of the Bank. The Bank of Japan is the nation's only central bank. If I were to express the mission of a central bank in one sentence, it would be "to issue money, or currency, and to ensure that people can use it with confidence." The money most close to you is likely to be banknotes, namely "Bank of Japan notes," and the Bank of Japan is the organization that issues those banknotes (Chart 1). The face values of "Bank of Japan notes" significantly exceed their production costs.[1] Nevertheless, nobody worries about whether a 10,000 yen banknote in your wallet will turn into a mere sheet of paper, or that it might not be accepted by the stores. While banknotes are the most typical form of money, what is greater in terms of value is what you deposit at banks, namely, bank deposits (Chart 1). Deposits are based on a private law contract between depositors and banks. You need not worry that those deposits will not return to you as stipulated in the contract or that they will become valueless. "Money" such as cash and deposits is vital for economic activity. Economic activity cannot proceed stably if people worry that currency might not be accepted or become valueless. To ensure that people can use money with confidence, thereby contributing to economic growth; this is the most fundamental mission of a central bank.

II. Experience of the global financial crisis

Let me explain the work of a central bank more specifically. Here, I will take up the global financial and economic crisis after the failure of Lehman Brothers in September of last year.

[1] See *Annual Review 2009* (for fiscal 2008) (available on the web site of the Bank of Japan). The reports, speeches and other materials published by the Bank and hereafter referred to are available on its web site (unless expressly stated to be available on the web site of the Institute for Monetary and Economic Studies of the Bank).

From the autumn of last year[2], global economic activity plummeted and global trade also contracted rapidly (Chart 2). This situation was the first such experience in 70 years. Quite recently, economic activity has been picking up, although the current level of economic activity is still significantly lower than that of last year.

What circumstances were behind this? Up to the mid-2000s, the global economy had been enjoying a long period of benign economic conditions of high growth, low inflation rates, and low interest rates. As a result, people became bullish about the future, and willingly took risks and invested in various sectors such as real estate. This was the so-called bubble. What is happening now is the unwinding of the "excesses," namely, the bursting process of the "bubble."

In the United States, housing prices peaked in the second quarter of 2006 after rising steadily for a long period. Then, people who took out mortgages on the prospects for rising house prices became unable to repay their mortgages. Banks did not hold all the mortgages on their balance sheets, but aggregated them in pools so that new securities could be issued by the pools and sold to other financial institutions and investors. These were called "securitized products" (Chart 3). Because of issuance in several tranches according to the order of interest received from a pool of loans or principal repayments, the senior tranche in the securitized products obtained high ratings. However, as house prices plunged and a larger-than-expected number of mortgages turned delinquent, the prices of securitized products including highly rated ones dropped significantly. Thus, financial institutions holding a large amount of the securitized products also incurred huge losses. In these circumstances, leading financial institutions faced a management crisis and Lehman Brothers filed for insolvency in September 2008.

Financial institutions mutually make various transactions, and thus many debts and credits are mingled together. Since financial institutions other than Lehman Brothers incurred losses, albeit to different degrees, they began to worry that their trading counterparts might go bankrupt. In such a situation, financial institutions became reluctant to lend to or borrow money from each other in the market. In addition, even when financial institutions lent to their counterparties, they charged high interest rates on the loans (Chart 4).

As a result, financial institutions started to worry that they might not be able to borrow required funds in the market, and became cautious about lending to firms and individuals. For example, commercial paper (CP) that firms issue to raise short-term funds faced a decline in the amount issued and a rise in the issue rate since financial institutions stopped buying the CP (Chart 5). Among the buyers of the CP were mutual funds such as money market funds (MMFs) that invested in various products including securitized products. In preparation for investors' withdrawal, the mutual funds held back investments in the CP. That was also a blow to the CP market. The securitized products, which were the epicenter of the current crisis, had no buyer in the sagging market and, as a result of the limited room for risk taking on the part of financial institutions, the products faced a significant decline in trading volume and extremely high issue rates (Chart 6).

To put this phenomenon more concisely, it was a "collapse of confidence." Financial transactions are based on confidence. Even a simple sales contract entails various kinds of risks. First, there is credit risk as to whether a trading counterparty has sound financial conditions and is immune from default. Second, there is liquidity risk as to whether a buyer can secure funds necessary for payment. Third, there is payment and settlement risk as to whether products or payments are delivered as stipulated in the contract, namely, whether payment and settlement are smoothly carried out without the risk of not receiving money or

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[2] As for the cause of the current global financial crisis, see "Way Out of Economic and Financial Crisis: Lessons and Policy Actions," a speech given by Masaaki Shirakawa, Governor of the Bank of Japan, at the Japan Society in New York on Thursday, April 23, 2009.

products. If these risks are deemed significant then one cannot make a contract, out of fear. In particular, since financial transactions are large in amount and complex in contents, financial transactions will not be carried out in the usual manner if financial institutions are extremely sensitive to the risks. If financial transactions cease, funds necessary for economic activity will not be distributed and economic activity will stagnate further.

As such, in the current global financial and economic crisis, confidence, which is the most important element in finance, collapsed during the process of the unwinding of the "excesses." Consequently, the flow of funds stopped and the economy deteriorated further, aggravating the crisis.

III. Measures taken by the Bank of Japan

Since financial institutions are globally linked through various transactions and economies are also globalized through trade and investments, the crisis that started in the United States spread quickly around the world. Although Japanese financial institutions did not hold many securitized products, Japan's economy was affected significantly because of the global economic and financial mutual relationship. In facing this global crisis, the Bank has taken a number of measures. I will now explain the four particularly important ones.[3]

Reductions in the policy interest rate

First, there was a reduction in the interbank interest rate to a low level of 0.1 percent. With a view to achieving stable economic activity and prices from a longer-term perspective, a central bank raises or reduces the short-term interest rate based on the future assessment. This is what is referred to as monetary policy in the orthodox definition of textbooks.[4] This time, in response to the global economic slowdown, central banks around the world reduced short-term interest rates to a level expressed as the "zero interest rate" (Chart 7).

Provision of ample liquidity

Second, the Bank provided ample liquidity in order to ensure stability in financial markets and financial systems. As mentioned earlier, when mutual confidence in financial institutions declines and concern arises that funding in financial markets might be impaired, this constrains financial institutions from lending to firms and individuals. In such a situation, the Bank provided the market with ample liquidity to preempt such concern.

It is no surprise that central banks provide funds in their home currency in a crisis. This time, however, central banks of not only the United States but also other countries coordinated to arrange for a framework of U.S. dollar-funds provision. Specifically, the Bank of Japan and other European central banks made swap arrangements, received the supply of dollars from the central bank of the United States, the Federal Reserve, and supplied them to financial institutions in their own countries (Chart 8). This made dollar funding of financial institutions in each country easier.

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3 For the policy measures adopted by the Bank during the current financial crisis, see "The Bank of Japan's Policy Measures in the Current Financial Crisis", and regarding the policy measures adopted by the major central banks, see "Konji Kin'yu Kiki ni okeru Shuyo Chuo Ginko no Seisaku Un'ei ni tsuite (Major Central Banks' Policy Operations in the Current Financial Crisis)", published by the Monetary Affairs Department of the Bank (July 2009, available only in Japanese).

4 There are, however, a variety of issues regarding how to define monetary policy. In this regard, see "Opening Speech by Masaaki Shirakawa, Governor of the Bank of Japan, at 2008 International Conference 'Frontiers in Monetary Theory and Policy' hosted by the Institute for Monetary and Economic Studies, Bank of Japan, in Tokyo on May 28, 2008".

Both the Bank of Japan and all other central banks require collateral when providing liquidity. In the case of the Bank, Japanese government bonds, bills, and bonds normally are accepted as eligible collateral (Chart 9). In the current phase, the Bank made it possible to provide the yen or the dollars against foreign government bonds as eligible collateral. This framework is called cross-border collateral arrangement. Other central banks have introduced or have been trying to introduce a similar framework. Since internationally active financial institutions diversify assets located around the world denominated in various currencies, the adoption of such a framework by central banks enables the financial institutions to borrow funds from central banks by using effectively assets located in various countries.

