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Money Market Operations in Fiscal 2008

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Summary

Throughout fiscal 2008, the Bank of Japan conducted money market operations with the uncollateralized overnight call rate as the operating target. The target level for the uncollateralized overnight call rate was lowered on two occasions during fiscal 2008. The target level was lowered from “around 0.5 percent” to “around 0.3 percent” at the Monetary Policy Meeting (MPM) held on October 31, 2008, and to “around 0.1 percent” in the MPM of December 18 and 19. The basic loan rate applied to the complementary lending facility was also lowered from 0.75 percent to 0.5 percent in the MPM of October 31, and to 0.3 percent in the MPM of December 18 and 19. As a temporary measure, the Bank introduced the complementary deposit facility on November 16 and started applying an interest rate of 0.1 percent to excess reserve balances.

During fiscal 2008, international financial markets suffered severe strains following the failure of Lehman Brothers in mid-September. In Japan, conditions in financial markets and corporate financing also became increasingly tighter toward the year-end and the fiscal year-end. Under these circumstances, the Bank conducted money market operations with a view to ensuring stability in the financial markets and facilitating corporate financing as much as possible.

The Bank maintained close contact with foreign central banks to gain an accurate grasp of developments in overseas markets, very closely monitored the domestic money market, and implemented flexible and finely tuned operations while lowering the policy interest rate. The Bank also introduced new operational tools, such as U.S. dollar funds-supplying operations, special operations to facilitate corporate financing, outright purchases of CP and outright purchases of corporate bonds. Other new measures included the introduction of the complementary deposit facility and the expansion of eligible collateral. The Bank used these tools to actively supply funds over the year-end and fiscal year-end to maintain stability in the financial markets and to facilitate corporate financing (Chart 1).

Under these money market operations, the uncollateralized overnight call rate moved steadily around the target level throughout fiscal 2008. While the funding conditions for firms and financial institutions showed improvement after the year-end, financial markets and the corporate financing environment on the whole remained under considerable strain.

The first section of this paper focuses on the sources of changes in the current account balances at the Bank, which are preconditions for money market operations. This is followed by a review of developments in the financial markets and features of money market operations. The latter part of the paper is given to a review of developments in operations by type of operational tool and explanations of the main revisions made in the conduct of money market operations.

I. Sources of Changes in Current Account Balances at the Bank of Japan (Autonomous Factors)

Current account balances at the Bank fluctuate in accordance with receipts and payments of banknotes and treasury funds between financial institutions and the Bank or the government. To ensure that the uncollateralized overnight call rate remains at the target level, the Bank projects changes in current account balances at the Bank and adjusts the current account balances by undertaking funds-supplying or funds-absorbing operations. As such, sources of changes in current account balances at the Bank (autonomous factors)[1] constitute important preconditions for the Bank's money market operations.

During fiscal 2008 (April 2008 – March 2009), developments in autonomous factors worked in the direction of decreasing the outstanding balance of current accounts, as was the case in fiscal 2007. The contribution made by autonomous factors amounted to 17.4 trillion yen, down from 20.4 trillion yen in fiscal 2007. This was mainly due to the decrease in the amount of Japanese government bonds (JGBs, over one year)[2] issued during fiscal 2008. The following section describes the developments of individual factors (Chart 2).

A. Banknotes

Net issuance of banknotes for fiscal 2008 was 0.4 trillion yen, down from 0.6 trillion yen issued in fiscal 2007. During fiscal 2008, net issuance increased toward the end of the year, and the outstanding balance of banknotes reached around 81 trillion yen. Thereafter, the outstanding balance declined due to net redemption.

B. Fiscal Payments and Revenues

"Fiscal payments and revenues" includes payments for public works, social security expenditures, and pension payments as well as tax revenues. It is a concept encompassing all treasury payments and receipts except payments and receipts related to issuance and redemption of JGBs (over one year) and Treasury Discount Bills, as well as transactions of foreign exchange (payments and receipts mainly related to foreign exchange intervention). "Fiscal payments and revenues" resulted in a net payment of 26.7 trillion yen, down sharply from 40.6 trillion yen in fiscal 2007. The

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[1] Developments in banknotes and treasury funds, which are preconditions for the central bank's money market operations, are referred to as "sources of changes in current account balances" or "autonomous factors." In the case of banknotes, financial institutions' deposits of banknotes at the Bank constitute sources of increase in current account balances, while their withdrawal of banknotes from the Bank constitutes sources of decrease. In the case of treasury funds, the issuance of Japanese government securities (JGSs) and payment of taxes resulting in transfers of funds from the financial institutions' current accounts to the government's account constitute sources of decrease in current account balances, while the redemption of JGSs, pension payments, and other fiscal expenditures made from the government's account to financial institutions' current accounts at the Bank constitute sources of increase.

[2] The issuance and redemption of treasury discount bills are not included under "JGBs (over one year)," and are shown separately under "Treasury Discount Bills" (see Section I.D).

decrease in net payments mainly reflects the decrease in repayments of Fiscal Loan Fund deposits.

C. JGBs (Over one year)

"JGBs (over one year)" includes issuance and redemption of interest-bearing JGBs (long-term JGBs) and others. Issuance continued to exceed redemption by a large margin, leading to net government receipts of 24.5 trillion yen. This was down from net receipts of 49.8 trillion yen in fiscal 2007, reflecting the decrease in issuance of refunding bonds. Of the decrease in net receipts, 6.4 trillion yen was attributed to a re-categorization of treasury bills[3] from "JGBs" to "treasury discount bills" upon introduction of treasury discount bills.

D. Treasury Discount Bills[4]

Net receipts of "Treasury discount bills" (T-Bills) amounted to 18.7 trillion yen in fiscal 2008, up from 9.7 trillion yen in the previous year. In addition to an increase of issuance in the market, this reflected the re-categorization of treasury bills from JGBs to T-Bills. Of the increase in net receipts, 6.4 trillion yen was attributed to this re-categorization.

E. Foreign Exchange and Others

While no foreign exchange intervention was undertaken during fiscal 2008, "Foreign exchange" registered a net increase of 0.6 trillion yen. This reflected the yen/dollar exchange the Japan Bank for International Cooperation conducted with the Foreign Exchange Funds Special Account for its U.S. dollar funding.

During fiscal 2008, receipts and payments of "Others" amounted to nearly zero. In comparison, "Others" made a negative contribution of 1.1 trillion yen to the

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[3] Beginning in February 2009, financing bills (FBs) and treasury bills (TBs) were integrated to form "treasury discount bills." Consequently, the changes in statistical treatment were made to replace "JGBs" and "financing bills" by "JGBs (over one year)" and "Treasury discount bills." Furthermore, "outright purchase of TBs/FBs" was renamed "outright purchases of T-Bills," and "outright sales of TBs/FBs" were renamed "outright sales of T-Bills. Redemption of treasury bills issued before the start of integrated issuance is included under "JGBs (over one year)."

[4] Footnote 1 refers to "autonomous factors" as preconditions for the central bank's money market operations. However, among those factors, "treasury funds and others" is actually influenced by the Bank's purchases/sales of T-Bills, one of the tools for money market operations. The reason is as follows. When the Bank purchases T-Bills from financial institutions and holds them to maturity, redemption funds that would have been deposited in current accounts of the financial institutions involved are paid to the Bank. This transaction results in a decline in treasury payments to current accounts (the opposite occurs when T-Bills held by the Bank are sold to financial institutions).

In order to remove the effects of such T-Bills purchasing or selling operations and to grasp the movements of treasury funds accurately, it is assumed that, for the autonomous factors used in this paper, funds paid for the redemption of T-Bills purchased through money market operations are paid to financial institutions involved. Similarly, funds paid for the redemption of T-Bills sold through money market operations are assumed to be paid to the Bank.

outstanding balance of current accounts[5] at the Bank in fiscal 2007.

The developments of factors affecting current account balances as described above can be summarized as (i) changes in banknotes, (ii) changes in treasury funds and others, and (iii) "excess and shortage of funds" derived from the sum of the preceding two factors. Regarding these three items, the Bank compiles and releases projections for the next business day, and preliminary and final figures for the day.[6] Furthermore, the Bank releases projections of the reserve balances of the day every morning. The release of these projections provides market participants with useful information for predicting money market conditions and the Bank's money market operations of the day. This information may also be useful in making decisions on investment and fund-raising from the market.

A comparison of the daily projections of changes in the next day's current account balances at the Bank and the actual figures for fiscal 2008 indicates that, on average, projections of excesses and shortages of funds were accurate within a range of plus or minus 50 billion yen, roughly on par with the range of plus or minus 60 billion yen in fiscal 2007. The accuracy of these projections implies that projection error rarely exerted a significant impact on money market operations (Chart 3). However, on certain days, the projections were off the mark by several hundred billion yen. In such instances, it was occasionally necessary to additionally adjust the current account balances at the Bank through operations conducted on the same day. A review of the projection errors broken down into "banknotes" and "treasury funds and others" shows that the absolute size of the gap between projections and actual figures continues to be significantly larger for the autonomous factor of "treasury funds and others," reflecting the fact that payments and receipts of treasury funds significantly exceed banknote payments and receipts. Among factors in "treasury funds and others," daily fluctuations in yen deposits of overseas account holders have increased compared to the previous year. This development has acted to broaden the gap between projections and actual figures for excesses and shortages of funds.[7]

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[5] The Bank accepts yen deposits from foreign central banks and international organizations. An increase in the balance of such deposits would normally contribute as a decreasing factor in outstanding balance of current accounts at the Bank, while a decrease would contribute as an increasing factor.

[6] Additionally, the Bank releases monthly projections and monthly preliminary and final figures for these three items.

[7] During fiscal 2007, the average and standard deviation of the estimated absolute size of fluctuations in the autonomous factor of yen deposits of overseas account holders both came to about 64 billion yen. By comparison, in fiscal 2008, the average and standard deviation came to about 106 billion yen and 117 billion yen, respectively.

II. Developments in Money Market Operations

Developments During Fiscal 2008

Japanese financial markets remained nervous from April 2008 onwards under the turmoil in international financial markets caused by subprime mortgage loan problems. With the collapse of Lehman Brothers in September, concerns over counterparty risk were significantly elevated. Liquidity in the call, repo, and foreign exchange swap markets sharply declined and the market was seriously destabilized. In October, investors took an increasingly risk averse stance as domestic and overseas stock prices plunged. As a result, the corporate fund-raising environment, particularly the issuing environment of CP and corporate bonds, deteriorated sharply. Financial institutions also experienced difficulty in procuring funds through uncollateralized term transactions, such as call transactions and CDs. Toward the end of December, demand for funds over the year-end from companies and financial institutions increased, partly reflecting precautionary demand, and tensions in Japanese financial markets, as in the international financial markets, were significantly elevated. Through the end of March, unstable conditions continued with growing demand for funds over the fiscal year-end.

Against this backdrop, the Bank reduced the policy interest rate, introduced various new operational measures and actively provided funds over the year-end and fiscal year-end by these measures to ensure the stability of financial markets and facilitate corporate financing. The Bank introduced operational tools such as U.S. dollar funds-supplying operations, special operations to facilitate corporate financing, outright purchases of CP and outright purchases of corporate bonds as well as the complementary deposit facility, and also expanded the range of eligible collateral.

With these money market operations, the uncollateralized overnight call rate moved steadily around the target level throughout fiscal 2008 (Chart 4). After the turn of the year to 2009, the CP issuance rates evidently declined and the funding conditions for financial institutions through uncollateralized term transactions steadily improved. Nevertheless, the financial markets and corporate financing environments on the whole remained under considerable strain.

In the remainder of this section, developments in financial markets and money market operations before and after mid-September 2008 are reviewed, where the after-mid-September period is divided into several periods depending on market developments.

A. Period through Mid-September

From April 2008 onwards, the Japanese money market remained nervous under mounting turmoil in international financial markets triggered by subprime mortgage loan problems. During this period, lenders in the uncollateralized call market maintained a relatively cautious stance on investing in term transactions. Market conditions continued to be somewhat unstable in the repo market and rates tended to rise on the issue dates of JGSs when the inventory funding pressures of securities companies increase,[8] and on the last days of reserve maintenance periods and the last business day of a month when lenders become more cautious. In the U.S. dollar money market, funding premiums (the LIBOR-OIS spread) continued to be at a higher level than they were before August 2007, reflecting market developments such as the bail out of Bear Stearns. On the other hand, given these higher dollar funding premiums, foreign financial institutions were frequently able to procure yen funds at below the 0.5 percent target level through foreign exchange swaps (dollar-to-yen conversion) and euro-yen T/N[9] transactions that have a strong arbitrage relation to the former.[10] The increase in such forms of fund-raising contributed to stabilizing short-term interest rates by relieving fund-raising pressure in the uncollateralized call market and by increasing investment in the repo market. The LIBOR-OIS spread of the yen remained stable compared to that of the dollar, but remained wider than before August 2007, especially with respect to longer maturities (Chart 6).

In light of these developments, the Bank paid close attention to stabilizing the financial markets and provided ample funds to the market as was done in the previous year. As a result, the uncollateralized overnight call rate moved steadily around the target level of 0.5 percent during this period (Chart 4).

On June 30, the last business day of the quarter, some financial institutions reduced their lending in the uncollateralized call market to lower their risk assets. Meanwhile, GC repo rates, which had started rising before June 20 when issuance and large-scale redemption of JGB was conducted, rose to nearly 0.7 percent. Against this backdrop, fund-raising needs of securities companies and other financial institutions became very strong. To cope with this development, the Bank conducted two same-day funds-supplying operations (totaling 700 billion yen) to restrain the rise in interest rates. As a result, the uncollateralized overnight call rate remained at 0.572 percent. Thereafter, the uncollateralized overnight call rate remained stable through the summer. Given the ample supply of funds during this period, some downward pressure on the uncollateralized overnight call rate was observed toward the end of reserve maintenance periods. The Bank responded by conducting same-day funds-absorbing operations in small amount on the last days of reserve maintenance periods to prevent the rates from falling. As a result of these operations, uncollateralized overnight call rates stood at 0.454 percent on July 15, 0.504 percent on August 15, and 0.468 percent on September 12.

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[8] "Securities companies" constitute "first financial instruments businesses" engaged in securities transactions as provided under the Financial Instruments and Exchange Law.

[9] Abbreviation for "tomorrow/next." These are overnight transactions where the funds are delivered one business day after the contract date.

[10] Yen conversion costs (T/N) occasionally became negative when dollar fund-raising needs increased, for instance, at month-end.

B. After Mid-September

[1] From Mid-September to End of September

Developments in Financial Markets

With the failure of Lehman Brothers on September 15, tension in the international financial markets was significantly heightened. In the U.S. and European money markets, overnight rates came under extreme upward pressure, term transactions contracted precipitously and the LIBOR-OIS spread increased rapidly (Chart 5). In the Japanese money market, liquidity declined sharply as market participants became extremely cautious of counterparty risk.

On September 16, the first business day after the failure of Lehman Brothers, it was widely observed that lenders in the uncollateralized call market refrained from investing funds while borrowers tended to hoard funds. As a result, the uncollateralized overnight call rate came under strong upward pressure. From September 17, foreign financial institutions found more difficulty in raising funds, whereas Japanese financial institutions, which were considered not to be seriously influenced by the turmoil in the U.S. and European financial markets, were able to raise funds more easily. This resulted in a clear polarization of the market as evidenced by a 20-30 bps differential in funding rates between foreign and Japanese financial institutions. As lenders adopted an increasingly conservative stance, they sharply reduced investments in future-dated and term transactions. Furthermore, lenders tended to invest funds in overnight transactions only after confirming that their daily short position had been covered. As borrowers sought to raise funds through future-dated and term transactions, premiums on future-dated and term transactions rapidly elevated (Chart 6). During this period, intra-day fluctuations in uncollateralized overnight call rates increased significantly because rates climbed during early trading as fund-raising by foreign financial institutions was concentrated in the morning hours, but declined in afternoon trading when lenders placed funds with Japanese financial institutions at very low rates (Chart 7).