Support to malfunctioning capital markets

While the second measure I have just explained is a measure to indirectly support financial institutions' lending to firms by providing financial institutions with ample liquidity, the Bank has also implemented more direct measures, given that this time firms were unable to raise funds in the capital market. One of these measures was the outright purchases of CP. The Bank has been providing financial institutions with loans against CP as collateral, or purchasing CP from financial institutions on the condition of selling back in the future. In these cases, the risk of incurring losses when a firm issuing the CP goes bankrupt, namely, credit risk, is primarily assumed by financial institutions. If the Bank purchases CP without the condition of selling back, however, the Bank bears the credit risk (Chart 10).

It is a principle that under normal circumstances a central bank provides liquidity to the financial market as a whole, and private financial institutions and investors that know a borrowers' conditions well will carry out individual fund allocation. In this regard, it is an exceptional step, as in the current crisis, for central banks to themselves directly bear credit risk for individual private firms and provide liquidity. When the functioning of financial markets declined markedly, leading to tightening in most areas of corporate finance, the Bank decided to implement outright purchases of CP and corporate bonds as temporary measures. The Bank judged that these measures would be necessary to fulfill the mission of the central bank, that is, to distribute funds necessary for economic activity to every corner of the economy by maintaining stability in the economy, prices, and the financial system.

Risk reduction measures in the payment and settlement system

As the fourth measure, I will explain that, in coping with a financial crisis, it is important to always prepare for a crisis with down-to-earth efforts to establish systems. As an example, I will discuss the foreign exchange payment system such as yen-dollar transactions. From the autumn of last year, it became extremely difficult to raise funds in the U.S. dollar funds market due to the collapse of confidence. The difficulty in dollar funding was a particularly grave problem for foreign financial institutions that did not have dollar deposits in Japan, in other words, that lacked a relatively stable funding source. What was used in these circumstances was a "swap transaction," which exchanges the yen and the euro for the dollar for a certain period of time (Chart 11). Since this was dollar funding using the yen and the euro as collateral, or vice versa, it was relatively safer than uncollateralized funds transactions. The swap market accounts for almost half of the entire foreign exchange market, and is a large market with a trading volume of 1.7 trillion U.S. dollars per day in the world.

There is a time-zone difference between the delivery of the yen, which is made in Japan, and the delivery of the dollars, which is made in the United States. Suppose that a financial institution delivers the yen first to a counterpart financial institution and receives the dollars later; this financial institution faces the risk of not receiving dollars in the event the counterpart financial institution goes bankrupt before the New York market opens. While such time-lag risk is not recognized in normal times, it becomes critical in a crisis. To prepare for such a situation, central banks had long been encouraging private financial institutions around the world to establish a simultaneous settlement method among major currencies including the yen and the dollar; it is called payment versus payment (PVP). As a result, the Continuous Linked Settlement (CLS) system was established in 2002, with financial contributions from private financial institutions around the world (Chart 12). If the current global financial crisis had taken place in the absence of such a system as CLS, foreign currency funding by financial institutions might have faced more difficulties and the crisis might have worsened further.

IV. The role of the Central Bank

I have so far been explaining the role of a central bank by using the example of the current global financial and economic crisis and central banks' responses. Here, I will explain in a more general way the central bank's role to "ensure that people can use money with confidence," which I mentioned at the outset.[5]

As a lecture in the faculty of law should do, I will start with an article of law. In the Bank of Japan Act, there is an article that stipulates, "The banknotes issued by the Bank of Japan (hereinafter referred to as “Bank of Japan notes”) as prescribed in the preceding paragraph shall be legal tender and hence shall be used for payment without limits" (Article 46, Section 2) (Chart 13). Because of this stipulation, transfer of a banknote will be "the performance actually consistent with the purpose of the obligation" that you have learned in the class on civil law. If a borrower tenders the Bank's banknote as a tender of performance, the creditor must accept it. In this regard, this article is quite important.

Even with such an article, Bank of Japan notes might not be used in the actual transactions. Under the principle of the freedom of contract, an individual is free to either make or forgo a contract. If a seller does not want to sell the product in exchange for the Bank of Japan note, the sales contract will not go through to start with, and thus the Bank of Japan note will not be used for transactions. While such a case might not occur in major countries, many of you might have an experience in which a seller does not sell the product in the home currency or asks to use dollars for the purchase. In these cases, while the home currency might be legal tender, it might be a currency that people cannot receive with a sense of security, because of various factors. For example, there might be too many counterfeit notes to engender confidence, there might be high inflation and a risk that the value of banknotes will decline tomorrow, or the country might be experiencing a financial crisis and people cannot deposit their money with a sense of security.

The mission of a central bank is to avert these things. Put more specifically, a central bank's mission is to achieve "stability of the value of money." In detail, first, a central bank's most intrinsic task is to issue banknotes and faithfully manage them so that counterfeits or dirty banknotes do not circulate. The second task is to stabilize prices. Since fluctuations in prices will make rational economic calculation difficult and impair the efficiency of resource allocation, they will hamper economic growth and, to start with, threaten social stability. The third task is to maintain financial system stability. Bank runs and the absence of trade in the financial markets occur when financial system stability is eroded, and its grave effects are what I explained earlier. A central bank's mission is to ensure that money necessary for economic activity can be circulated to every corner of the world through the tasks I have just described. In a nutshell, the mission is to "ensure that people can use money with confidence," namely, to achieve "stability of the value of money." While it goes without saying that this state cannot be achieved solely by a central bank, and the regulatory and

[5] For the operations of the Bank, see "Functions and Operations of the Bank of Japan," edited by the Institute for Monetary and Economic Studies, Bank of Japan.

supervisory authorities as well as private financial institutions also play important roles, the role played by the central bank is extremely important.

While you may have read about this in a textbook or have some prior knowledge about this mission of a central bank, let me emphasize two things for thorough and accurate understanding of the mission of a central bank.

First is the importance of credibility in a central bank. A central bank's ability to control interest rates and to supply ample funds derives from the fact that nobody will refuse acceptance of money issued by the central bank, namely, banknotes and the central bank's current account deposits. Through experience, modern nations have recognized the importance of credibility, established an organization that crystallizes this credibility, and entrusted the issue of money to that organization. In other words, even if an organization called a central bank has been established, a central bank will not be able to control money properly if its credibility is insufficient, and thus the central bank itself must strive to win such confidence.

Second, when a central bank tries to pursue its public purpose of the stability of money, it will do so not by law or administrative order but through transactions in the market. Earlier I explained the Bank's measures taken in response to the global financial and economic crisis, and all these measures were not forced by law and administrative order but were carried out in the form of market transactions. Be it control over interest rates or provision of funds, they were conducted mainly by purchasing government bonds from the market or lending to financial institutions. As for CP, the Bank purchases it from financial institutions by conducting auctions. Because of this, a central bank is called the "bank of banks" or the entity "in the market."

V. The role of Law

How and in what form are law and the legal mind useful for the Bank to carry on its mission? I will discuss three points.

Democracy and central bank independence: issues from the viewpoint of public law

The first point is from the viewpoint of public law: the issue of "democracy and central bank independence." "Independence" means "to decide on one's own with a decision that is not reversed by others" (Chart 14). Now, why is a central bank granted independence in a democracy? In general, monetary policy affects economic activity and prices after a time-lag. Against such a backdrop, if monetary policy is conducted, based only on judgments about short-term economic and financial conditions, it will likely lead to a situation in which economic stability is impaired, as experienced during the previous inflations and the bubble. One major cause of the current global credit bubble was the prolonged low interest rates. When the problem started to grow in 2003 through 2004, the focus of many policy authorities and economists in the United States and Europe was on neither inflation nor the bubble but rather how to stave off global deflation. While people are weak in that they are likely to be influenced by short-term interests, they are also equipped with wisdom that allows them to establish a system in advance to avoid a situation that is undesirable from a medium- to long-term perspective. This is the conception of central bank independence, which entrusts the conduct of monetary policy to an organization that makes judgments based on expertise from a medium- to long-term perspective.[6] Of course, there is no all-encompassing

[6] For the legal issues on central bank independence, see "Kohotekikanten kara mita Nippon Ginko no Gyomu no Hotekiseikaku to Un'ei no arikata (Legal Characteristics and Operation of the Business of the Bank of Japan from the Viewpoint of Public Law)" (September 2009, contained in *Kin'yu Kenkyu* [Monetary and Economic Studies], Vol. 18, No. 5) and "Kohotekikanten kara mita Nippon Ginko no Soshiki no Hotekiseikaku to Un'ei no arikata (Legal Characteristics and Operation of the Organization of the Bank of Japan from the

independence. The objectives of a central bank are clearly stipulated in the central bank act, and the governor and other central bank executives are appointed according to democratic procedure. Moreover, it is required by law to disclose the policy decision process of a central bank (Chart 14).[7]

In the current crisis, central banks around the world including the Bank of Japan have acted extremely vigorously, including taking extraordinary measures in rapid sequence. A series of measures have been substantially effective in stabilizing the crisis. The prompt implementation of these measures in response to the changes in financial market conditions was only made possible because each central bank expeditiously decided policies according to its own judgment and the temporary measures could be terminated when they became unnecessary.