Liquidity also declined sharply in the repo market. Lehman Brothers was a major participant in the Japanese repo market, and repo transactions with foreign financial institutions were increasingly avoided after its failure. Fails in delivering securities in related transactions increased sharply during this period. Since fail-to-deliver practices were not as well established in Japan as in the United States, some market participants avoided repo transactions in order to reduce the operational burden of dealing with fails. Liquidity was further lowered as major lenders of funds in the repo market, such as city banks, took a more conservative stance and reduced arbitrage transactions involving the borrowing of funds in the uncollateralized call market and lending of funds in the repo market. As a result, the GC repo rate climbed sharply to nearly 0.75 percent, which was the basic loan rate (Chart 4).

Liquidity in dollar funding markets, including foreign exchange swap markets (yen-to-dollar conversion), also declined sharply. This exerted considerable influence not only on foreign financial institutions but also on Japanese financial institutions, which had increased assets denominated in U.S. dollar, partly by substituting for U.S. and European financial institutions that were potentially facing capital adequacy constraints since the emergence of subprime mortgage loan problems.

Money Market Operations

Money market operations during this period had the following features.

First, to ensure stability in the financial markets, the Bank provided substantial amount of funds to the market on consecutive days[11] through same-day funds-supplying operations.[12] [13] On September 16, when the uncollateralized overnight call rate came under strong upward pressure, the Bank conducted two large-scale same-day funds-supplying operations (totaling 2.5 trillion yen). As a result, the uncollateralized overnight call rate stayed at 0.524 percent on September 16. On subsequent days, as financial institutions such as foreign financial institutions and securities companies raised funds in the uncollateralized call market at relatively high rates, the Bank continued to conduct multiple same-day funds-supplying operations of up to 3 trillion yen a day. The Bank also conducted purchases of JGSs with repurchase agreements[14] almost everyday with maturities between 1 to 3 weeks, increasing the offer amount per operation to enhance stability in the repo market (Chart 8).[15] [16] Despite the ample

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[11] Same-day funds-supplying operations were conducted on 19 consecutive business days between September 16 and October 14.

[12] Through the end of the year, the Bank offered same-day funds-supplying operations and same-day funds-absorbing operations at non-regular hours as needed. The Bank responded with flexible funds-supplying operations when tensions heightened sharply in the market, for instance, reflecting previous-day developments in overseas markets. Specifically, since transactions in the uncollateralized call market normally start at around 8:00 a.m., in such cases, the Bank moved up the time of same-day offers from the normal time of 9:20 a.m. to around 9:00 a.m., and conducted large-scale funds-supplying operations to ease the tension. Regarding funds-absorbing operations conducted when the overnight call rate came under strong downward pressure in the morning hours as a result of ample supply of funds, the Bank occasionally made offers before regular hours. Furthermore, to promote market transactions under low liquidity conditions, the Bank occasionally conducted its afternoon same-day operations after regular hours (12:50 p.m.).

[13] Purchases of JGSs with repurchase agreements are subject to a maximum bidding limit equal to one fourth of the offer amount. For other operations, the bidding limit is normally set at one-half the offer amount. Following the failure of Lehman Brothers, declining market liquidity resulted in higher demand for fund-raising through money market operations, while greater disparity was seen in availability of funds among some financial institutions. Responding to this development, the Bank adopted larger and smaller maximum bidding limits to ensure a more even distribution of funds to financial institutions.

[14] The Bank's primary tool of funds supplying, funds-supplying operations against pooled collateral provides short-term funds to banks, securities companies, and other counterparties against a broad range of eligible collateral, such as government bonds and corporate debt. JGS purchasing operations with repurchase agreements are operation to purchase JGSs for determined period with an agreement to resell at the end of that period. It is used by counterparties such as banks and securities companies. While government bonds can be used as collateral in both operations, JGS purchasing operations with repurchase agreements can contribute more directly to stabilizing the repo market because the majority of counterparties are the securities companies equipped to participate in repo transactions.

[15] Funds-supplying operations undertaken between the failure of Lehman Brothers and the end of

provision of funds, however, large volumes of funds were drawn from the complementary lending facility, reflecting decreased liquidity in the uncollateralized call market and repo market (Chart 4).[17]

With ample provision of funds under polarized conditions in the uncollateralized call market, the uncollateralized overnight call rate, a weighted average of transaction rates, showed some weakness when lending to Japanese financial institutions at low rates increased. The rate reached 0.433 percent on September 19 and 0.399 percent on September 22.

On September 30, the last day of the semi-fiscal year, tensions in the uncollateralized call market heightened during the morning hours when lending to foreign financial institutions contracted further as financial institutions acted to reduce their risk assets. The Bank responded by offering two same-day funds-supplying operations in the morning and afternoon (totaling 3 trillion yen). As a result of increased funds-supplying, the uncollateralized overnight call rate remained at 0.544 percent. The rate remained lower than that of fiscal and semi-fiscal year ends prior to the failure of Lehman Brothers, such as 0.651 percent on the year-end of fiscal 2007. On September 30, current account balances at the Bank amounted to 13.3 trillion yen, while reserve balances[18] came to 10.5 trillion yen, both marking high levels.

Second, the Bank relaxed the conditions of the security lending facility, the sales of the Bank's holdings of JGSs with repurchase agreement as a secondary source of JGSs, in order to supplement the functioning of repo market which had deteriorated significantly during this period. Such relaxation included delaying the closing time for applications. Due to the increasing number of settlement fails, securities lending was conducted six times during September, marking a record high for a single month.

Third, in view of the possible impact of elevated liquidity pressures in U.S. dollar money market on liquidity in the yen money market, at an unscheduled MPM held on September 18, the Bank, in coordination with other central banks,[19] concluded U.S. dollar swap agreements with the Federal Reserve on a temporary basis and decided to

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September can be characterized as follows. Due to increased uncertainty regarding the funding needs of market participants, the Bank's offers were centered on same-day and overnight operations to facilitate fund-raising by counterparties with the strong funding needs on any particular day. Fund-raising needs of counterparties became somewhat more predictable after the start of October. Consequently, from the perspective of stabilizing the funding positions of financial institutions, the Bank also began to provide funds with longer maturity through funds-supplying operations offered on a same-day start basis.

[16] During this period, the Bank conducted funds-absorbing operations using future-dated term transactions to restrain the accumulation of reserves resulting from provision of ample funds.

[17] The Bank requires the submission of collateral when providing credit. Following the failure of Lehman Brothers Japan Inc., the Bank acquired the assets pledged as collateral by the company.

[18] They refer to reserve balances of counterparties subject to the reserve requirement system, which excludes the Japan Post Bank. This definition applies to all figures on reserve balances in this paper unless otherwise stated.

[19] The Bank, the Bank of Canada, the Bank of England, the European Central Bank, the Federal Reserve, and the Swiss National Bank announced the introduction of coordinated measures on the same day.

introduce dollar funds-supplying operations to provide dollar funds against eligible collateral held by the Bank.[20] In view of the impact of increased liquidity pressures in the dollar funding markets on yen money markets, the Bank decided at an unscheduled MPM held on September 29 to increase the maximum aggregate amount of the U.S. dollar swap facility and to extend the effective period of the dollar funds-supplying operations.

During this period, it could be highlighted that communications among central banks were held more frequently and intensively on market conditions and stances of money market operations under global market turmoil.

[2] From October through Year-end

Developments in Financial Markets

In early October, the severe tensions that were seen in the money market during the latter half of September eased somewhat. Overall market conditions, however, remained very unstable. While polarization among participants of the uncollateralized call market remained, foreign financial institutions significantly reduced the volume of funding in the uncollateralized call market by decreasing assets and relying more heavily on funds from their head offices and from yen conversion. As a result, with the exception of certain transactions, the rate differential between foreign and Japanese financial institutions for funding gradually became less evident after mid-October (Chart 7).

As October 14 was the first day of operation of the next-generation RTGS,[21] the uncollateralized call rate temporally fluctuated before and after this date. While the uncollateralized call rate rose to 0.585 percent on October 10 as lenders adopted a cautious stance, the rate fell back to 0.348 percent on October 15 when market participants confirmed the system was functioning smoothly. The GC repo rate also rose temporarily to approach the basic loan rate (0.75 percent) during early October as financial institutions reduced their lending.

During October, increased concerns about financial stability in the U.S. and Europe, a marked slowdown in the global economy and subsequent depreciation of the U.S. dollar as well as appreciation of the yen led to a plunge in Japanese stock prices.

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[20] Counterparties in dollar funds-supplying operations included both Japanese and foreign financial institutions. However, these operations were centered on Japanese financial institutions reflecting the larger volume of pledged collateral to the Bank by them.

[21] Next-generation RTGS project of the BOJ-NET Funds Transfer System is designed to bring new levels of efficiency and safety to large-value payments in Japan by: [1] introducing liquidity-saving features (LSF) to real-time gross settlement (RTGS) processing in BOJ-NET and [2] incorporating large-value payments currently processed on a deferred net settlement (DNS) basis in the Foreign Exchange Yen Clearing System (FXYCS) and the Zengin System into BOJ-NET. The project is implemented in two phases in order to minimize the costs and risks involved. On October 14, 2008, the Bank went live with Phase 1 and LSF were introduced in BOJ-NET and FXYCS payments were incorporated into BOJ-NET.

Against this backdrop, investors increasingly adopted a more risk-averse stance.[22] As a result, the corporate fund-raising environment in credit markets, particularly CP and corporate bond markets, deteriorated significantly (Chart 9). Demand for bank loans over the year-end sharply increased, particularly from large corporations that relied largely on CP and corporate bonds. Such demand also reflected precautionary demand arising from the sharp decline in cash flow from business activities.

Financial institutions tended to hoard funds in yen money markets as a result of the sharp increase in demand for bank loans, the plunge in stock prices and increased needs for yen-to-dollar conversion. On the other hand, lenders were adopting an increasingly cautious stance on lending through CDs, uncollateralized call transactions and other longer-term uncollateralized transactions. Under these circumstances, term rates such as TIBOR and GC repo rates came under upward pressure (Chart 10). Especially after the end of November when financial institutions accelerated the raising of funds over the year-end, the average successful bid rate of fund-supplying operations extending over the year-end and GC repo rates approached the basic loan rate (0.5 percent) (Chart 4).[23] Similarly, in the U.S. dollar market, lenders adopted a more cautious stance, resulting in tighter conditions after early October and pushing interest rates upward.

Thus, as the year-end approached, the corporate financing environment became significantly tighter and tensions in Japanese financial markets were significantly heightened.

Money Market Operations

Under these conditions, the Bank reduced the target level for the uncollateralized overnight call rate from “around 0.5 percent” to “around 0.3 percent” at the MPM held on October 31, 2008. The target level was reduced further to “around 0.1 percent” at the MPM held on December 18 and 19. The basic loan rate applied to the complementary lending facility was also reduced from 0.75 percent to 0.5 percent at the MPM held on October 31, and to 0.3 percent at the MPM held on December 18 and 19.

With respect to money market operations during this period, several features could be pointed out. First, to ensure stability in the financial markets, the Bank actively supplied funds over the year-end. The Bank started these operations on October 15 using funds-supplying operations against pooled collateral. This followed the decision made, when the unscheduled MPM was held on October 14, to start providing sufficient funds over the year-end at an early stage as a part of measures regarding money market operations to ensure stability in financial markets. Furthermore, with a view to further facilitating sufficient liquidity provision toward the year-end and fiscal

[22] The failure of Yamato Life Insurance Company on October 10 added to the caution of investors.

[23] Under the complementary lending facility, loans are provided upon request to counterparties within the value of eligible collateral that has been submitted by the borrower. As such, the interest rate applied to complementary lending is expected to function to mark the upper limit on the uncollateralized overnight call rate, interest rates on Bank’s operations and the GC repo rate.

year-end, the Bank decided at the MPM held on October 31 to temporarily introduce a complementary deposit facility.[24] This facility involves the payment of interest on current account balances held at the Bank in excess of required reserves under the reserve requirement system (excess reserve balances). The facility went into effect on November 16, and the applicable rate remained at 0.1 percent through the end of fiscal 2008. The Bank actively conducted funds-supplying operations to provide funds over the year-end in response to the turmoil in the international financial markets in fiscal 2007. In this regard, during fiscal 2008, the Bank provided larger amounts of funds through more frequent funds-supplying operations than in the previous year. From late November to late December when financial institutions accelerated their fund-raising activities for over the year-end, the Bank provided funds extending over the year-end almost every day, thereby ensuring market stability. On December 22 and 24, the Bank conducted funds-supplying operations against pooled collateral starting on the year-end and maturing on the first day of the next year. These operations were offered on a T+4 or T+5 basis.[25] As a result, the outstanding balance of operations at year-end reached significantly higher levels than in the previous year (Chart 11).

Meanwhile, active funds-supplying by the Bank exerted strong downward pressure on the uncollateralized overnight call rate. In response to this development, the Bank conducted same-day funds-absorbing operations on consecutive days of up to four offers in a single day (Chart 8).[26] [27] [28] However, as the Bank accelerated its funds-supplying operations over the year-end, the uncollateralized overnight call rates moved somewhat below 0.3 percent in December (Chart 7).

On December 30, the final business day of the year, the uncollateralized call market

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[24] Because interest accrues to excess reserves under this system, counterparties of the system, such as banks and securities companies, no longer have an incentive to invest funds at rates below the rate applied to excess reserves (or the applied rate plus the commissions in uncollateralized call transactions on the uncollateralized call market). As such, this system is expected to function to mark the lower limit on the uncollateralized overnight call rate under ample provision of funds by the Bank. In the October reserve maintenance period, which preceded the introduction of the complementary deposit facility, uncollateralized overnight transactions in the 0.05 – 0.10 percent range were seen. However, in the November reserve maintenance period, which followed the introduction of the system, the lower limit remained at around 0.10 – 0.15 percent.

[25] The future dated funds-supplying operations against pooled collateral conducted during fiscal 2008 were, for the most part, offered on T+1 and T+2 basis. However, in order to supply ample funds at year-end and fiscal year-end, the Bank conducted operations with more than two days between offer and start-date.

[26] Beginning several days before the MPM of October 31, downward pressure mounted on the overnight uncollateralized call rate on growing expectation of a rate cut. During this period, the Bank conducted same-day funds-absorbing operations in a flexible manner to control the rate.

[27] While the Bank provided ample funds to the market, the complementary lending facility was also used at a relatively high frequency and larger amount as arbitrage among markets weakened and liquidity shrank (Chart 4). When the complementary lending facility was used by a large amount, the same amount of funds that would have been borrowed by the counterparty remained as a surplus of funds in the money market. This surplus is one of the factors exerting a downward pressure on the uncollateralized overnight call rate.

[28] Same-day funds-absorbing operations were conducted on 26 consecutive business days between November 13 and December 19.

was calm as most market participants had finished fund-raising to cover the year-end. The uncollateralized overnight call rate stayed around the target at 0.103 percent, and use of the complementary lending facility remained at a relatively low level. Current account balances and reserve balances at the Bank stood at high levels – 15.2 trillion yen (up 50 percent from the previous year) and 11.7 trillion yen (up 69 percent from the previous year) respectively. At the end of the year, many counterparties held higher current account balances than they expected. This partly reflected the fact that they had made very conservative projections on funding positions for the year-end while the Bank provided ample funds.