The independence of a central bank is rarely questioned when it conducts policy using orthodox measures and operations. However, when a central bank had to take extraordinary measures in the current crisis, it was quite difficult for the central bank to decide what measures to take and to what extent based on what rationale.

Taking the outright purchase of CP, for example, the point of contention was whether a central bank should go beyond the territory of liquidity provision to the financial markets as a whole and bear credit risk for individual firms. If the CP-issuing firm goes bankrupt, the Bank of Japan will incur losses, which results in a burden on taxpayers. A question naturally arises whether such a measure should be carried out as a fiscal policy measure by the Diet and the government in line with the decision-making process in a democracy. We had repeated serious discussions on that point. As explained earlier, as for the right or wrong of carrying out the measures, we decided that the extraordinary measures would be necessary to fulfill the mission of a central bank under an extraordinary situation of extreme malfunctioning of the capital market. On this basis, we paid due attention to the system design so as to minimize the side effects (Chart 15). For example, in purchasing the CP, we set conditions so that the incentives of financial institutions to sell CP to the Bank would decline as the functioning of the market recovered. Moreover, we limited the purchases to the CP issued by firms whose ratings were above a certain threshold. Credit risk was of course not zero, but we judged that it was necessary to be borne in order to achieve the purpose and effects of the policy.

While it is important that a central bank respond flexibly according to economic and financial conditions in light of the objectives stipulated in law, it becomes quite difficult for a central bank to draw a clear line between what it "should do" and "should not do," given that it is granted the capability of issuing currency unlimitedly. This is important as an issue of decision making in a democracy. Our task is to fulfill our mission by utilizing the resource of "confidence" as effectively as possible, while being cognizant of the mission of a central bank and the position of a central bank in a democracy, and thus it is associated with difficult judgments.[8]

Viewpoint of Public Law)" (September 2000, contained in *Kin'yu Kenkyu* [Monetary and Economic Studies], Vol. 19, No. 3). Both are the reports by the study group on central banks from the viewpoint of public law and published on the web site of the Institute for Monetary and Economic Studies of the Bank (available only in Japanese).

7 For the governance of the Bank, see "Kohotekikanten kara mita Nippon Ginko no Soshiki no Hotekiseikaku to Un'ei no arikata" (*supra* Footnote 6).

8 For the basic ideas of the Bank in these regards, see "Outright Purchases of Corporate Financing Instruments" (Bank of Japan, January 2009).

Innovation in central banking business: issues from the viewpoint of private law

From a slightly different angle, I will talk about the second legal point at issue. I have mentioned that a central bank achieves its public objective of currency stability through transactions in the market. In doing so, the services provided by the central bank must be attractive. Therefore, the central bank has been trying various measures in accordance with the changes in the economic and financial environment, and I will explain the role law has been playing in that respect, mainly focusing on private law.

Earlier I explained the introduction of a scheme to provide funds against foreign government bonds as eligible collateral – a cross-border collateral arrangement. In order to put the scheme into practice, there were numerous legal issues to be cleared. First, a question of private international law: which country's law would be applied in creating the security interest over foreign government bonds physically located in foreign countries. Second, a question of the legal framework for collateral in foreign countries: how to create the security interest and how to exercise the security interest in case of default. Third, a question of international financial business practices: what kind of contract should be concluded with a counterparty. While it is a difficult job to examine each country's legal system and hammer out responses, it is nevertheless worth challenging and it is fascinating.

I just mentioned "foreign government bonds physically located in foreign countries", but in fact government bonds of Japan and other major countries are dematerialized and transfers and pledges of these bonds are made by making entries into securities accounts. In the Bank of Japan's cross-border collateral arrangement, with the transfer of a country's government bond to a securities account held with the country's central bank, the security interest will be created based on the country's law. While details vary by country, such a scheme has enabled financial institutions to efficiently use securities, wherever they are physically located, as collateral to borrow necessary funds from various central banks around the world.

Such innovations are necessary not only in the area of legal knowledge but also in the areas of the payment and settlement system and computer system. The Bank runs a system called the Bank of Japan Financial Network System (BOJ-NET), and transactions between financial institutions are settled in that system. When the BOJ-NET is used to settle the sale and purchase of securities, there is a scheme to simultaneously carry out the delivery of the securities and payment of funds; it is called delivery versus payment (DVP). Through DVP, default risk associated with the time difference between delivery of securities and funds can be mitigated. Building on the idea of DVP, extending the operating time of the BOJ-NET and, for example, creating a time zone that overlaps with the operating time of other central banks' system would facilitate simultaneous settlement between the yen and the U.S. dollar and make it possible to meet other various settlement needs. Recognizing these possibilities, the Bank has started to consider building a new system.

As such, to make the flow of funds efficient and safe by improving the fund provisioning framework and payment system is an important job for a central bank. By way of these innovations, the central bank has always been striving to make its services more usable and attractive. Such efforts to improve services are essential for maintaining confidence in a central bank. From the viewpoint of a central bank, the progress in globalization means that central banks are entering competition in terms of providing high-quality services.

Financial system stability and international legal issues

Lastly I will take up as the legal point at issue the role that law is playing in financial system stability, especially in an international aspect. Safeguarding the stability of the financial system is not the same as preventing individual financial institutions from going bankrupt. In the market economy, the principle is that financial institutions, like other firms, will also undergo selection if they fail in their management. If there is an overly high sense of security that the government and the central bank will bail out financial institutions even if they fail in their management, financial institutions' self-discipline will be lost and they will pursue excessive risks, thereby destabilizing the financial system. This is the so-called moral hazard problem. What is important, even if individual financial institutions go bankrupt, is to minimize the effects on other financial institutions and maintain the stability of the financial system as a whole.

Let me take up again the case of Lehman Brothers as an example (Chart 16). In order to smoothly pursue the insolvency proceeding of an internationally active financial institution like Lehman Brothers, it is essential to have coordination between central banks and the supervisory authorities. To begin with, if insolvency during operating hours, namely "intraday insolvency," occurs amid the existence of a time difference, the effects will be grave. In order to avoid this, it becomes necessary to set a proper timing for insolvency. In addition, so as not to complicate the relationship of debts and claims due to new transactions, a business suspension order might become necessary. In the case of Lehman Brothers, in response to the U.S. headquarters' filing for Chapter 11 on September 15, 2008, the Financial Services Agency issued a partial business suspension order to its Japan affiliate. September 15 was a national holiday in Japan. On the ensuing first business day, September 16, Lehman Brothers' Japan affiliate applied to the Tokyo District Court for the civil rehabilitation procedure, and the court decided on the start of the procedure on September 19. The Bank of Japan implemented measures as a central bank to secure financial system stability. Since the Bank was also a creditor of Lehman Brothers, the Bank needed to carry out the measures by gaining the understanding of the court. Moreover, on the settlement front, one-sided default risk was mitigated through the yen-dollar PVP by the CLS and securities DVP by the BOJ-NET. Furthermore, settlement proceedings and loss-share rules in case of insolvency were agreed in advance among market participants, and these functioned well. Because of these various responses, payment and settlement of domestic transactions were conducted generally smoothly in Japan. While it might sound unusual, it is of critical importance that bankruptcy be conducted skillfully without causing any trouble to the financial system as a whole.

In the current financial crisis, Lehman Brothers filed for insolvency, while many financial institutions in the United States and Europe were nationalized or received public capital infusion. In response to this situation, the reflection emerged that a framework for orderly disposal of a financial institution with a significant impact on the financial system was insufficient.[9] Since the framework for disposal was insufficient, a case occurred such as Lehman Brothers – which could not be disposed of while maintaining important operations and which was forced to liquidate – or, adversely, cases occurred in which the authorities judged part of financial institutions as "too big to fail," and eventually many taxpayers had to bear the burden. If the institutions that should fail do not go bankrupt, moral hazard will intensify and the vitality of the financial system and the economy will be eroded from a longer-term perspective. The ability to dispose of failed financial institutions in an orderly fashion is quite a critical factor in strengthening the financial system. In particular, with respect to internationally active financial institutions that are likely to be subject to the problem of "too big to fail," difficult legal issues, such as insolvency laws of various countries and the legal theory of adjustment among these laws, need to be cleared. In this regard, active debate has begun among central banks and the supervisory authorities around the world.[10]

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[9] In the case of Japan, to manage the increasing failures of financial institutions after the collapse of the bubble economy, laws prepared in and after the late 1990s enabled orderly disposal of failed financial institutions. See "Heisei Kin'yu Kiki eno Taio – Yokinhoken wa ika ni Kino shitaka (Responses to the Heisei Financial Crisis – How Deposit Insurance Functioned)," edited and authored by the Deposit Insurance Corporation of Japan, November 2007 (available only in Japanese).

[10] For discussions regarding the resolution process of failed internationally active financial institutions, see "Report and Recommendations of the Cross-border Bank Resolution Group," a consultation paper published by the Basel Committee on Banking Supervision (September 2009).

VI. Professional life at the Central Bank

Thus far, I have explained the role and tasks of a central bank from the viewpoint of "law and economics". However, I feel that such an explanation may not be sufficient to convey a sense of the actual role of a central bank and the essential factors in achieving financial and economic stability. Judging from my own experience of my student days, perhaps the most difficult part to understand might relate to the meaning of "working." Therefore, to wrap up this lecture, I will discuss five aspects of what "working" means in the case of a central bank.

Raison d'être of public service

First, there is the significance of public business. As I have repeatedly mentioned in this lecture, the mission of a central bank is to stabilize the value of money. When you think about it, a central bank is an extremely complex entity. On one hand, it values the market mechanism very highly. On the other hand, as the experience of the current financial crisis shows, it sometimes intervenes in the market in order to prevent the collapse of the financial system. Conversely, it also put the brakes on the excess of the market and financial and economic activities. While these actions are sometimes unpopular, there must be some organization that plays this type of public role in order to achieve sustainable growth in the economy.

Importance of broad knowledge

Second is the importance of broad knowledge. At the beginning of this lecture, I talked about my personal experience. After 36 years of experience at the central bank, if I am asked, "Which is important, knowledge of law or that of economics?" I will come to a very common-sense conclusion: in the work of a central bank, knowledge of economics, of law, and of broader areas is all necessary. I believe that the best part of economics is that it always strictly analyzes human behavior from a viewpoint of incentives. Without such analysis, we cannot conduct monetary policy and system design with respect to financial regulation and supervision. However, at the same time, if "policy discussion" based on such economic analysis is not taking due account of the supporting rules or contracts, things will not practically work. In this regard, legal knowledge is quite important.[11]

Importance of business operations

Third is the importance of business operations. When the policy of the Bank of Japan is taken up in the newspapers or on television, in many cases the focus is its "policy," such as raising or reducing interest rates. However, a consideration of monetary policy requires much more than examination of the target level for the interest rates. The interest rates are induced through banking operations including the sale and purchase of bonds and bills as well as lending to financial institutions. These operations entail consideration of various factors such as from whom and under what conditions the Bank will purchase, how much liquidity the Bank will provide and for how long, and what kind of scheme should be prepared for settlement. When discussing policies, therefore, understanding of business operations is indispensable. In particular, as was the case in the current crisis, when it becomes necessary to respond in ways that differ from those in normal times, it becomes important to take due consideration of business operations. The difference such a consideration would make in the effects and risks associated with policies are just as I have explained.

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[11] Based on these understandings, the central banks of the major countries are encouraging and supporting examination by legal experts, including legal scholars and practicing lawyers, of legal issues related to financial transactions. The Bank serves as the secretariat of the Financial Law Board (FLB), a Japanese organization that examines such legal issues. For information on the purpose, activities, and other details concerning the FLB, see its web site.

At the same time, we should also recognize that discussing policy without a proper perspective does nothing but harm. The real world is not so simple that gathering all information from the field, namely micro information, will lead to an understanding of the total, and policy cannot be judged from the viewpoint of practical operations alone. To understand the complex reality, support provided by theory is required, and a macro approach to the core of the issue taking account of historical experiences is also indispensable.

Significance of working in an organization

Fourth is the significance of working in an organization. When a central bank conducts policy, much work in collaboration is required. To begin with, the assessment of the economic situation, which is the presumption of policy formulation, is backed up by micro economic research and information from the financial front, as well as macro statistics and economic theory. In addition, in formulating a policy based on the assessment of the situation, a viewpoint on how to implement through banking operations is indispensable. During the process, many people who have various kinds of expertise and experience in economics, finance, law, and information technology are involved. In addition, they build up a policy by understanding their colleagues' jobs and by cooperating with each other. While the decision-making body of the Bank of Japan is the Policy Board, consisting of nine members including myself, policy cannot be made by the nine members alone. It is essential to have the wisdom and experience of the many staffers who support the Policy Board members. The experience and wisdom of a single person are limited. Cooperation between many people with different skills, expertise, and experience helps achieve the goal, and the give and take during the process of cooperation will lead to solutions of future problems. These things are what make the existence of an organization significant.

Working in an organization thus shows the importance of "institutional memory". While institutional memory is accumulated in any type of organization, it becomes particularly important in the case of a central bank, since the central bank's objective is to ensure economic and financial stability from a longer-term perspective.

In this regard, what I always feel when I take part in international conferences and visit central banks overseas is that central bankers all have something in common. It appears as if a central bank's DNA – which means "considering based on a medium- to long-term perspective," "placing great importance on the market," "examining in terms of money market operations and business operations," and "maintaining the culture to formulate policy as an organization" – is shared among central bankers. In the current global financial crisis, the existence of this common DNA enabled central banks to cope in tandem with the crisis by means of close cooperation.

Importance of a flexible approach to cope with changes

Fifth is the importance of a flexible approach to cope with changes. Economic and financial conditions keep evolving, and a central bank faces new challenges every day. To cope with the new challenge, inputs from various areas are indispensable. For example, in the past, a run on a bank suggested depositors with their deposit books queuing up in front of a bank. In the current financial crisis, however, a run totally different from the past took place; it might be termed a "market-type run." In the early part of this lecture, I explained that mutual confidence between financial institutions collapsed and financial institutions became hesitant to make transactions in the markets. This happened not only in uncollateralized markets but also in collateralized transactions. One example was a repo transaction. The repo market is where participants temporarily sell or lend bonds such as government bonds to receive funds in exchange (Chart 17). For securities firms that buy and hold a large amount of government bonds, the repo transaction has been an important measure for funding. Since the repo transaction is an exchange between securities such as government bonds and funds, it is a collateralized transaction. In such a transaction, since the value of collateral changes as the price of bond changes, there are accordingly periodic exchanges of funds. For example, if the price of a bond declines substantially, additional collateral equivalent to the amount of price changes must be financed somewhere and handed to a counterparty. In normal times, this amount can be financed by cash on hand or borrowing from financial institutions, but in times when confidence has collapsed, it might not be financed. In such a case, some might sell government bonds they have on hand and try to obtain funds. If such activity increases, bond prices will decline further and the additional cost of repo transactions will increase. According to such drastic changes in financial and economic conditions, a central bank continually must devise approaches using flexible thinking. Thus, while some might associate a central bank with an old-fashioned image, it is full of innovation.