Second, at an unscheduled MPM held on October 14, the Bank, with a view to stabilizing the repo market, decided to add 30-year JGBs, floating-rate JGBs, and inflation-indexed JGBs to the list of eligible assets for the purchases of JGSs with repurchase agreements. At the same time, the minimum fee rate applied to the security lending facility was lowered from 1 percent to 0.5 percent as a temporary measure. Floating-rate JGBs and inflation-indexed JGBs had become more difficult to use as collateral in the repo market after their prices dropped sharply in mid-September.[29] Consequently, floating-rate JGBs and inflation-indexed JGBs were used constantly as collateral for the purchases of JGSs with repurchase agreements, mainly by banks and securities companies (Amounts in use as of end December were 1.2 trillion for floating-rate JGBs and 0.2 trillion yen for inflation-indexed JGBs).

The GC repo rate remained under upward pressure and the rates tend to rise to the level of the basic loan rate (Chart 4) as liquidity in the market declined. This was one of the factors that put upward pressure on term rates, such as rates on T-Bills and TIBOR.[30] In light of this development, with a view to ensuring stability in the repo market, the Bank increased the supply of funds through purchases of JGSs with repurchase agreements. Since funding pressures were expected to rise with the start of a new reserve maintenance period,[31] the Bank started offering both overnight (S/N[32]) and one-week JGS purchasing operations with repurchase agreements, for which there was strong demand in the repo market, on November 13. Such operations were thereafter conducted on a daily basis and the maximum daily amount reached 5 trillion yen. At the same time, the Bank increased funds-supplying operations against pooled collateral when GC repo rates were rising in late November and on other occasions.

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[29] Many participants in the repo market became more reluctant to accept the floating rate and inflation-indexed JGBs as collateral for repo transactions given that they needed to take possession of such bonds in case of failure of the counterparty.

[30] For securities companies, the repo market is an important market for funding their inventory of T-Bills and JGBs. Consequently, the overnight GC repo rate is frequently viewed as the lower limit of the yield on T-Bills. Moreover, the yield on T-Bills serves as a risk-free benchmark rate for TIBOR and other term transactions.

[31] During the early part of a reserve maintenance period, financial institutions have a tendency to frontload the accumulation of reserves. Consequently, lending of funds on the repo market tend to decrease in the early part of a reserve maintenance period as compared to the middle and latter parts of the period.

[32] Abbreviation for “spot/next.” These are overnight transactions where the funds are delivered two business days after the contract date.

Third, with a view to ensuring stability in the dollar funding markets, the Bank decided at an unscheduled MPM held on October 14 in coordination with other central banks,[33] to conduct U.S. dollar funds-supplying operations at a fixed interest rate for full allotment instead of a variable rate tender. This allowed counterparties to procure any amount of U.S. dollar funds within the value of eligible collateral submitted, and also eliminated the risk of not being able to roll over funds secured by operations at their maturities. These measures significantly contributed to stabilizing the dollar funding of counterparties and the dollar funding rates, which had risen sharply after early October, declined significantly toward the year-end, (Chart 5) reflecting abundant U.S. dollar funds-supplying by central banks.

Fourth, with a view to facilitating corporate financing, following the decision made when an unscheduled MPM was held on October 14, the Bank increased the amount and frequency of CP purchasing operations with repurchase agreements. Furthermore, as a temporary measure, the range of collateral eligible ABCP and corporate bonds was expanded. At the unscheduled MPM held on October 14, ABCP guaranteed by the Bank's counterparties was rendered eligible as collateral. For corporate bonds and loans on deeds, the decision was made at the unscheduled MPM held on December 2 to ease the criteria on credit ratings from A or higher to BBB or higher. Additionally, the Bank decided at the same MPM to introduce a new type of operation using corporate debt (funds-supplying operations that provide funds for an unlimited amount against the value of corporate debt pledged as the standing pool of eligible collateral, at an interest rate equivalent to the target rate). Subsequently, at the MPM held on December 18 and 19, the Bank decided to introduce a special funds-supplying operation to facilitate corporate financing. It also decided to introduce outright purchases of CP. These decisions effectively contributed to improving market sentiment. Because this coincided with the timing when most corporations had finished fund-raising over the year-end, CP issue rates declined significantly (Chart 9).[34]

In addition to these measures, the Bank decided when the MPM was held on December 18 and 19 to increase its outright purchases of JGBs to provide longer-term funds in order to reduce the burden on short-term funds-supplying operations (annual amount of purchases was increased from 14.4 trillion yen to 16.8 trillion yen). The Bank also decided to add 30-year JGBs, floating-rate JGBs and inflation-indexed JGBs to the list of eligible JGBs. Furthermore, in order to prevent the remaining maturities of JGBs purchased from becoming too short or too long, the Bank also decided to introduce a scheme to purchase JGBs from specific maturity segments.

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[33] The Bank of England, the European Central Bank, the Federal Reserve, and the Swiss National Bank announced the change on October 13. Note that interest rates on the Federal Reserve's Term Auction Facility (TAF) are determined by competitive auctions and are not a fixed rate with full allotment.

[34] The announcement that the Development Bank of Japan Inc. would start purchasing CP also contributed to improving market conditions.

[3] From January through Fiscal Year-end

Developments in Financial Markets

From January onwards, the severe tension that was observed in the money market toward the year-end was somewhat alleviated as funding pressures over year-end decreased. However, market conditions continued to be nervous toward the fiscal year-end.

In the uncollateralized call market, the overnight rate remained stable at around the target, even though active funds-supplying operations drove current account balances and reserve balances at the Bank to high levels (Chart 7). This can be attributed to the fact that, following the decision at the MPM held on December 18 and 19 to apply the same rate (0.1 percent) as the target rate to the complementary deposit facility, the applied rate functioned as the lower limit of the uncollateralized overnight call rate. As the volume of uncollateralized overnight call transactions decreased significantly under active funds-supplying operations by the Bank, the share of lending at rates below 0.1 percent by the market participants that has no access to the complementary deposit facility, such as insurance companies and investment trusts, increased. As a result, the uncollateralized overnight call rate, a weighted average of transactions during a day, deviated downward from 0.1 percent on some occasions.

The GC repo rate continued to fluctuate (Chart 4) since lenders continued investing no more than their surplus funds at hand. The increasing volume of issuance of T-Bills[35] in the market pushed up the inventory funding needs of securities companies, which also exerted upward pressure on GC repo rates.

During this period, term rates such as TIBOR showed downward rigidity due to the conservative stance of financial institutions toward the year-end (Chart 10). In the credit market, market conditions for CP issuance continued to improve beginning in the year-end. The issuance environment for corporate bonds, however, remained severe (Chart 9). Conditions in the U.S. dollar funding market also continued to improve beginning in the year-end (Chart 5).

Money Market Operations

Money market operations during this period had the following features.

First, to ensure stability in the financial markets, the Bank actively supplied funds over the fiscal year-end. Specifically, funds-supplying operation against pooled collateral extending over the fiscal year-end was first offered on January 5, two weeks earlier than in the previous year. While steadily supplying funds through these operations, the Bank also started providing funds over the fiscal year-end on January 8 through special

[35] The issue of 3-month T-Bills (FBs prior to January) came to 4.5 trillion yen per week during December, 4.8 trillion yen during January, and 5.1 trillion yen during February and March. The issue of 6-month T-Bills came to 3.0 trillion yen per month until December and 3.5 trillion yen per month after January.

fund-supplying operations to facilitate corporate financing. A total of nine operations were conducted through the end of March, providing funds over the fiscal year-end. Furthermore, on March 5, 13, and 23, the Bank conducted funds-supplying operations against pooled collateral starting on the last day of fiscal 2008 and maturing on the first day of fiscal 2009. The offer dates of these operations were set well before the starting dates; that is, offers were made on a T+17, T+11 or T+6 basis.[36] As a result, the balance of outstanding operations at fiscal year-end reached a significantly higher level than in the previous year (Chart 11).

During this period, current account balances and reserve balances at the Bank were at relatively high levels because of active funds-supplying by the Bank. The uncollateralized overnight call rate, however, did not move significantly below the target rate owing to the complementary deposit facility. As a result, the Bank did not conduct funds-absorbing operations, such as sales of bills, except in cases where such operations were conducted to adjust the pace of accumulation of reserves (Chart 7, 8).

On March 31, the last day of the fiscal year, the uncollateralized call market was calm, as most market participants had finished fund-raising to cover the fiscal year-end. The uncollateralized overnight call rate was 0.088 percent, and the use of the complementary lending facility remained at a low level. Current account balances with the Bank (22.1 trillion yen, up 55 percent from the previous year) and reserve balances (17.1 trillion yen, up 90 percent from the previous year) reached high levels. Both figures were at their highest levels since April 2006, which immediately followed the termination of the quantitative easing policy.

Second, with a view to stabilizing the repo market, the Bank continued to conduct overnight (S/N) and one-week JGS purchasing operations with repurchase agreement. A maximum of 5 trillion yen per day was supplied through these operations. The Bank also conducted funds-supplying operations against pooled collateral when GC repo rates were rising, for instance toward the end of January. As the number of fails[37] began to increase toward the fiscal year-end, due partly to lowered liquidity in the repo and JGS markets, the Bank conducted securities lending operations on seven occasions during March, exceeding the frequency marked in September 2008.

Third, with a view to facilitating corporate financing, in addition to the introduction of special fund-supplying operations to facilitate corporate financing, the Bank took the following actions. Terms and conditions of outright purchases of CP were determined at the MPM held on January 21 and 22, and the terms and conditions of outright purchases of corporate bonds were determined at the MPM held on February 18 and 19. Subsequent to these decisions, the Bank conducted CP purchasing operations eleven

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[36] Such relatively long future-dated operations starting at the fiscal year-end and maturing on the first day of the next fiscal year were perceived by market participants as having a stabilizing effect on the financial markets, since such operations were responding to their fiscal year-end funding needs and were considered as an indication of the Bank's active stance on funds-supplying.

[37] At fiscal year-end, repo transactions by certain investors tend to temporarily decrease. As a result, settlement fails are more prone to occur at this time every year.

times between January 30 and the end of March with 300 billion yen offered per operation. The Bank also conducted CP purchasing operations with repurchase agreements twice a week with 400 billion yen offered per operation. Beginning at the end of January, the Bank conducted either outright purchases of CP, CP purchasing operations with repurchase agreements or special fund-supplying operations to facilitate corporate financing almost on a daily basis. This dramatically improved market conditions for CP. Thereafter, issuance rates decreased significantly, mainly for CP eligible for the Bank's purchase or collateral (Chart 9).[38] [39] [40] The Bank started the purchases of corporate bonds on March 4 with a frequency of once a month and in amounts of 150 billion yen per operation.

Due to the active supply of funds as stated above, market tensions for covering funding needs over the fiscal year-end gradually eased as the fiscal year-end approached. Drastic improvement in market conditions of CP also eased funding pressures for the financial institutions that had experienced a sharp increase in demand for bank loans when CP issuance became more difficult over the year-end.

Fourth, with a view to facilitating a decline in longer-term interest rates that actually apply to corporate fund-raising, the Bank decided to expand the special fund-supplying operations to facilitate corporate financing when the MPM was held on February 18 and 19. The decision was made to extend the duration of all loans to three months; to increase the frequency of operations to once a week; and to extend the effective period of the program from the end of March 2009 to the end of September 2009. Additionally, beginning in late February, the Bank steadily conducted relatively longer-term funds-supplying operations against pooled collateral with durations of three months or more. During this period, TIBOR and other term rates that function as the base rate for bank loans, continued to show some downward rigidity. This reflected the more cautious stance of financial institutions with respect to capital adequacy requirements as credit costs rose due to the rapid deterioration in the real economy and unstable stock prices. Thereafter, term rates started to gradually decrease after mid-March when companies and financial institutions had mostly completed covering their funding needs over the fiscal year-end (Chart 10).

Fifth, with a view to stabilizing the U.S. dollar funding market, the Bank continued its U.S. dollar funds-supplying operations. Conditions in the dollar funding market

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[38] Banks' trading accounts constitute the main investors in Japan's CP issuance market. While banks may hold the accepted CP for a certain period, using purchases of CP with repurchase agreements by the Bank as one of the methods for funding these holdings, the bulk of the accepted CP is eventually sold outright to final investors, such as investment trusts, life insurance companies and regional financial institutions. For this reason, when final investors adopted a more cautious stance at year-end, banks' stances on accepting CP in their trading accounts became more cautious. It is believed that the introduction of the outright purchases of CP had an easing effect on this situation.

[39] CP can be used as collateral for special fund-supplying operations to facilitate corporate financing. Introduction of the operations is believed to have contributed to lowering the CP issuance rate.

[40] As seen here, the environment for CP issuance improved dramatically. However, improvement was limited in the case of issues that were not eligible for purchase by the Bank or eligible as collateral at the Bank.

continued to improve after the year-end as interest rates generally came down and liquidity recovered. As the rates in the Bank's operations rose above market rates, the Bank's counterparties gradually increased their preference for raising funds in the market rather than through the Bank's operations.[41] Consequently, after peaking in December at 127.6 billion dollars, the outstanding balance of U.S. dollar funds-supplying operations began to gradually decrease (reaching 61.0 billion dollars at the end of March).[42]

Given the severe conditions in the financial markets and in corporate financing, the Bank also decided at the MPM held on February 18 and 19 to extend the effective periods of various temporary measures introduced since September 2009 with a view to ensuring the stability of the financial markets and facilitating corporate financing.

Furthermore, when the MPM was held on March 17 and 18, the Bank judged that continued provision of substantial liquidity was required after the start of the new fiscal year from the perspective of maintaining stability in the financial markets. To put this into action, the Bank decided to further utilize its long-term funds-supplying operations by increasing the annual purchase amount of long-term JGBs by 4.8 trillion yen from 16.8 trillion yen to 21.6 trillion yen, thereby facilitating smooth money market operations.

III. Developments in Uncollateralized Overnight Call Rate

A. Uncollateralized Overnight Call Rate

A review of the movements in the uncollateralized overnight call rate, the Bank's operating target, shows that the daily weighted average generally remained in line with the target level throughout fiscal 2008 (Chart 12).

A review of the period when the target level was set at around 0.5 percent in fiscal 2008 (between April 1 and October 31) indicates that the uncollateralized overnight call rate slightly exceeded 0.5 percent until the August reserve maintenance period. The rate fell somewhat below 0.5 percent, however, during the September and October reserve maintenance periods when the Bank actively supplied funds in response to heightened tensions in the financial markets. During the period when the target level was set at around 0.3 percent (between October 31 and December 19), the daily weighted average was frequently below 0.3 percent due to: increased funds-supplying by the Bank toward the year-end; increased market share in the uncollateralized call market of

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[41] The U.S. dollar funds-supplying operation is conducted in a way that complements market function. When the operation was introduced, the rate was lower than the market rate (LIBOR). However, as the U.S. dollar interest rates on term transactions decreased, the loan rates gradually came to exceed the market rates.

[42] However, it is frequently pointed out that, from the perspective of market participants, the U.S. dollar funding market has not fully regained its functions, and that the need for U.S. dollar funds-supplying operations remains strong as a safety net.

Japanese financial institutions able to raise funds at rates below the target level, reflecting the decreased market share of foreign financial institutions; and, increased downward pressure on interest rates when expectations for policy rate reductions mounted. For the period when the target level was set at around 0.1 percent (December 19 and thereafter), the rate applied to the complementary deposit facility functioned as the lower limit of the uncollateralized overnight call rate. As a result, even when funds-supplying by the Bank significantly exceeded the amount of required reserves, the daily weighted average often slightly exceeded 0.1 percent. On the other hand, as trading volume in the uncollateralized overnight call market declined significantly, the share of lending below 0.1 percent by financial institutions that were not eligible for the complementary deposit facility, such as insurance companies and investment trusts, increased. As a result, the weighted average somewhat decreased toward the end of March.