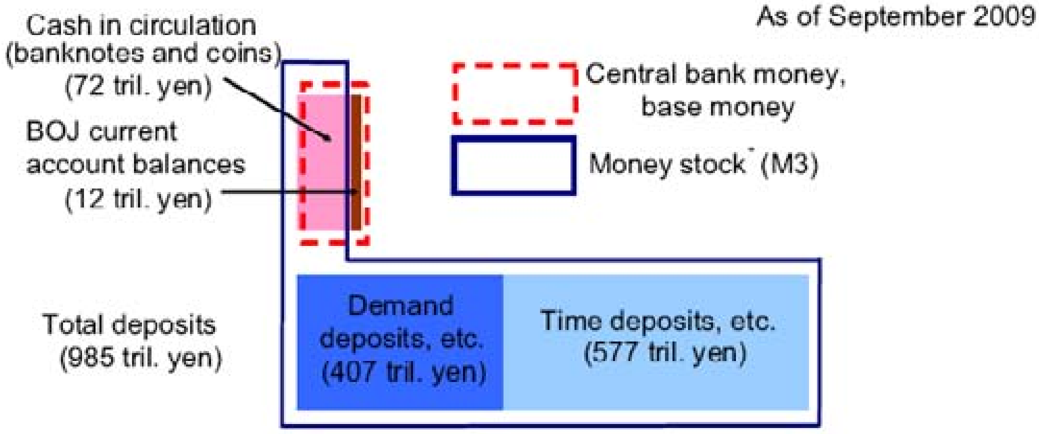
VII. Concluding remarks

Looking back on when I joined the Bank of Japan 40 years ago, I virtually knew nothing about the tasks at the Bank. Since then, I have experienced the excitements and difficulties in the professional life of an organization like the Bank, with its public objectives. I have seen a long list of major events since joining the Bank: floating of the yen, oil shocks, the bubble, the bursting of the bubble and the ensuing financial system turmoil, and the current global financial crisis. At all times, what remains unchanged is that the ultimate mission of a central bank is to safeguard the stability of the value of money and the confidence in the currency. The current global financial crisis is something that almost all the policy authorities and economists "knew" from a historical standpoint, but never imagined that they would actually experience. In response to such a situation, central banks including the Bank of Japan have hammered out various innovative measures. As I look back on the 40 years since I started to work at the Bank, and look out at you as you attend this lecture, I cannot help wondering what will happen during the coming 40 years. A new type of crisis is quite imaginable. Preventing the outbreak of such a crisis, or – if such a crisis unfortunately occurs – minimizing the effects to achieve economic stability is a challenging task, and students like yourselves who are going out into society cannot remain completely immune from such challenges, regardless of your areas of work in public organizations, private firms, or as academics.

All of you have been studying law and might be hoping to utilize law to contribute to the world. There are many jobs such as the legal profession and legal departments where knowledge of the law can be utilized. While all of those jobs are no doubt important, it would be more than I can dream of if you also recognize the challenging and unique workplace that is a central bank. I would be delighted if my lecture today has made you feel closer to the presence of the central bank. Thank you.

Chart 1

Classification of "Money"



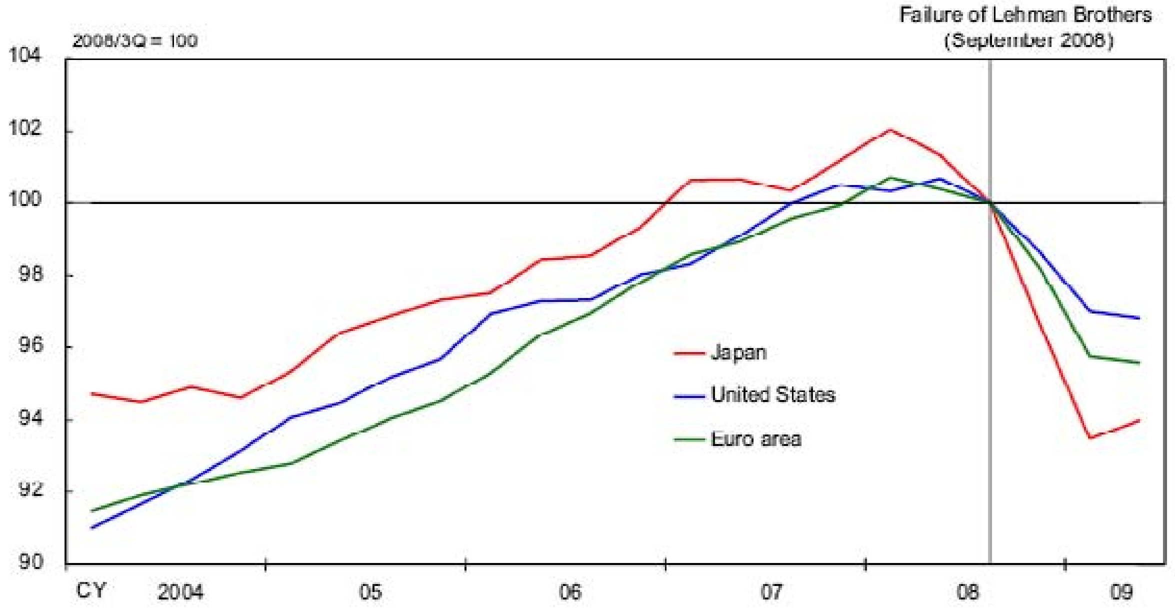
Nominal GDP of Japan in fiscal 2008: 498 tril. yen

* Money stock is basically defined as the quantity of cash and deposits held by individuals, corporations, etc.

Source: Bank of Japan.

Chart 2

Real GDP of Major Economies



Sources: Cabinet Office, BEA, EUROSTAT.

Chart 3

Structure of Securitized Products

(An example of securitized products backed by mortgages.)

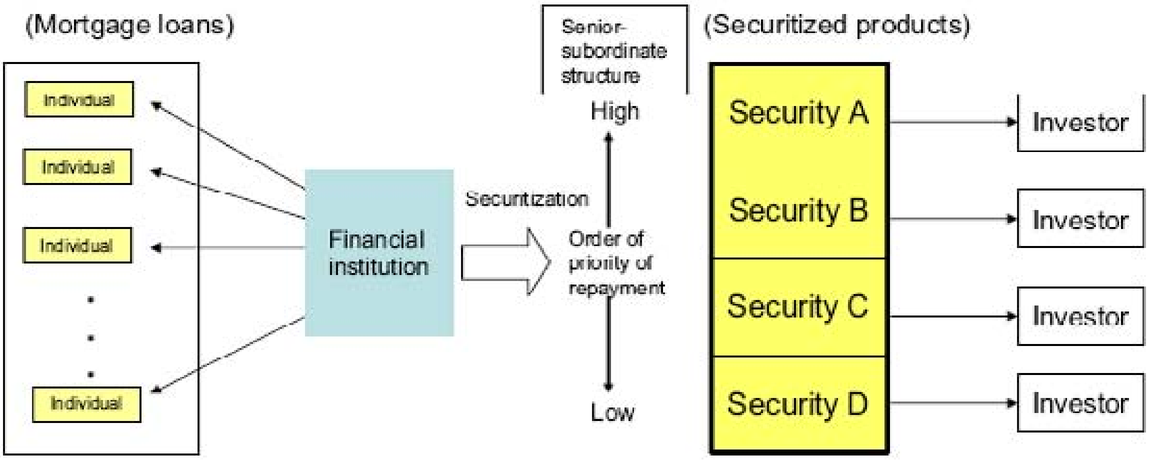
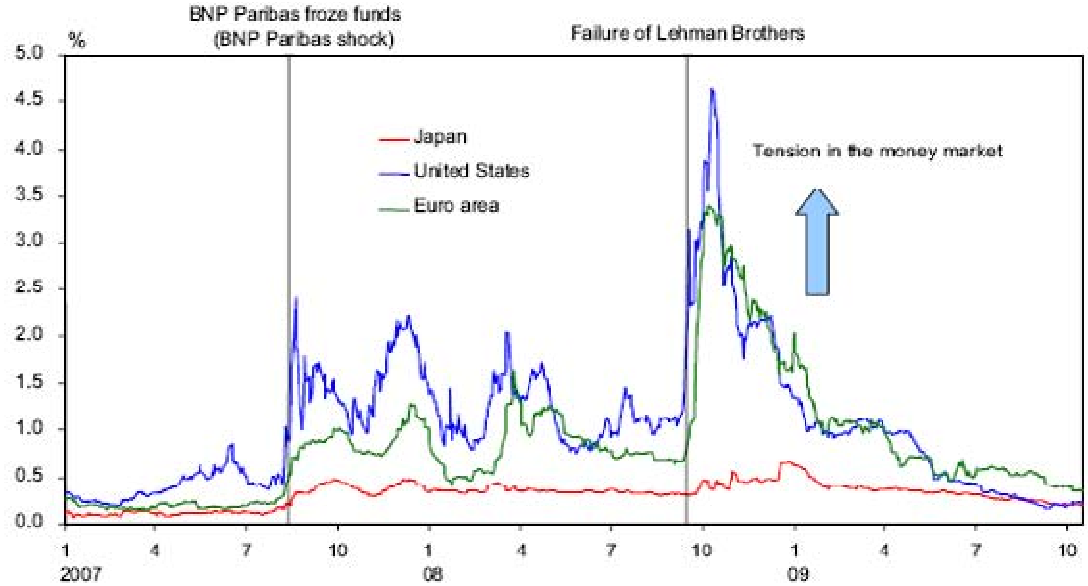


Chart 4

Global Money Market

The spread between the London Inter-Bank Offered Rate (LIBOR) and the short-term government security (3-month) yield (i.e., the spread between "interest rates at which banks borrow unsecured funds from other banks in the London money market" and "risk-free interest rates").

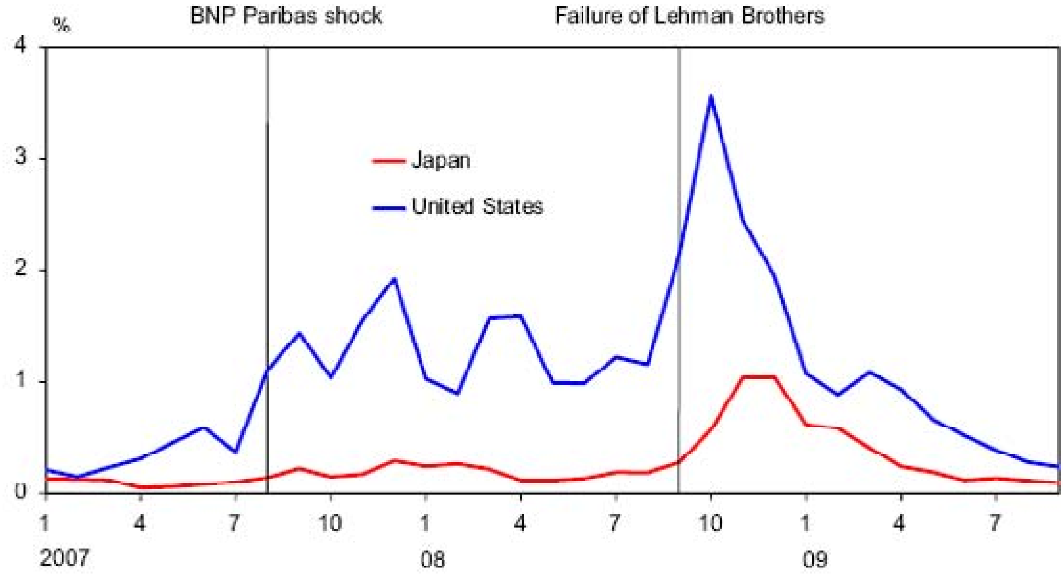


Source: Bloomberg.

Chart 5

Commercial Paper Market

The spread between the average issuance rate of CP (rated a-1) and the short-term government security (3-month) yields.

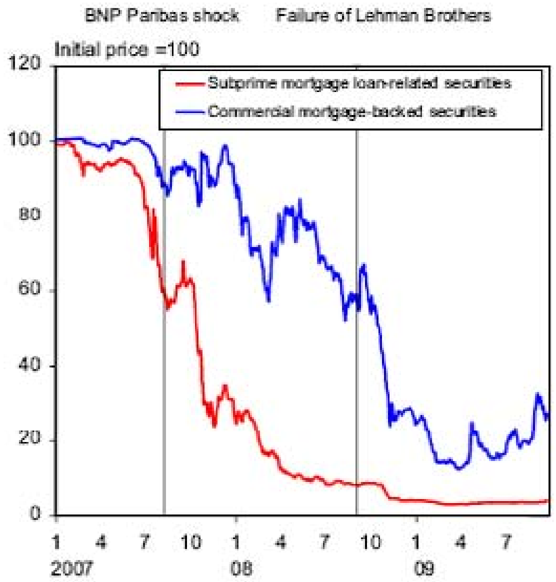


Sources: Bloomberg, Bank of Japan.

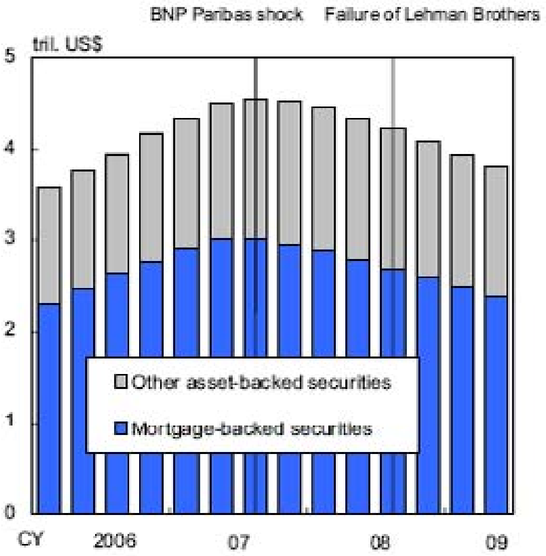
Chart 6

Development of Securitization Markets in the U.S.

Prices of major securitized products (A-rated)



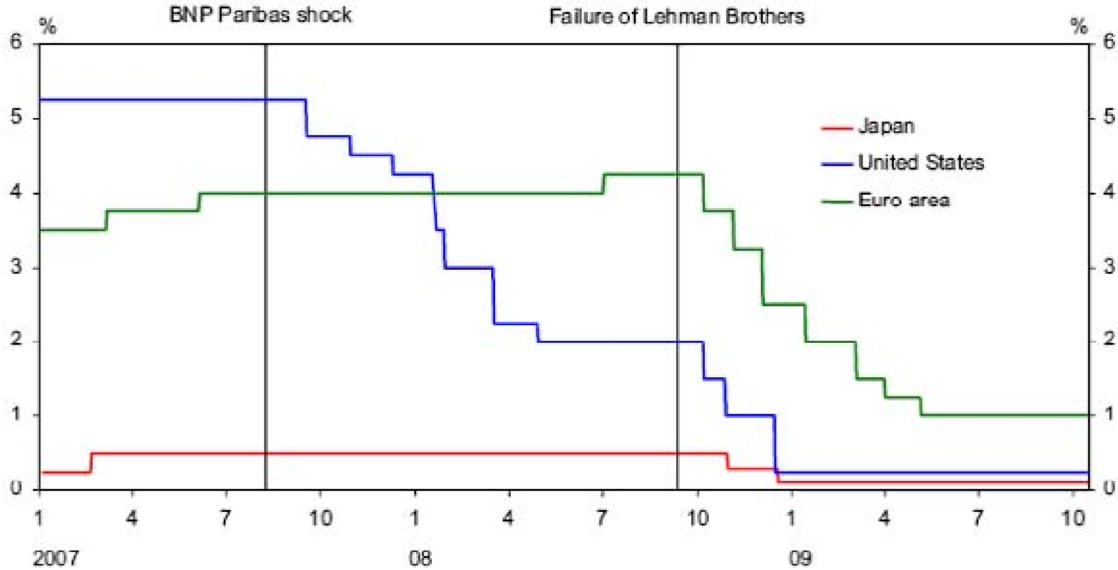
Amount outstanding of private securitized products



Sources: JP Morgan, FRB.

Chart 7

Reductions in the Policy Interest Rate



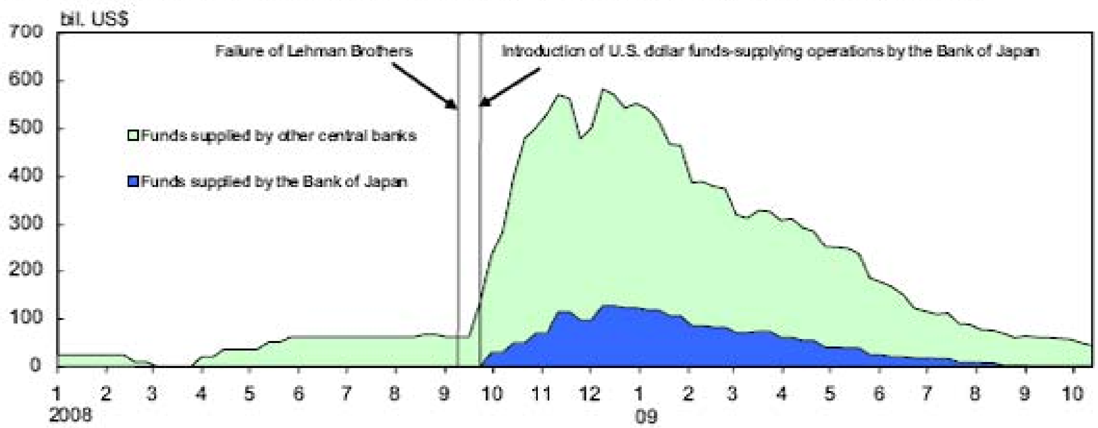
Sources: Central banks.