The gap between the daily weighted average of the uncollateralized overnight call rate and the target level increased after the failure of Lehman Brothers. In particular, the gap increased during the November and December reserve maintenance periods when the Bank accelerated funds-supplying over the year-end.

B. Current Account Balances at the Bank of Japan

During April through mid-September 2009, current account balances at the Bank ranged from 6 to 11 trillion yen (Chart 13). The balances increased to the range of 6 to 16 trillion yen during mid-September through the end of December, and to the range of 7 to 23 trillion yen during January through March, reflecting the provision of ample funds by the Bank. With required reserves steady at about 5 trillion yen throughout fiscal 2008, reserve balances ranged from 3 to 7 trillion yen during April through August reserve maintenance periods; from 3 to 12 trillion yen during September through December reserve maintenance periods; and from 7 to 18 trillion yen during January through March reserve maintenance periods. During fiscal 2008, reserve balances were accumulated at a faster pace than in fiscal 2007 (Chart 14).

A review of excess reserves (current account balances at the Bank in excess of required reserves held by financial institutions subject to the reserve requirement system) and current account balances at the Bank held by counterparties not subject to the reserve requirement system, such as securities companies, shows that these amounts behaved generally in line with the previous year until the August reserve maintenance period, but increased considerably after the September reserve maintenance period (Chart 15). This can be attributed to the tendency of financial institutions to secure more funds in response to the elevated tensions after mid-September and to the ample provision of funds by the Bank. Excess reserves and current account balances held by counterparties not subject to the reserve requirement system increased even further after the December reserve maintenance period because the Bank decided at the MPM held on December 18 and 19 to apply the same rate as the target rate to the complementary deposit facility, which greatly reduced the opportunity cost of holding excess reserves (see BOX 1). By sector, city banks held almost no excess reserves through most of fiscal 2008, with the exception of the December reserve maintenance period when the Bank further actively provided funds over the year-end. Excess reserves held by regional banks, regional banks II, foreign banks and trust banks, and current account balances at the Bank held by counterparties not subject to the reserve requirement system increased sharply from the September reserve maintenance period.

During fiscal 2008, the outstanding balance of short-term funds-supplying operations[43] increased significantly, reaching 55.3 trillion yen (up 8.9 trillion yen from the previous year) at the end of fiscal 2008. A review of the average maturity of short-term funds-supplying operations shows that average maturity of short-term funds-supplying operations became shorter after the fourth quarter of 2008 (Chart 16). This was mainly because, with tensions mounting in the financial markets after September, the Bank conducted active funds-supplying using very short-term operations, including overnight funds-supplying operations against pooled collateral on a same-day settlement basis, and overnight JGS purchasing operations with repurchase agreements on a T+2 settlement basis. The maturity of short-term funds-supplying operations excluding JGS purchasing with repurchase agreements was, however, extended in the first quarter of 2009. This reflected the Bank's increased provision of longer-term funds toward the fiscal year-end through funds-supplying operations against pooled collateral and special funds-supplying operations to facilitate corporate financing.

BOX 1: Holdings of Excess Reserves

After the September reserve maintenance period, excess reserves and current account balances at the Bank held by counterparties not subject to the reserve requirement system increased significantly. In particular, excess reserves or current account balances held by regional banks, regional banks II, foreign banks, trust banks and securities companies increased remarkably (Chart 15).

This increase can be attributed to the following developments. First, foreign banks, regional banks, regional banks II and securities companies increased their holdings of funds in response to heightened tensions in the money markets after mid-September and a sharp decline in stock prices in October.[44] Second, lenders in the uncollateralized call market, such as regional banks and regional banks II, were unable to fully invest their funds, and consequently their current account balances at the Bank tended to increase. This reflected the tendency of borrowers, such as city banks, to adopt a more conservative stance in fund-raising and reducing fund-raising in the uncollateralized call market, while resorting more to the Bank's money market operations or reduced

[43] The total for funds-supplying operations against pooled collateral, purchases of JGS with repurchase agreements, purchases of CP with repurchase agreements, special funds-supplying operations to facilitate corporate financing, outright purchases of T-Bills, outright purchases of CP, and outright purchases of corporate bonds.

[44] One of the reasons for the increase in excess reserves was that foreign financial institutions were instructed by their head offices to control liquidity more strictly.

investment in the markets including the repo markets. Third, in order to ensure stability in the financial markets under these conditions, the Bank engaged in active funds-supplying operations and provided ample funds that significantly exceeded required reserves toward year-end and fiscal year-end.

The accumulation of excess reserves was also affected by the following developments. After December 19, the interest rate applied to the complementary deposit facility was set to be the same as the target rate at 0.1 percent. This reduced the opportunity cost of holding excess reserves to nearly zero. Furthermore, as conditions in overseas markets became increasingly unstable, some foreign banks were able to raise funds at rates below 0.1 percent through foreign exchange swaps (dollar-to-yen conversion) and euro-yen transactions, and deposited these funds in current accounts at the Bank for arbitrage. Since the complementary deposit facility prevented the uncollateralized overnight call rate from falling below the target rate even under ample liquidity provision, the frequency of funds-absorbing operations was reduced significantly as compared to the period prior to the year-end. The reduction also contributed to the increase in excess reserves.

The sum of balances on which interest was paid under the complementary deposit facility (excess reserves held by financial institutions subject to the reserve requirement system, plus current account balances at the Bank held by securities companies, *tanshi* (money market brokers) and other counterparties not subject to the reserve requirement system), on average, came to 3.9 trillion yen in the December reserve maintenance period, 4.3 trillion yen in the January reserve maintenance period, 5.3 trillion yen in the February reserve maintenance period, and 7.1 trillion yen in the March reserve maintenance period. The figures trace a sharp increase from the 1.0 trillion yen marked in the November reserve maintenance period.

From the viewpoint of money market operations, excess reserves associated with the ample provision of liquidity by the Bank remained in current account balances at the Bank without being invested in the market owing to complementary deposit facility. This prevented the uncollateralized overnight call rate from deviating downward from the target. On the other hand, high levels of excess reserves were likely to act as a source of daily fluctuation of reserve balances. Such fluctuations in reserve balances may disturb the guidance of the uncollateralized overnight call rate through adjustment of the progress in the accumulation of reserves.

From the viewpoint of market functions, the active supply of funds by the Bank to ensure market stability under the complementary deposit facility, with its rate equal to the target rate, brought about a considerable decline in the market's functioning as seen in the contraction of the uncollateralized call market. The holding of large excess reserves by a broader spectrum of market participants could lead to a further decline in market liquidity. In this regard, city banks with large reserve requirements provided an important basis for the proper functioning of the money market, by rigidly controlling their accumulation of reserves to maintain almost no excess reserves and by investing any excess reserves in the money markets, such as the repo market. Moreover, this contributed to the stable formation of the uncollateralized overnight rate as the city banks' low level of excess reserves helped keep remaining required reserves at sufficient levels for money market operations throughout a maintenance period.[45]

IV. Developments in the Money Market

After the termination of the quantitative easing policy, the level of transactions in the Japanese money markets steadily increased through fiscal 2007. However, following the failure of Lehman Brothers, liquidity in financial markets decreased sharply, thus leading to a significant decrease in amounts outstanding in fiscal 2008.

(Call Market)

Amounts outstanding in the uncollateralized call market followed a downward trend beginning in April as fund-raising by foreign financial institutions declined. This was due to the fact that foreign financial institutions were taking advantage of reduced yen conversion costs resulting from strong demand for U.S. dollar funds. Following the failure of Lehman Brothers in September, the amounts outstanding decreased further reflecting heightened concerns over counterparty risks, which led to reduced lending to foreign financial institutions. The outstanding amount of term transactions in the uncollateralized call market decreased sharply after mid-September. Overnight transactions also decreased considerably as the Bank introduced the complementary deposit facility and supplied ample funds while borrowers reduced the volume of overnight funding adopting a more conservative stance in financing. As a result, in March 2009, amounts outstanding in the uncollateralized call market declined to 6.8 trillion yen, which was less than one-half the most recent peak marked in January 2008 (Charts 17 and 18). During this period, so-called direct deal transactions (DD), which are not intermediated by *tanshi*, seemed to have followed a generally flat trend after September (Chart 19).

On the other hand, amounts outstanding in the collateralized call market increased as investors became conservative and shifted their funds to this market. Another contributing factor was that, as borrowers such as city banks reduced funding in the uncollateralized call market, regional banks and regional banks II increased their lending to *tanshi* through the collateralized call market. As a result, since the end of 2008, amounts outstanding in the collateralized call market have exceeded amounts outstanding in the uncollateralized call market (Chart 17 and 20).

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[45] Counterparties subject to the reserve requirement system delay the accumulation of reserves by decreasing their borrowing on the market when interest rates are high and speed up the accumulation of reserves when interest rates are low by increasing their borrowing on the market. This contributes to the stable formation of uncollateralized overnight call rates.

(GC Repo Market)

During fiscal 2008, amounts outstanding in the repo market decreased after the failure of Lehman Brothers (Chart 21). This was mainly due to the following factors. First, as transactions with Lehman Brothers went into default, there was a tendency to avoid transactions in the repo market or transactions with foreign financial institutions due to fears of a possible chain of settlement fails. Second, when repo rates on overnight transactions on a T+3 or T+2 (spot/next) basis exceed uncollateralized overnight rates, the conventional response of financial institutions such as city banks has been to undertake arbitrage transactions by lending funds in the repo market and borrowing funds in the uncollateralized call market. However, such arbitrage transactions decreased remarkably as financial institutions such as city banks adopted a more conservative stance on financing.

(Euro-yen and Foreign Exchange Swap Markets)

Euro-yen and foreign exchange swap transactions are widely undertaken in domestic and overseas markets where they are used by major foreign banks and major Japanese banks to invest and to raise yen funds. However, after the failure of Lehman Brothers, liquidity levels came down sharply and rates remained volatile in these markets, particularly on term transactions (Chart 22, 23).

V. Developments in Operations by Type of Tool

A. Money Market Operations by Type of Operational Tool[46]

[1] Conventional Funds-Supplying Tools

(Outright purchases of JGBs)

Outright purchases of JGBs are operations to purchase long-term JGBs. The amount of annual purchases was set at 14.4 trillion yen (1.2 trillion per month) since the MPM held on October 30, 2002. During fiscal 2008, up through the third purchase in December, the Bank continued purchasing 0.3 trillion yen of JGBs in each operation offered four times a month. Thereafter, the following decisions were made when the MPM was held on December 18 and 19. First, the annual amount of purchases was increased to 16.8 trillion yen (1.4 trillion yen per month) in order to reduce the burden on short-term funds-supplying operations by increasing the outright purchases of longer-term JGBs to provide longer-term funds. Second, 30-year JGBs, floating-rate JGBs and inflation-indexed JGBs were added to the list of eligible JGBs for the purchase. Third, in order to prevent the remaining maturities of JGBs purchased from becoming too short or too long, a scheme to purchase JGBs from specific maturity segments was introduced (maturity segments are defined as up to one year, more than one year and up to ten years, and more than ten years). Based on these decisions, with

[46] See Chart 24 for amounts outstanding by operational tool.

respect to the fourth purchase in December and the purchases in January, the Bank purchased 0.35 trillion yen of JGBs in each operation offered four times a month. As necessary arrangements were completed, purchases were extended to include 30-year JGBs, floating-rate JGBs, and inflation-indexed JGBs, and purchases from maturity segments were introduced in February. Under this scheme, five brackets are established and offers are made for two specified brackets in each purchasing operation. The five brackets of maturity are: “up to one year,” “more than one year and up to ten years,” “more than ten years and up to 30 years,” “floating-rate bonds” and “inflation-indexed bonds.”

When the MPM was held on March 17 and 18, the Bank judged that continued provision of substantial liquidity was required after the start of the new fiscal year to ensure stability in financial market. Based on this judgment, the Bank decided to further utilize long-term funds-supplying measures and to facilitate money market operations by increasing the annual purchase of long-term JGBs to 21.6 trillion yen (1.8 trillion yen per month). This was implemented beginning with the third purchase in March.[47]

The following auction methods were used according to prevailing market practices. For bonds with coupons other than floating-rate bonds and inflation-indexed bonds, operations were undertaken through conventional auction based on “yield spreads,” which are calculated by subtracting the benchmark yields from the yields at which counterparties desire to sell bonds to the Bank. For floating-rate bonds and inflation-indexed bonds, operations were undertaken through conventional auction based on “price spreads,” which are calculated by subtracting the benchmark prices[48] from the prices at which counterparties desire to sell bonds to the Bank.

(Outright purchases of treasury discount bills)

Outright purchases of treasury discount bills (T-Bills) are operations to purchase T-Bills with residual maturity of about two months to one year. Operations are undertaken through conventional auction based on yield spreads.

Outright purchases of T-Bills have relatively longer maturities among short-term funds-supplying operations. The frequency and amounts of purchases were kept relatively stable during fiscal 2008. Up through mid-March 2009, the frequency and amount of purchases remained at about once a week and about 400 billion yen per operation. Beginning on March 19, the amount purchased per operation was increased to 500 billion yen in order to provide a stable supply of relatively longer-term funds.

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[47] See “Outline of Outright Purchases of Japanese Government Bonds” (January 22, 2009) and “Changes in the Amounts of Outright Purchases of Japanese Government Bonds from Specific Brackets Classified by Bond Type and Residual Maturity” (March 18, 2009) for classification by bond type and residual maturity.

[48] Benchmark yields and benchmark prices are derived from “Reference Price (Yields) Table for OTC Bond Transactions” of the Japan Securities Dealers Association (compiled on the previous trading day).

(Funds-supplying operations against pooled collateral)[49]

Funds-supplying operations against pooled collateral consist of loans made by the Bank to counterparties and secured by pooled collateral submitted to the Bank by counterparties. Operations are undertaken through conventional auction based on lending rate.

Funds-supplying operations against pooled collateral consist of two categories: operations conducted at all offices of the Bank (lending to a wide range of counterparties that have transactions with the Head Office and branches of the Bank), and operations conducted at the Head Office (lending solely to counterparties that have transactions with the Head Office of the Bank). Operations at all offices had been conducted for purposes of providing stable supplies of funds with relatively longer maturity. On the other hand, operations at the Head Office were the primary operational tools for short-term funds-supplying of the Bank and had covered a diverse scope of terms ranging from overnight to relatively longer-term. During fiscal 2008, however, with a view to stabilizing financial markets under the turmoil that deepened after September, the Bank actively conducted operations at all offices in supplying funds even with very short maturity such as overnight on a same-day settlement basis in order to directly provide funds to broader range of financial institutions (Chart 24). Basically, longer-term funds-supplying operations were offered on a T+2 basis, while the other operations were offered on a same-day or T+1 basis. However, funds-supplying operations starting on the last business day of the year-end/fiscal year-end and maturing on the first business day of the next year/fiscal year were offered much prior to starting dates than usual (settled on a T+4 to T+17 basis).

(Purchases of JGSs with repurchase agreements)

Purchases of JGSs with repurchase agreements are operations to purchase JGSs for a determined period with an agreement to resell them at the end of that period. This is often used by securities companies to finance their JGS positions.