Chart 8

Provision of Ample Liquidity (U.S. Dollar Funds-Supplying Operations)

Outline of U.S. dollar funds-supplying operations against pooled collateral by the Bank of Japan

Amount outstanding of U.S. dollar funds-supplying operations by major central banks



Sources: Bank of Japan, FRB.

Chart 9

Collateral Accepted by the Bank of Japan

(1) Yen-denominated collateral

tril. yen

	As of September 30, 2008	As of September 30, 2009	Difference
Government bonds	53.0	67.9	+15.0
Municipal bonds, government-guaranteed bonds, Fiscal Investment and Loan Program agency bonds	5.3	5.8	+0.6
Corporate bonds	0.7	1.5	+0.9
CP	2.7	3.0	+0.3
Asset-backed securities	0.0	0.3	+0.3
Bills (excluding CP)	0.1	0.7	+0.6
Loans on deeds to companies	0.4	5.4	+5.0
Loans on deeds to the government	19.5	20.6	+1.1
Total	81.7	105.3	+23.7

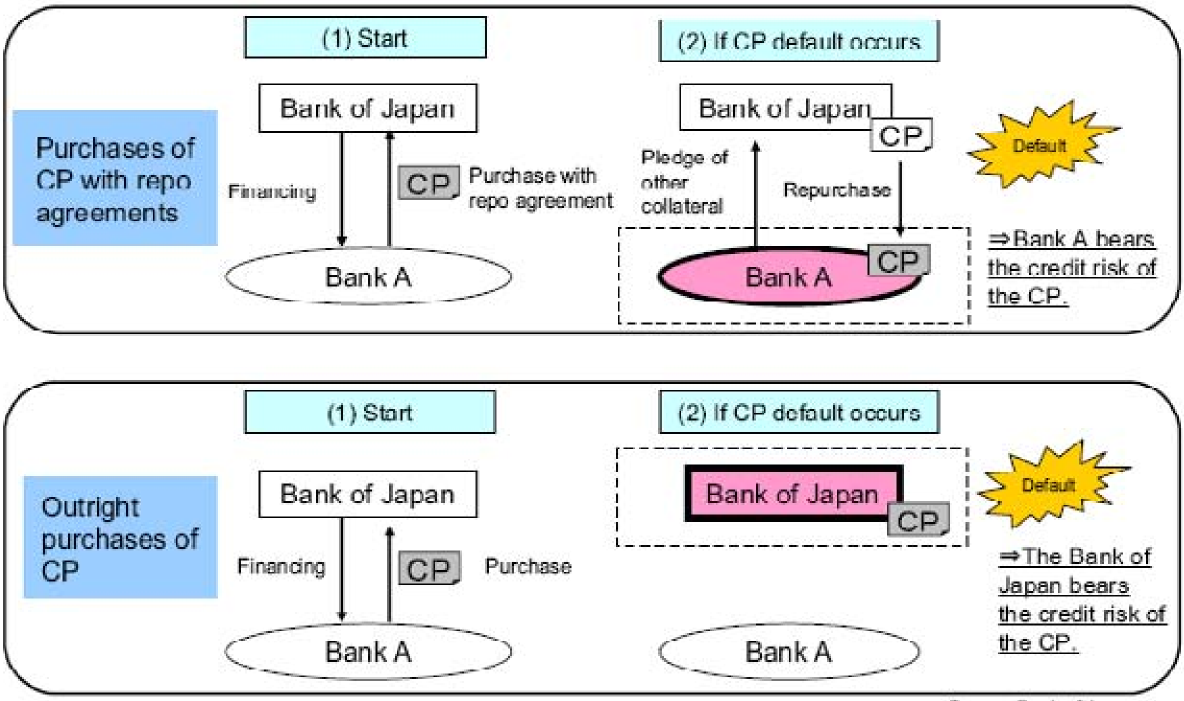
(2) Foreign-denominated collateral

Acceptance of cross-border bonds (i.e., bonds issued by the governments of the United States, the United Kingdom, Germany, and France) as eligible collateral (effective date: July 31, 2009, Bank of Japan Policy Board Decision on May 22, 2009)

Source: Bank of Japan.

Chart 10

Scheme of Outright Purchases of CP

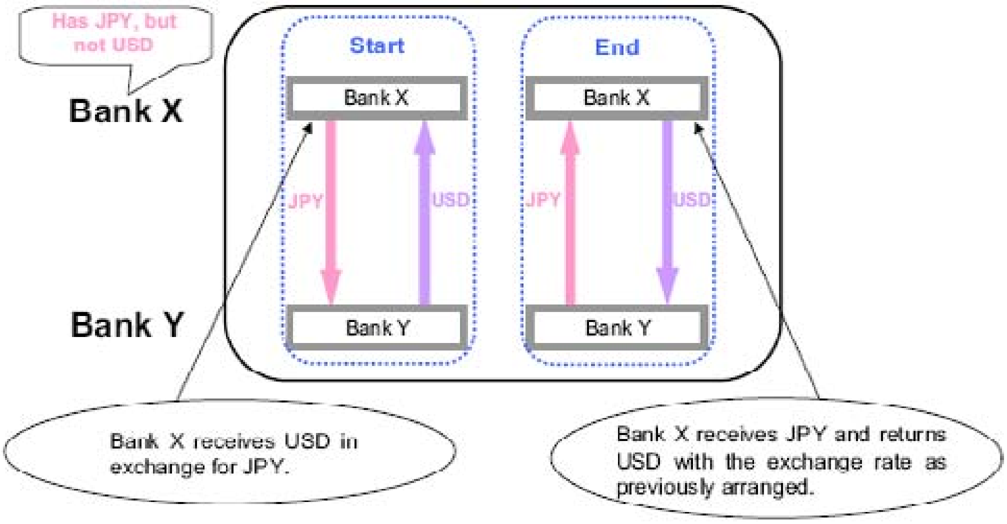


Source: Bank of Japan.

Chart 11

Outline of FX Swap Transaction

FX swap transaction:
e.g., transaction that exchanges USD and JPY for a specific period

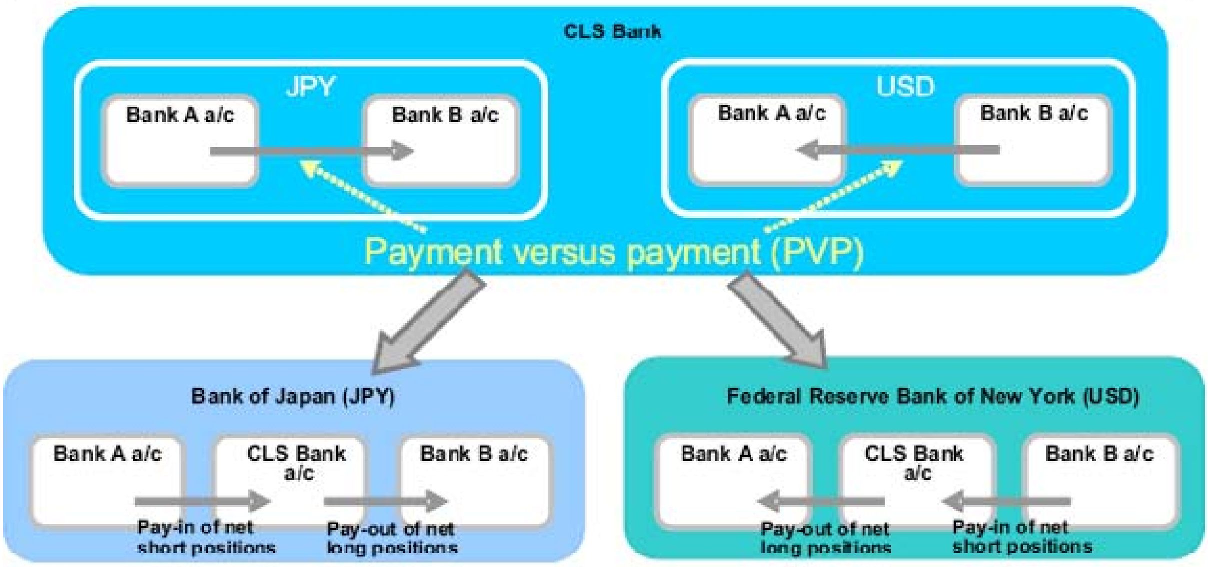


⇨ For Bank X, the transaction means USD borrowing with JPY collateral.
For Bank Y, the transaction means JPY borrowing with USD collateral.

Chart 12

Outline of CLS (Example of JPY/USD Settlement)

Bank A sells JPY to Bank B in exchange for USD.



After the pay-in of USD from Bank B is confirmed, the pay-out of JPY to Bank B is executed.

After the pay-in of JPY from Bank A is confirmed, the pay-out of USD to Bank A is executed.

Note: CLS means Continuous Linked Settlement.

Source: Bank of Japan.

Chart 13

Bank of Japan Act (Bank of Japan Notes)

(Issuance of Bank of Japan Notes)

Article 46

(1) The Bank of Japan shall issue banknotes.

(2) The banknotes issued by the Bank of Japan (hereinafter referred to as "Bank of Japan notes") as prescribed in the preceding paragraph shall be legal tender and hence shall be used for payment without limits.

(Reference): Penal Code Chapter 16
(Crimes of Counterfeiting of Currency)

Article 148

(1) A person who counterfeits or alters a current coin, bank note or bill for the purpose of uttering shall be punished by imprisonment with work for life or for a definite term of not less than 3 years.

(2) The same shall apply to a person who utters, or delivers or imports for the purpose of uttering, a counterfeited or altered coin, bank note or bill.

Chart 14

Bank of Japan Act (The Principle of Currency and Monetary Control, Autonomy, and Relationship with the Government)

(The Principle of Currency and Monetary Control)

Article 2

Currency and monetary control by the Bank of Japan shall be aimed at achieving price stability, thereby contributing to the sound development of the national economy.

(Respecting the Autonomy of the Bank of Japan and Ensuring Transparency)

Article 3

(1) The Bank of Japan's autonomy regarding currency and monetary control shall be respected.

(2) The Bank of Japan shall endeavor to clarify to the citizen the content of its decisions, as well as its decision-making process, regarding currency and monetary control.

(Relationship with the Government)

Article 4

The Bank of Japan shall, taking into account the fact that currency and monetary control is a component of overall economic policy, always maintain close contact with the government and exchange views sufficiently, so that its currency and monetary control and the basic stance of the government's economic policy shall be mutually compatible.

Chart 15-1

Outline of Outright Purchases of CP

1. CP to be purchased
   - CP and asset-backed CP (ABCP) that are eligible as the Bank's collateral, a-1 rated, issued before or on the auction date and with the residual maturity of up to 3 months.

2. Amount to be purchased
   - The outstanding amount of CP (including ABCP) purchased by the Bank shall not exceed 3 trillion yen.
   - The outstanding amount of a single issuer's CP (including ABCP) purchased by the Bank shall not exceed 100 billion yen. In addition, if the outstanding amount of a single issuer's CP purchased by the Bank exceeds 25 percent of the "upper limit" (the highest end-of-the-month figure for the CP issued by an issuer between July 2008 and December 2008), the CP would be excluded from the eligible list of CP until the outstanding amount of the issuer's CP purchased by the Bank falls below the upper limit through redemptions.

3. Method of auctions
   - A multiple-price competitive auction in which a minimum yield equally applied to CP and ABCP is set according to their residual maturity as below and counterparties bid the non-negative yield spread from the minimum yield.

   --- (A residual maturity of up to 1 month) The targeted uncollateralized overnight call rate (0.1 percent, currently) plus 20 bps

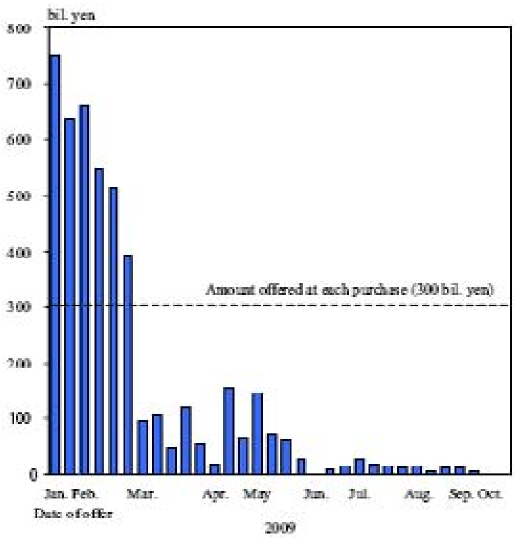
   --- (A residual maturity of more than 1 month and up to 3 months) The target uncollateralized overnight call rate plus 30 bps

   --- The minimum bid rate is set to be more favorable than the market interest rates when the market is malfunctioning, but not more favorable than the market interest rates of normal times. With this setting, bids will naturally decrease in number as the market function recovers.

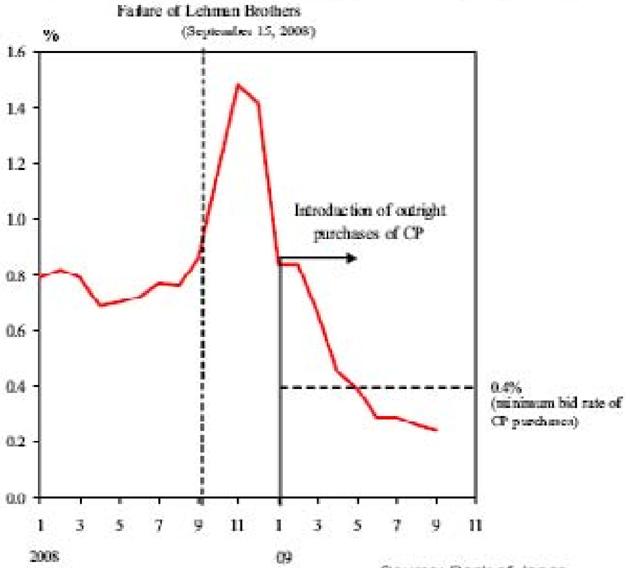
Chart 15-2

Issuance Rates on CP and Amounts of Competitive Bids for CP Purchases

Amounts of competitive bids for CP purchases



Issuance rates on CP
(3-month CP with ratings A-1 or higher)



Source: Bank of Japan.

Chart 16

Experience of the Failure of Lehman Brothers

(Japan time)	Measures taken in other countries	Measures taken in Japan
September 15 (National holiday) About noon	• The holding company in the U.S. and a subsidiary in the UK went insolvent (filed petitions for protection under Chapter 11 of the U.S. Bankruptcy Code and administration under the UK Insolvency Act).	Worked in close coordination with the overseas authorities and central banks.
About 3:00 p.m.		• The FSA issued to Lehman Brothers Japan Inc. (hereinafter referred to as "Lehman JP") the order of retention of assets within Japan and business improvement order.
About 9:00 p.m.	Suspended the business activities of Lehman in order to prevent market participants from entering into new transactions that would further complicate the claims and debts among the parties.	• The FSA issued to Lehman JP the business suspension order. — excluding transactions for return of deposited client assets and those for settlement of unsettled contracts including buying/selling of securities.
September 16 Early morning	Avoided "intraday insolvency." Part of the existing transactions were allowed to be settled as an exception to the restraining order.	• Lehman JP filed for commencement of civil rehabilitation procedure and a temporary restraining order. • The Tokyo District Court issued a temporary restraining order. — excluding transactions for return of deposited client assets and those for settlement of unsettled contracts including buying/selling of securities. → The Bank of Japan continued current account transactions and other existing transactions with Lehman JP.
September 19		• The Tokyo District Court made an order of commencement of civil rehabilitation procedure.

Chart 17

Repo Transactions and a "Market Run"