During the first half of fiscal 2008, purchases of JGSs with repurchase agreements were primarily offered with shorter terms to start on JGS issuance dates. In addition, offers were actively made toward the end of each fiscal quarter. After the failure of Lehman Brothers in September, with a view to stabilizing the repo market, amounts

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[49] Pooled collateral refers to collateral that counterparties submit to the Bank based on the provisions of agreements pertaining to transactions with the Bank and other contracts. The Bank specifies eligible assets for the pooled collateral in the "Guidelines on Eligible Collateral." The assets most commonly submitted by counterparties to the Bank are government bonds, corporate and other bonds, and loans on deeds. Counterparty financial institutions may borrow from the Bank within the limit of the value of pooled collateral through funds-supplying operations against pooled collateral, complementary lending facility, intraday overdraft, and other means. Previously, collateral needed to be specified for each individual agreement or contract, with financial institutions submitting collateral equal to or exceeding the respective required amounts. Since January 2001, for certain borrowings, financial institutions have been permitted to meet collateral requirements by submitting assets eligible for pooled collateral equal to or exceeding the total amount of collateral required by all the outstanding agreements and contracts.

offered per operation were increased[50] and offers were made almost every day. In order to supply more ample funds with higher predictability of the maturity of operation, the Bank made it a practice since November 13 to provide funds totaling 3 to 5 trillion yen everyday, with maturity of overnight and one-week on a T+2 settlement basis. In particular, provision of overnight funds on a T+2 basis reached a maximum amount of 4 trillion yen.

At the unscheduled MPM held on October 14, with a view to improving liquidity in the repo market, the Bank decided to add 30-year JGBs, floating-rate JGBs and inflation-indexed JGBs to the list of eligible securities for the purchases of JGSs with repurchase agreements.

Purchases of JGSs with repurchase agreements are in principle subject to a maximum bidding limit equal to one-fourth the offer amount. However, when amounts of offers were increased, the proportion of the maximum bidding amount was reduced in order to avoid the concentration of funds provision to any particular counterparty.

(Purchases of CP with repurchase agreements)

Purchases of CP with repurchase agreements are operations to purchase CP and short-term corporate bonds (dematerialized commercial paper) for a determined period with an agreement to resell them at the end of that period. Up through September 2008, in light of market conditions of CP issuance and repo rates, the amount offered at each operation was set at about 300 billion yen with a frequency of about once per quarter. When the MPM was held on October 14, the Bank decided, with a view to facilitating corporate financing, to increase the frequency and the size of purchases of CP with repurchase agreements. In line with this decision, the frequency and amount of these operations were increased as the year-end approached. Specifically, beginning in late November, operations were made about twice a week with each offer ranging between 300 to 600 billion yen. Furthermore, at the MPM held on December 18 and 19, the Bank decided to add the Development Bank of Japan as a counterparty in operations such as purchases of CP with repurchase agreements as a temporary measure.

As of the end of December 2008, outstanding amount of purchases of CP with repurchase agreements reached 4.3 trillion yen. This was approximately 14 times larger than the previous year. However, demand for purchases of CP with repurchase agreements decreased somewhat between January and the fiscal year-end. This reflected the introduction of other measures for facilitating corporate financing, such as special funds-supplying operations to facilitate corporate financing and outright purchases of CP. As a result, outstanding amount of purchases of CP with repurchase agreements came to 3.0 trillion yen at the end of March 2009.

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[50] Amounts offered per operation were increased from 600 – 800 billion yen to 1.0 – 1.6 trillion yen.

BOX 2: Money Market Operations and the Bank of Japan's Balance Sheet

Assets acquired and liabilities incurred through money market operations are registered on the Bank's balance sheet. A review of the Bank's balance sheet (Chart 25) indicates that its main liabilities consist of "Banknotes in circulation", "Current account balances, and "Government deposits and others". On the other hand, its main assets consist of "JGBs", "T-bills underwritten" and assets related to short-term funds-supplying operations (hereinafter "short-term operations assets").[51]

On the liability side, banknotes in circulation constitute the single largest component. In the short run, the outstanding balance of banknotes in circulation can fluctuate by 2 to 5 trillion yen due to seasonal factors particularly at the year-end. However, this component is relatively stable over the long run and has been increasing at an annual rate of about one percent in recent years. Government deposits and others consist of deposits and other funds placed at the Bank by the government.[52] Balances of government deposits fluctuate according to fiscal receipts and payments made. Because Japan's daily fiscal receipts and payments are large (the largest daily receipts and payments in recent years has been about five trillion yen and about ten trillion yen, respectively),[53] [54] government deposits and others are characterized by large fluctuations. Current account balances are the deposits accepted by the Bank from financial institutions, and current account balances fluctuate according to receipts and payments of banknotes and fiscal funds.[55] As for the asset side, JGBs consist of JGBs acquired through outright purchases of JGBs and other JGB transactions. The Bank's holdings of JGBs has been decreasing over the past few years due to sales of JGBs in response to buyback requests from the government and due to the fact that purchases of JGBs with extremely short residual maturity have increased since the second half of fiscal 2007. Underwritten T-Bills consist of T-Bills that the Bank underwrote in exchange for its JGBs redeemed at maturity.[56] Assets from short-term operations represent funds supplied in short-term operations with maturity of less than one year.[57]

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[51] Other balance sheet items include foreign currency assets, deposits held by foreign central banks and other entities, and capital. However, such components are normally not subject to significant fluctuation, and total volume of such assets and liabilities/capital are generally balanced. Therefore, the explanations are limited to those components mentioned in the text and Chart 25.

[52] Others include deposits of the government and JGBs sold to the Fiscal Loan Funds and the National Government Bonds Consolidation Fund with repurchase agreements.

[53] Japan's fiscal receipts and payments have large seasonal fluctuations in cycles of 2 – 3 months. This is because redemption of JGBs is concentrated in March, June, September and December, while pensions are paid in even months. Moreover, daily fluctuations of receipts and payments are also large.

[54] A comparison of Japan and the U.S. shows the following. Japan's daily fiscal receipts and payments during 2007 averaged 948.6 billion yen (equal to 20 percent of required reserves) and registered a maximum of 9,309.5 billion yen (equal to 196 percent of required reserves). The corresponding figures for the U.S. were 108.2 billion yen (7 percent) and 2,802.1 billion yen (178 percent).

[55] See footnote 1.

[56] They also include T-Bills underwritten by the Bank when the government faces an unanticipated need for funds as well as T-Bills underwritten by the Bank for use in the Bank's transactions with foreign central banks.

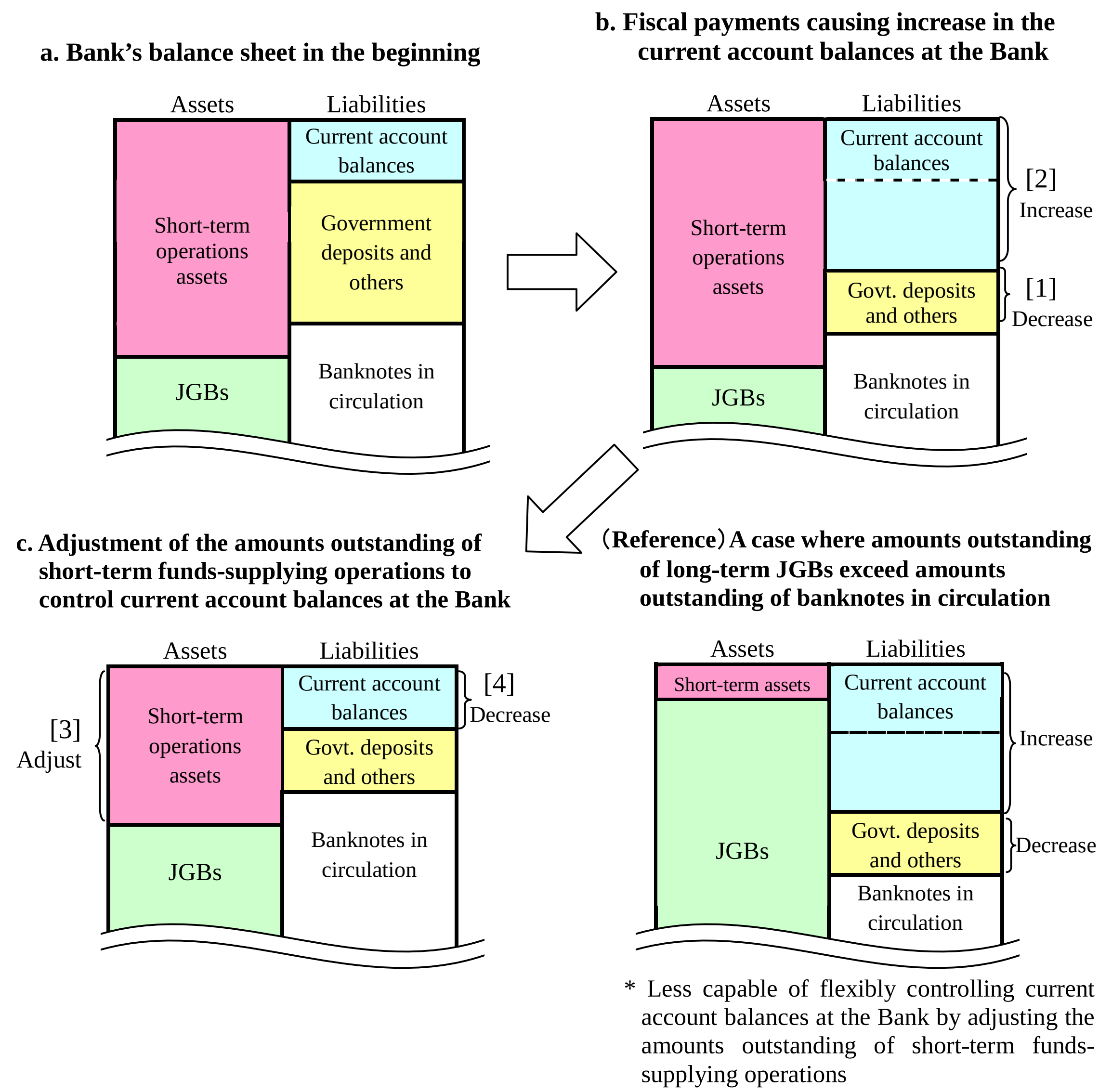
[57] Short-term funds-supplying operations is the sum of: fund supplying operations against pooled

The Bank forecasts changes in current account balances based on receipts and payments of banknotes and fiscal payments, and take these forecasts into account in conducting necessary funds-supplying operations and funds-absorbing operations. By controlling current account balances through such operations, the Bank controls the uncollateralized overnight call rate at around the target rate. These developments are reflected in the balance sheet as follows. Given that changes in the outstanding balance of banknotes in circulation and government deposits and others ([1] in the chart below) can cause changes in the current account balances at the Bank [2], the Bank adjusts the amounts outstanding of short-term funds-supplying operations and amounts outstanding of short-term funds-absorbing operations as needed [3] to control current account balances at the Bank [4]. To facilitate money market operations, the Bank counterbalances short-term liabilities[58] such as government deposits and others and current deposits by holding short-term assets in the form of assets from short-term operations. It is because government deposits and others that are subject to large short-term fluctuations and current deposits need to be flexibly controlled. Similarly, the Bank counterbalances the outstanding balance of banknotes in circulation, which constitutes a long-term liability, by holding long-term assets in the form of JGBs.

Assuming a case where amounts outstanding of long-term JGBs exceed amounts outstanding of banknotes in circulation (see Reference in chart below), the Bank would be holding long-term assets in the form of JGBs to counterbalance a part of government deposits and others and current account balances, which both constitute short-term liabilities. In order to flexibly control current account balances at the Bank in response to financial conditions, it may become necessary to engage in, for example, frequent purchases and sales of JGBs in the market or to continuously undertake funds-absorbing operations. However, such operations could result in large fluctuations in market interest rates and might bring about strains to the market. In particular, under the current circumstances where decline in market liquidity and preferred habitat is broadly observed, such operations could have a significant impact on the market.

collateral, purchases of JGS with repurchase agreements, outright purchases of T-Bills, purchases of CP with repurchase agreements, special funds-supplying operations to facilitate corporate financing, outright purchases of CP, and outright purchases of corporate bonds.

[58] Portions of the outstanding balance of banknotes that are subject to short-term fluctuations due to seasonal factors can also be viewed as a component of short-term liabilities.



To avoid these developments and to ensure smooth money market operations, the Bank holds assets from short-term operations, which can be flexibly adjusted in response to changes in government deposits and others and current accounts. In this regard, the Bank would hold long-term JGBs in amounts not exceeding the amounts outstanding of banknotes in circulation. This approach also serves to clarify that the Bank's purchases of JGBs are not undertaken for the purpose of supporting JGS prices or for financing fiscal expenditures.

[2] Temporary Measures for Funds-Supplying

(U.S. dollar funds-supplying operations)

In U.S. dollar funds-supplying operations, the Bank lends U.S. dollars that it has borrowed under the U.S. dollar-yen swap agreement with the Federal Reserve to its counterparties against pooled collateral submitted to the Bank. At the unscheduled MPM held on September 18, the Bank concluded U.S. dollar swap agreements with the Federal Reserve for up to 60 billion dollars in coordination with other central banks, and decided to introduce U.S. dollar funds-supplying operations as a temporary measure to continue through the end of January 2009 in response to continued elevated pressures in U.S. dollar short-term funding markets. Thereafter, as pressures on U.S. dollar liquidity constraints tightened further, the Bank decided at the unscheduled MPM held on September 29 to increase the maximum aggregate amount of the U.S. dollar swap facility to 120 billion dollars and to extend the effective period of U.S. dollar funds-supplying operations through the end of April 2009. Furthermore, based on the coordinated measures to improve liquidity in short-term U.S. dollar funding markets (announced on October 13), the Bank decided at the unscheduled MPM held on October 14 to introduce "dollar funds-supplying operations whereby an unlimited amount of funds would be provided at a fixed rate[59] set for each operation against pooled collateral." Subsequently, at the MPM held on February 18 and 19, the Bank decided to extend the effective period of U.S. dollar funds-supplying operations until the end of October 2009.

With a view to maintaining market stability, U.S dollar funds-supplying operations were conducted as follows. First, the offer dates[60] were coordinated to be set on the same days for all participating central banks and one-month and three-month operations were alternately offered every other week. Second, to provide counterparties with greater predictability, the offer schedule and other details were announced in advance.

Amounts outstanding in U.S. dollar funds-supplying operations reached a high level of 127.6 billion dollars in December. Thereafter, as the conditions in U.S. dollar funding markets improved, amounts rolled over at maturity of operations declined. As a result, amounts outstanding gradually decreased to reach $61.0 billion at the end of March. Collateral submitted to the Bank was also used for other money market operations over the year-end. The collateral burden of financial institutions increased towards the year-end, as the amounts outstanding of funds-supplying operations increased. In order to address this situation, the Bank made necessary arrangements to stop requiring twice as much collateral as the amount of loans when the U.S. dollar funds-supplying operations were rolled over. This modification was introduced beginning with the offer made on December 16.

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[59] The fixed interest rate is set by the Federal Reserve Bank of New York taking into account the prevailing U.S. dollar Overnight Indexed Swap market rate that corresponds to the duration of the loan.

[60] The schedule is basically coordinated to match the TAF operations conducted by the Federal Reserve.

(Special funds-supplying operations to facilitate corporate financing)

Special funds-supplying operations to facilitate corporate financing were adopted as a temporary measure at the MPM held on December 18 and 19. These are operations in which unlimited amounts of funds are supplied against the value of corporate debt pledged as pooled eligible collateral at an interest rate equivalent to the target for the uncollateralized overnight call rate. Counterparties actively participated in auctions beginning on January 8 as the arrangement allowed counterparties to raise necessary amounts of funds at low interest rates within the value of corporate debt collateral submitted to the Bank. To provide counterparties with greater predictability, the auction schedule was announced in advance.

At the beginning, special funds-supplying operations to facilitate corporate financing were conducted twice a month with terms of 1 to 3 months to provide funds over the fiscal year-end. When the MPM was held on February 18 and 19, the Bank decided to increase the frequency of offers to once a week, extend the maturity of all loans to three months, and extend the effective period of the operations to the end of September 2009. This was done to facilitate a decline in longer-term interest rates that actually apply to corporate fund-raising, and ease corporate fund-raising concerns under the prevailing economic and market conditions.

Amounts outstanding in special funds-supplying operations to facilitate corporate financing reached a high level of 7.5 trillion yen at the end of fiscal 2008. Active funds-supplying through such operations and other measures seem to have had a stabilizing effect on term interest rates and CP issuance rates.[61]

(Outright purchases of CP)

Outright purchases of CP are operations to purchase CP and ABCP from counterparties and were adopted as a temporary measure at the MPM held on January 21 and 22, 2009. Given that outright purchases of financial instruments related to corporate financing should be regarded as an exceptional measure for a central bank, the Bank pays special attention to preventing such purchases from functioning as a means for arbitrary funds allocation among individual firms; conducting the purchases only for the term required and on an appropriate scale; and ensuring the Bank's financial health.[62]

In accordance with the principles stated above, CP eligible for outright purchase must be eligible as pooled collateral at the Bank, rated at a-1 or higher, and issued before or

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[61] Rising volatility or higher interest rate levels on instruments used by financial institutions for funding-raising can result in a rise in financial institutions' lending rates to the corporate sector because lending rates are determined by adding administrative costs and borrowers' credit costs to funding costs. In this regard, special funds-supplying operations to facilitate corporate financing can stabilize the costs for corporate financing since the operation provides unlimited access to funds at low interest rates within the collateral value of corporate debt submitted to the Bank.

[62] See "Outright Purchases of Corporate Financing Instruments" (January 22, 2009).

on the auction date with residual maturity of up to three months. Furthermore, the Bank shall not purchase more than three trillion yen of CP (including ABCP) in total, or more than 100 billion yen of CP (including ABCP) issued by any single issuer.[63] A multiple-price competitive auction is conducted for each purchase where counterparties bid non-negative "yield spreads", which are calculated by subtracting the "minimum yields" determined by the Bank from the yield at which counterparties desire to sell CP to the Bank. Minimum yields are equally applied to CP and ABCP according to their residual maturity. For CP and ABCP with residual maturity of up to one month, the minimum yield is the targeted uncollateralized overnight call rate plus 20bps; and for CP and ABCP with residual maturity of more than one month and up to three months, the minimum yield is the targeted uncollateralized overnight call rate plus 30bps. Given that outright purchases of CP are intended to complement market functions, the minimum yield was set at a level that would be relatively high under normal conditions, but would be relatively low when market conditions are tight. This operation was originally introduced as a temporary measure effective through the end of March 2009. However, at the MPM held on February 18 and 19, the term of operations was extended to the end of September 2009.

During fiscal 2008, the first purchase was undertaken on January 30. In total, 11 operations were undertaken by the fiscal year-end on previously announced dates with 300 billion yen offered per operation. At the beginning, the counterparties actively participated in the auctions, but in March, undersubscription was frequently observed. This can be attributed to the following factors. First, CP issuance in March was at a low level because companies had finished CP issuance well ahead of the fiscal year-end. As a result, CP holdings of counterparties in March were at a relatively low level. Second, as the market conditions improved, the rates on many issues of CP had fallen below the minimum yields set by the Bank for the purchase. Finally, as for some issuers, the amounts purchased by the Bank had already reached the upper limit. As a result, outstanding amounts of CP purchased came to 1.6 trillion yen at the end of March 2009.

(Outright purchases of corporate bonds)

Outright purchases of corporate bonds are operations in which corporate bonds (excluding dematerialized commercial paper) are purchased from counterparties, and were adopted as a temporary measure at the MPM held on February 18 and 19. As in the case of outright purchases of CP, the purchase of corporate bonds was undertaken according to the basic principles regarding the outright purchases of corporate financing instruments.

Corporate bonds eligible for purchase must be eligible as the Bank's collateral, have a rating of A or higher, and have a maturity date that falls within one year at the end of the month in which the purchase is conducted. Furthermore, the Bank shall not

[63] In addition, if the outstanding amount of a single issuer's CP purchased by the Bank at the time of purchase exceeds 25% of the highest end-of-month figure for the CP issued by an issuer between July 2008 and December 2008, the CP is excluded from the eligible list.

purchase more than one trillion yen of corporate bonds in total, or more than 50 billion yen[64] of corporate bonds issued by any single issuer. A multiple-price competitive auction is conducted for each purchase where counterparties bid non-negative "yield spreads", which are calculated by subtracting the "minimum yields" determined by the Bank from the yield at which counterparties desire to sell corporate bonds to the Bank. Minimum yields are determined according to the residual maturity. For corporate bonds with residual maturity of up to six months, the minimum yield is the targeted uncollateralized overnight call rate plus 40bps and for corporate bonds with residual maturity of more than six months, the minimum yield is the target level of the uncollateralized overnight call rate plus 60bps. As in the case of outright purchases of CP, the purpose of outright purchases of corporate bonds is to complement market functions. Therefore, the minimum yield was set at a level that would be relatively high under normal conditions, but would be relatively low when market conditions are tight. The purchase of corporate bonds is a temporary measure and is effective until the end of September 2009.

During fiscal 2008, one purchase was made on March 4 accordingly to a previously announced schedule. However, subscription was far below the amount offered. As a result, outstanding amounts of corporate bonds purchased came to 43.5 billion yen at the end of March 2009.

[3] Funds-Absorbing Operations

Funds-absorbing operations primarily consist of outright sales of bills issued by the Bank and sales of JGSs with repurchase agreements. Beginning in September 2008, with a view to ensuring stability in the financial market, ample funds were supplied through future-dated term operations. As a result of these operations, strong downward pressure on the uncollateralized overnight call rate was frequently observed. The Bank responded by flexibly and frequently conducting overnight and other very short-term funds-absorbing operations. By offering both funds-supplying and funds-absorbing operations, the Bank effectively intermediated between market participants as lenders adopted an increasingly cautious stance under growing concerns over counterparty risks.

After the same rate as the target rate was applied to the complementary deposit facility on December 19, the uncollateralized overnight call rate no longer deviated significantly below the target rate. Consequently, the frequency of funds-absorbing operations was reduced sharply. However, funds-absorbing operations can be used as a tool for adjusting the accumulation of reserves and for supplying funds on end-dates of the operation.

[64] In addition, if the outstanding amount of a single issuer's corporate bonds purchased by the Bank at the time of purchase exceeds 25% of the highest end-of-the-month figure for a given issuer's corporate bonds between July 2008 and January 2009, the corporate bonds is excluded from the eligible list.

[4] Securities Lending Facility

In order to improve liquidity in the JGS market and to contribute to maintaining smooth market functions, the Bank supplies JGSs to market participants from its own holdings on a temporary and complementary basis. This is conducted in the form of sales of JGSs with repurchase agreements. Following the failure of Lehman Brothers, liquidity in the repo and JGS market decreased sharply. In response to this development and to ensure stability in the repo market, the Bank relaxed the conditions for the securities lending facility on September 16. Whereas the previous condition for lending was "in principle, when requests for implementation of offers are received from three or more counterparties for an issue," this was changed to, "in principle, when requests for implementation of offers are received from one or more counterparties for a given issue." Additionally, the time limit for accepting requests for lending was extended from "until 11:30 a.m." to "until 1:00 p.m." The relaxation was initially adopted as a temporary measure effective until September 19, but was later extended until the end of April 2009.[65] Furthermore, on October 14, the minimum fee rate applied to the facility was lowered from 1 percent to 0.5 percent as a temporary measure. At the MPM held on February 18 and 19, the Bank broadened the range of JGSs that it offered under the securities lending facility by adding 30-year JGBs, floating-rate JGBs, and inflation-indexed JGBs to the list of eligible JGSs. During fiscal 2008, operations were conducted 27 times in total, marking a sharp increase over the previous year.

B. Complementary Lending Facility

The complementary lending facility is a means by which the Bank lends funds to counterparties upon request. Lending is limited by the borrower's outstanding amount of pooled collateral that has been submitted. As a rule, these loans are subject to the basic loan rate (during fiscal 2008, initially 0.75 percent; lowered to 0.5 percent on October 31 and to 0.3 percent on December 19) and are repayable on the following business day. The facility is expected to function to set the upper limit on the overnight interest rate. In principle, the maximum number of days on which counterparties can use the facility at the basic loan rate is five business days per reserve maintenance period. Counterparties that wish to use the facility beyond this maximum number of days must pay a higher rate of 2 percent plus the basic loan rate. However, the restriction on the maximum number of days has been suspended since March 2003 and the basic loan rate has been applied regardless of the number of days used. This measure continues to be maintained.

During fiscal 2008, compared to the previous year, use of the complementary lending facility increased sharply after the failure of Lehman Brothers in September as lenders adopted an increasingly cautious stance. Amounts drawn increased on JGS issuance days and the days when expectations of a reduction in the policy rate were elevated. Daily amounts drawn gradually decreased toward the year-end and fiscal year-end, reflecting the supply of ample funds by the Bank.

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[65] On April 28, 2009, the measure was further extended until the end of October 2009.

C. Introduction of Complementary Deposit Facility

Under the complementary deposit facility, interest accrues to excess reserve balances. The Bank decided to introduce the facility as a temporary measure at the MPM held on October 31 for the purpose of further facilitating the provision of sufficient liquidity toward the year-end and fiscal year-end. The facility went into effect beginning with the November reserve maintenance period. Eligible institutions for the facility consist of counterparties subject to the reserve requirement system and most of the counterparties with current account balances at the Bank but not subject to the reserve requirement system, such as banks, securities companies, securities finance companies, and *tanshi*. The applicable rate is the targeted uncollateralized overnight call rate less a spread that is determined by the bank. During fiscal 2008, the applicable rate was set at 0.1 percent from the time of the introduction.[66] The measure was initially set to end on April 15, 2009. However, at the MPM held on February 18 and 19, the Bank decided to extend the effective period of the various temporary measures, and the effective period of the facility was extended until October 15.

While the basic loan rate is expected to function as the upper limit on short-term rates, the interest rate applied to the complementary deposit facility is expected to function as the lower limit on short-term rates. This is because counterparties eligible for the facility have no incentive to invest excess reserves in the market at rates below the applicable rate, since they do not have to consider the opportunity cost of holding excess reserves under the reserve requirement system that would arise in the absence of the facility.

D. Pooled Collateral Submitted

Eligible assets as pooled collateral include corporate debts such as corporate bonds and CP, as well as government bonds and other public liabilities. Pooled collateral is highly convenient for counterparties since a wide range of assets are eligible, allowing counterparties' room to select collateral from their assets and to easily make substitutions between collateral. In addition to using pooled collateral in conventional funds-supplying operations against pooled collateral, various new measures based on the pooled collateral framework, including U.S. dollar funds-supplying operations and special funds-supplying operations to facilitate corporate financing, were introduced during fiscal 2008 to ensure stability in the financial market and to facilitate corporate financing. Furthermore, steps were taken to expand the scope of financial assets eligible as collateral and to ease the eligibility standards for corporate debts. A review of the assets pledged as pooled collateral shows that while JGSs continue to account for the largest portion of pledged collateral, the volume of corporate debts increased significantly reflecting the introduction of various new measures (Chart 26).

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[66] The interest rate applied to the complementary deposit facility is the targeted uncollateralized overnight call rate less a spread determined by the Bank. The spread was 0.2 percent between November 16 and December 19. From December 19, it was set at zero.

VI. Revisions in Operational Tools and Procedures

Major revisions in operational tools and procedures other than those appearing under Section V are as follows.

A. Periodic Review of Collateral Value of Eligible Collateral

Since fiscal 2005, the Bank is to verify the need to review the collateral value of eligible collateral and other related matters, in principle, at a frequency of about once a year. Subsequent to this verification based on developments in financial markets up to this point in time, collateral value and other related matters were revised at the MPM held on October 6 and 7, 2008.

B. Relaxation of ABCP Eligibility Requirements

At the unscheduled MPM held on October 14, the Bank broadened the range of eligible asset-backed commercial paper by accepting the debt obligations guaranteed by the Bank's counterparty financial institutions as a temporary measure applicable through the end of April 2009. At the MPM held on February 18 and 19, 2009, the decision was made to extend the effective period of the measure until December 31, 2009.

C. Relaxation of Collateral Eligibility Requirements of Corporate Bonds and Loans on Deeds to Companies

At the unscheduled MPM held on December 2, rating requirements of corporate bonds and loans on deeds to Companies as eligible collateral were relaxed from "A rated-or higher" to a "BBB-rated or higher", with a view to facilitating corporate financing. At the MPM held on February 18 and 19, 2009, the decision was made to extend the effective period of the measure until December 31, 2009.

D. Inclusion of the Development Bank of Japan Inc. as a Counterparty in Purchases of CP with Repurchase Agreements

As the Development Bank of Japan started outright purchases of CP in accordance with the measures taken by the government, it was decided at the MPM held on December 18 and 19 to add the Development Bank of Japan as a counterparty in operations, such as purchases of CP with repurchase agreements, as a temporary measure.

E. Acceptance of Debt Instruments of Real Estate Investment Corporations as Eligible Collateral

At the MPM held on January 21 and 22, with a view to further facilitating money market operations, the decision was made to accept bonds, CP and dematerialized commercial paper issued as well as bills drawn by real estate investment corporations, and loans on deeds to real estate investment corporations as eligible collateral.

F. Inclusion of Government-Guaranteed Dematerialized CP as Eligible Collateral

At the MPM held on February 18 and 19, with a view to further facilitating money market operations, the decision was made to accept government-guaranteed dematerialized CP as eligible collateral.

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Federal Reserve Bank of New York, “Domestic Open Market Operations During 2008,” January 2009.

European Central Bank, “The implementation of monetary policy in the euro area,” November 2008.

[67] Useful references for understanding the Bank of Japan’s monetary policy can be accessed via the Bank’s website (http://www/boj.or.jp/en/index.htm) under “Monetary Policy.” Research papers can be accessed under “Statistics, Research and Studies” or “Research Papers.”

In addition, papers of the Federal Reserve Bank of New York and the European Central Bank can be accessed at their respective websites (http://www.ny.frb.org/markets/annual_reports.html and http://www.ecb.int/pub/html/index.en.html).

[Chart 1] The Bank of Japan's Actions since Autumn 2008

Monetary Policy Measures

1. Reductions in the Policy Interest Rate

- 0.5% → 0.3% (Oct. 2008) → 0.1% (Dec. 2008)

2. Measures to Ensure Stability in Financial Markets

- Introduction and expansion of U.S. dollar funds-supplying operations (an unlimited amount against the value of eligible collateral)

- Provision of sufficient funds over the year-end and the fiscal year-end

- Increase in outright purchases of JGBs

  14.4 trillion yen per year → 16.8 trillion yen per year (Dec. 2008) → 21.6 trillion yen per year (Mar. 2009)

3. Steps to Facilitate Corporate Financing

- Increase in the frequency and size of CP repo operations

- Introduction and expansion of special funds-supplying operations to facilitate corporate financing (an unlimited amount against the value of eligible collateral at low interest rates)

- Introduction of outright purchases of CP and ABCP (upper limit of the amount purchased: 3 trillion yen)

- Introduction of outright purchases of corporate bonds (upper limit of the amount purchased: 1 trillion yen)

- Expansion in the range of corporate debt eligible as collateral (A-rated or higher → BBB-rated or higher)

  3.9 trillion yen (3.9 trillion yen*) as of the end of Nov. 2008 → 10.3 trillion yen (9.8 trillion yen*) as of the end of Mar. 2009

  *The total amount of eligible collateral for special funds-supplying operations to facilitate corporate financing

Measures to Secure the Stability of the Financial System

- Purchases of stocks held by banks (upper limit of the amount purchased: 1 trillion yen)

- Provision of subordinated loans to banks (upper limit of the amount loaned: 1 trillion yen)

[Chart 2] Changes in Autonomous Factors Affecting Current Account Balances (CABs) at the Bank

(Developments during Fiscal 2008)

trillion yen

	FY2007	FY2008	y/y change
Banknotes	- 0.6	- 0.4	+ 0.1
Treasury funds and others	- 19.9	- 16.9	+ 3.0
Fiscal payments	+ 40.6	+ 26.7	- 13.9
JGBs(over one year)	- 49.8	- 24.5	+ 25.2
Treasury discount bills	- 9.7	- 18.7	- 9.0
Foreign exchange	+ 0.0	- 0.6	- 0.6
Others	- 1.1	+ 0.1	+ 1.2
Excess/shortage of funds	- 20.4	- 17.4	+ 3.1

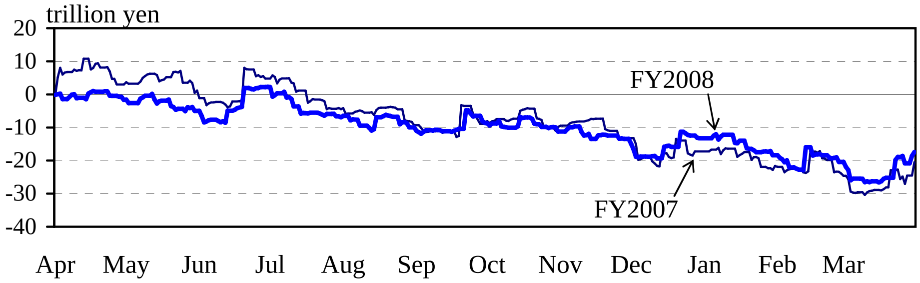
(Reference)

	FY2007	FY2008
Outstanding balance of banknotes	76.5	76.9

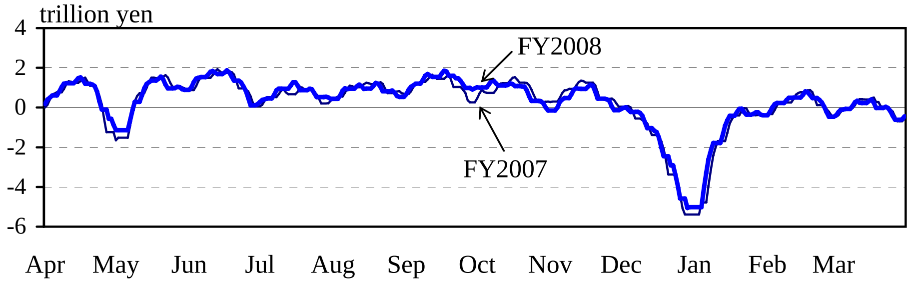
Notes: Banknotes: Negative figures show net issuance.
Treasury funds and others: Negative figures show net receipts, and positive figures show net payments (adjusted for effects of T-Bills purchasing/selling operations).
JGBs(over one year): Figures include the amount of issuance/redemption of TBs issued by January 2009.
Treasury discount bills: Figures in FY2007 represent net issuance/redemption of FBs.
Excess/shortage of funds: Negative figures show decrease, and positive figures show increase, to the CABs (adjusted for effects of T-Bills purchasing/selling operations).

(Daily Developments during Fiscal 2008)

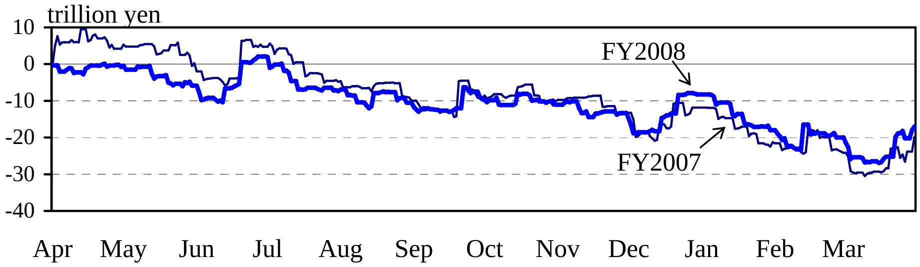
Excess/Shortage of Funds (Banknotes + Treasury Funds and Others)



Banknotes



Treasury Funds and Others



Note: Cumulative figures for fiscal 2008. Adjusted for effects of T-Bills purchasing/selling operations.
Source: Bank of Japan

[Chart 3] Accuracy of Projections of Autonomous Factors

Excess/Shortage of Funds (Banknotes + Treasury Funds and Others)

100 mil yen

		Actual average	Average error	Maximum error	Minimum error
FY2008		7,864 (9,913)	526 (586)	5,230 (3,260)	2 (6)
	Apr	5,602	395	1,082	45
	May	7,833	522	2,100	28
	Jun	8,554	344	2,152	11
	Jul	7,225	367	997	17
	Aug	7,947	318	2,292	13
	Sep	7,191	1,066	5,230	156
	Oct	6,247	817	4,921	2
	Nov	5,773	607	2,366	6
	Dec	9,018	487	1,890	12
	Jan	7,406	441	1,392	48
	Feb	10,910	390	1,568	34
	Mar	10,681	568	2,930	44

Banknotes

100 mil yen

		Actual average	Average error	Maximum error	Minimum error
FY2008		1,559 (1,663)	186 (179)	1,121 (1,106)	1 (0)
	Apr	1,866	150	622	1
	May	1,894	248	781	5
	Jun	1,479	127	331	20
	Jul	981	173	447	26
	Aug	1,009	163	345	2
	Sep	1,308	159	413	12
	Oct	969	142	355	1
	Nov	1,462	207	482	6
	Dec	2,509	274	1,121	14
	Jan	2,914	248	651	21
	Feb	1,311	189	505	17
	Mar	1,152	169	445	39

Treasury Funds and Others

100 mil yen

		Actual average	Average error	Maximum error	Minimum error
FY2008		7,923 (9,768)	500 (550)	5,218 (2,878)	0 (1)
	Apr	5,433	389	1,058	36
	May	7,401	590	2,038	15
	Jun	9,246	337	2,195	10
	Jul	7,387	341	921	0
	Aug	7,716	322	1,967	68
	Sep	7,449	1,035	5,218	58
	Oct	6,076	824	4,942	4
	Nov	5,545	550	2,662	1
	Dec	8,940	376	1,030	2
	Jan	7,454	402	1,444	3
	Feb	11,340	345	1,585	2
	Mar	11,096	497	2,991	12

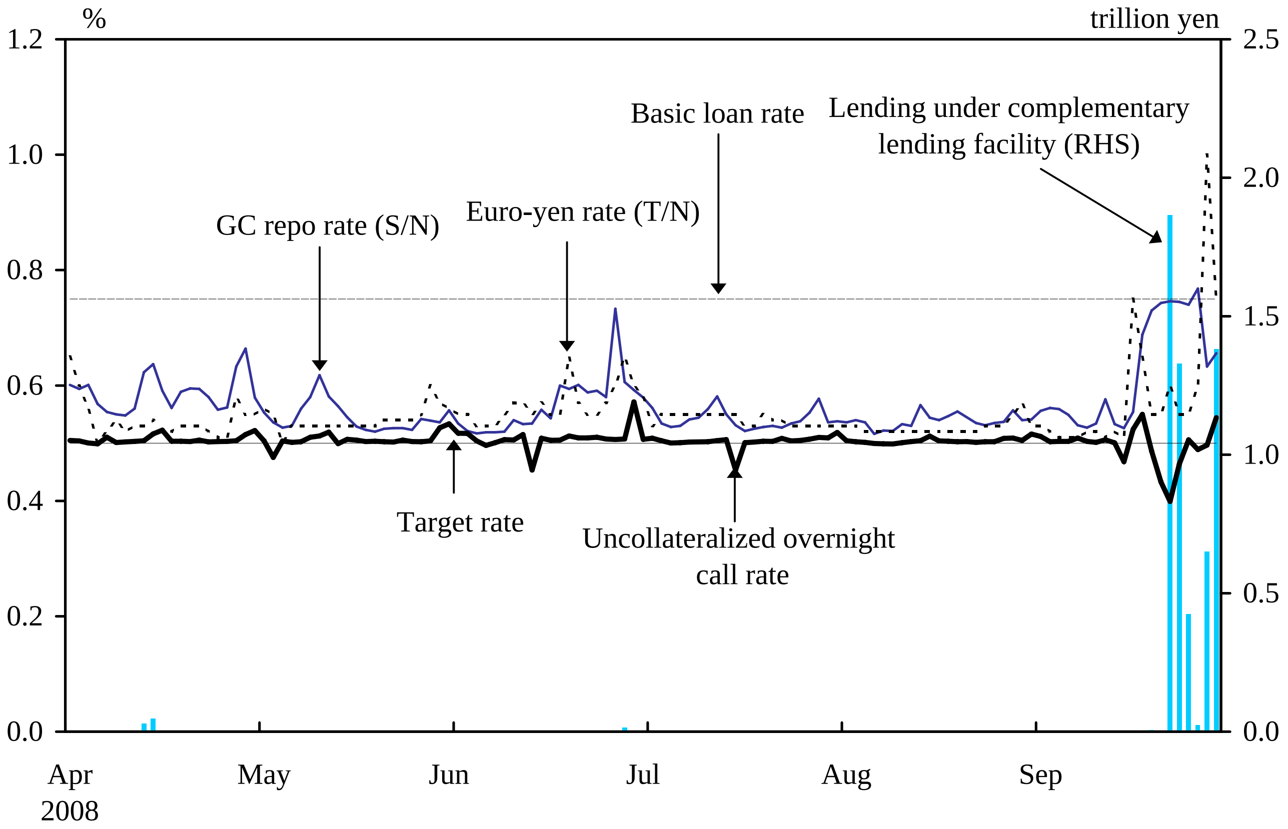
Notes:

1. Actual average is the average of the absolute size of actual daily autonomous factors for the given period.
2. Errors represent the absolute difference between the actual size of autonomous factors and projection made on the previous business day (not adjusted for effects of T-Bills purchasing/ selling operations) for the given period.
3. Figures in parentheses are for the previous year.

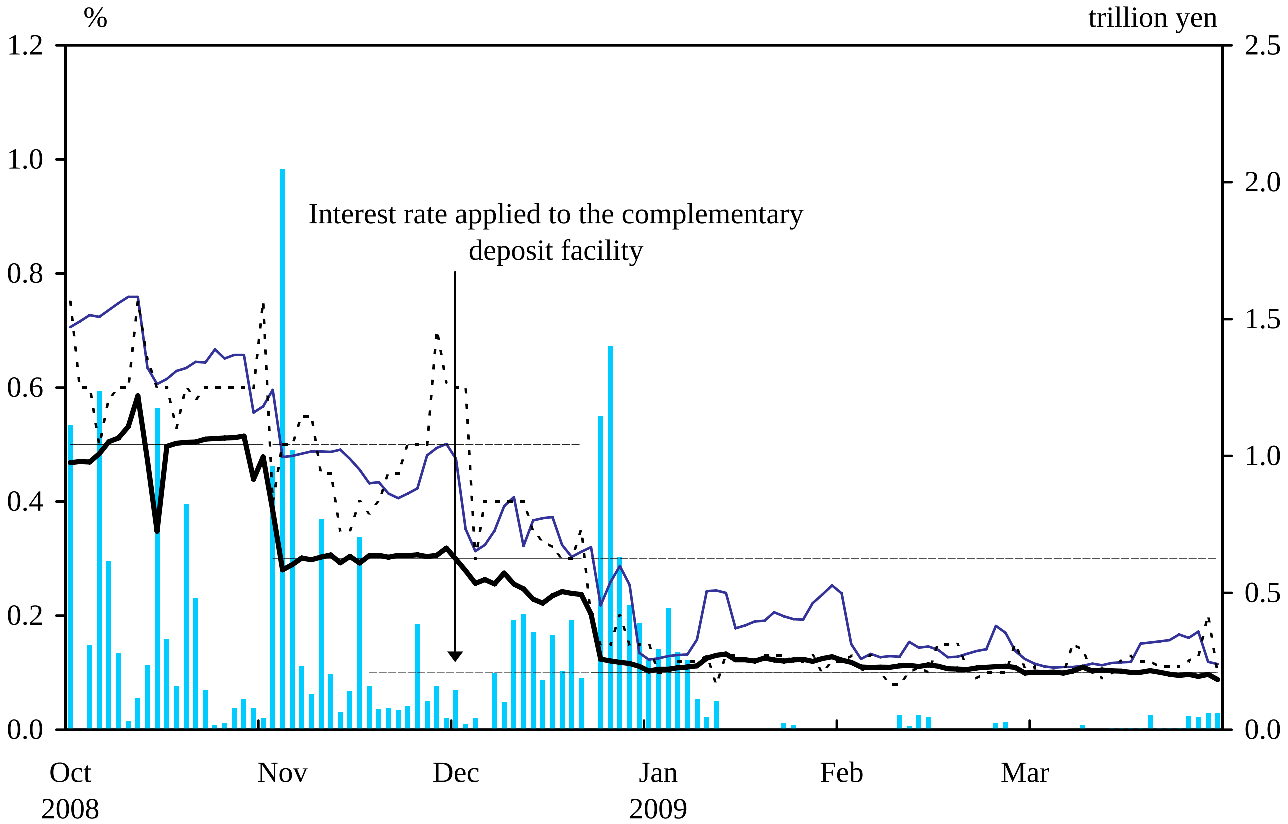
Source: Bank of Japan

[Chart 4] Money Market Rates and Lending under Complementary Lending Facility

(1) April 1, 2008 - September 30, 2008



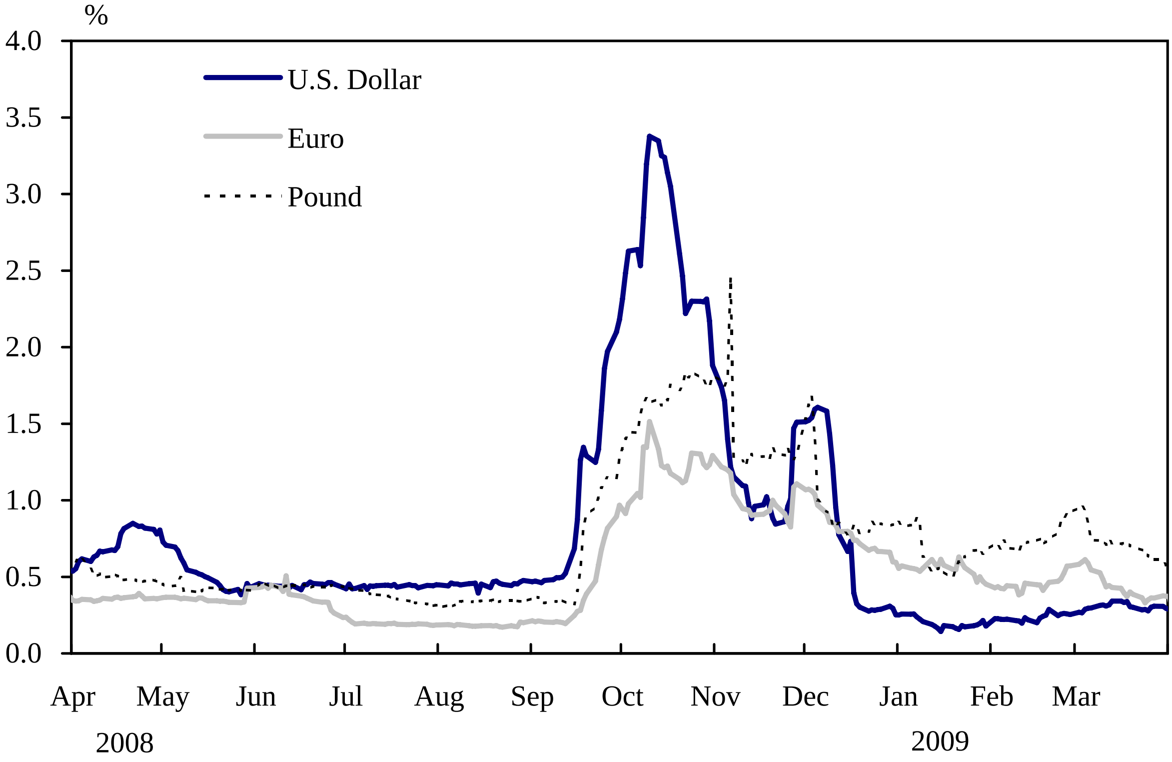
(2) October 1, 2008 - March 31, 2009



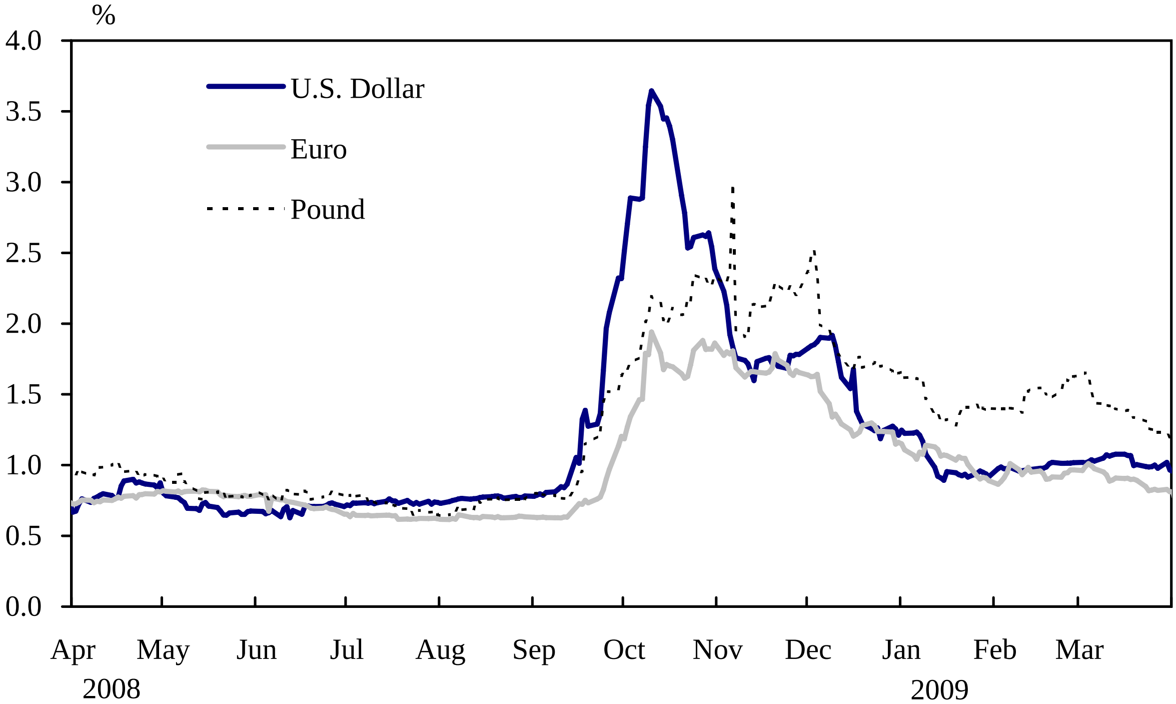
Note: Contract data basis
Source: QUICK, Bank of Japan

[Chart 5] LIBOR-OIS Spreads for U.S. Dollar, Euro, and Pound

1 month



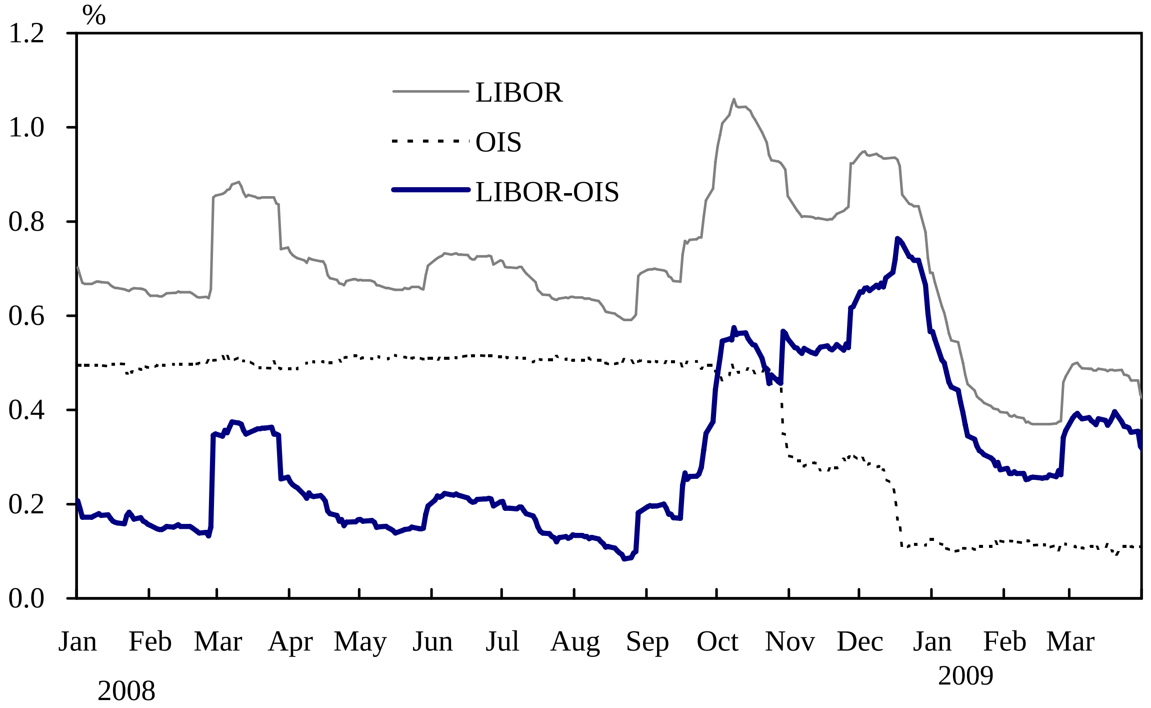
3 months



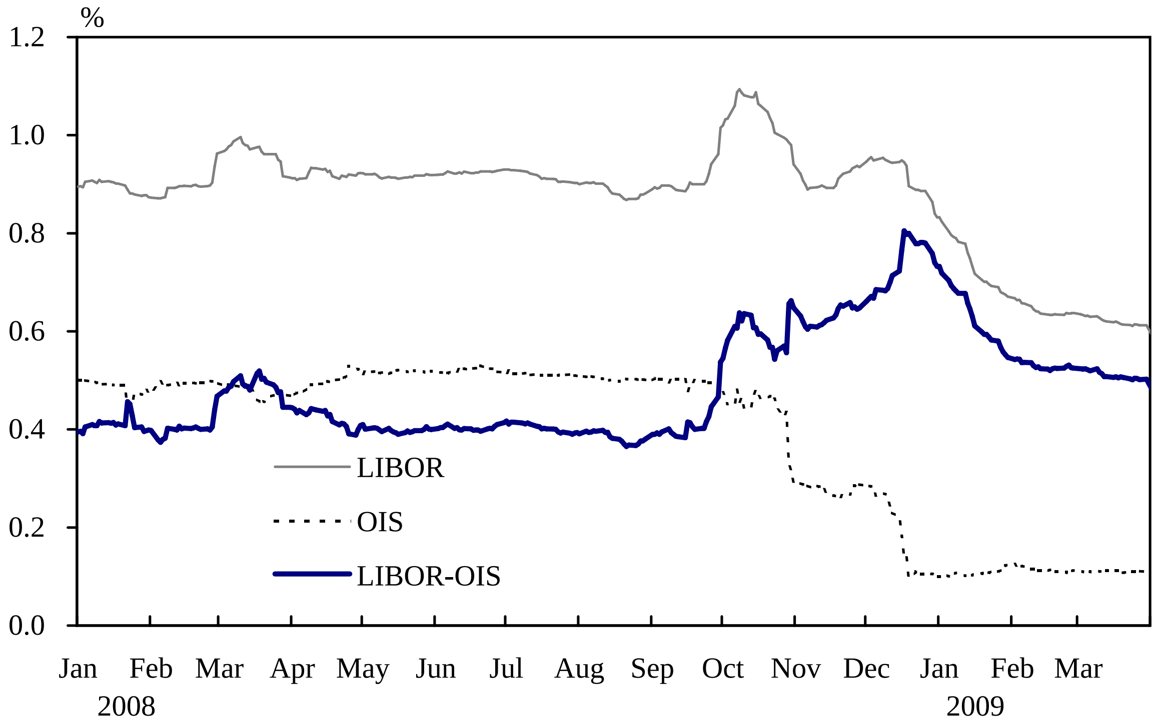
Source: Bloomberg

[Chart 6] Yen Term Rates; LIBOR

1 month

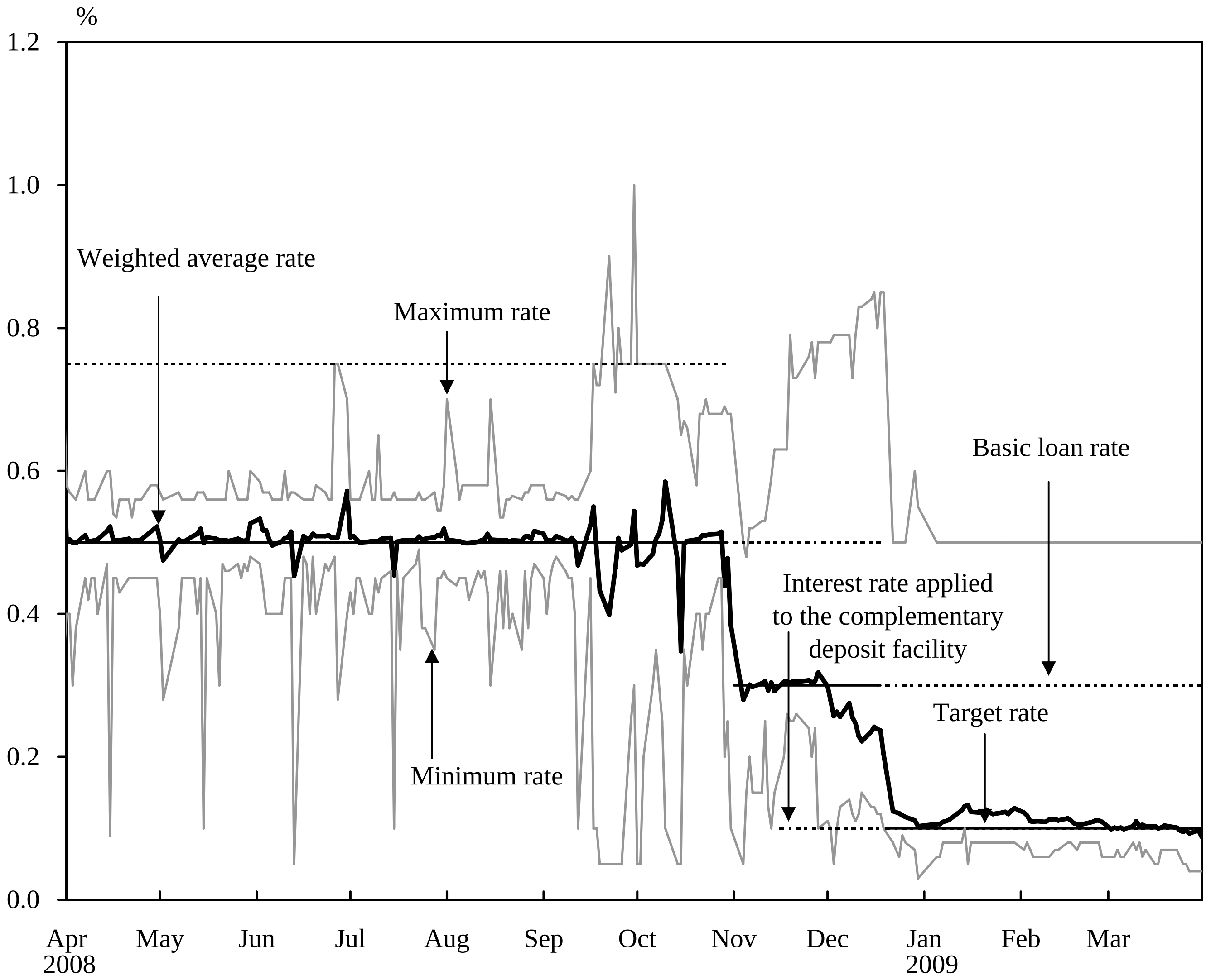


3 months



Source: Bloomberg

[Chart 7] Uncollateralized Overnight Call Rate



Source: Bank of Japan

(Reference) Uncollateralized Overnight Call Rate (September 2008 Reserve Maintenance Period)

%

Sep 16	0.524	Oct 1	0.468
Sep 17	0.550	Oct 2	0.470
Sep 18	0.486	Oct 3	0.469
Sep 19	0.433	Oct 6	0.484
Sep 22	0.399	Oct 7	0.505
Sep 24	0.464	Oct 8	0.512
Sep 25	0.506	Oct 9	0.531
Sep 26	0.489	Oct 10	0.585
Sep 29	0.497	Oct 14	0.473
Sep 30	0.544	Oct 15	0.348

[Chart 8] Number of Operations Offered

	Short-term funds-supplying operations						Short-term funds-absorbing operations				
		T+0 (same day)	Future-dated					T+0 (same day)	Future-dated		
				T+1	T+2	T+3 or more				T+1	T+2
Apr 07	30	3	27	0	27	0	7	6	1	1	0
May 07	39	6	33	2	31	0	3	1	2	2	0
Jun 07	30	7	23	6	17	0	2	2	0	0	0
Jul 07	35	5	30	3	27	0	6	3	3	3	0
Aug 07	38	8	30	8	22	0	7	7	0	0	0
Sep 07	35	7	28	13	15	0	6	4	2	2	0
Oct 07	31	2	29	17	12	0	4	4	0	0	0
Nov 07	33	0	33	19	14	0	4	1	3	3	0
Dec 07	38	2	36	21	15	0	1	1	0	0	0
Jan 08	40	2	38	25	13	0	6	6	0	0	0
Feb 08	41	5	36	22	14	0	3	3	0	0	0
Mar 08	54	12	42	27	15	0	3	2	1	1	0
Total FY 07	444	59	385	163	222	0	52	40	12	12	0
Average per business day	1.8	0.2	1.6	0.7	0.9	-	0.2	0.2	0.0	0.0	-
Apr 08	49	5	44	23	21	0	4	4	0	0	0
May 08	42	3	39	21	18	0	5	5	0	0	0
Jun 08	44	6	38	21	17	0	1	1	0	0	0
Jul 08	44	0	44	26	18	0	2	2	0	0	0
Aug 08	37	0	37	23	14	0	3	3	0	0	0
Sep 08	49	17	32	15	17	0	6	2	4	3	1
Oct 08	57	22	35	10	25	0	17	16	1	1	0
Nov 08	62	1	61	15	46	0	26	26	0	0	0
Dec 08	68	1	67	10	55	2	44	41	3	3	0
Jan 09	72	0	72	11	59	2	4	1	3	2	1
Feb 09	76	0	76	19	54	3	0	0	0	0	0
Mar 09	84	0	84	19	57	8	0	0	0	0	0
Total FY 08	684	55	629	213	401	15	112	101	11	9	2
Average per business day	2.8	0.2	2.6	0.9	1.6	0.1	0.5	0.4	0.0	0.0	0.0

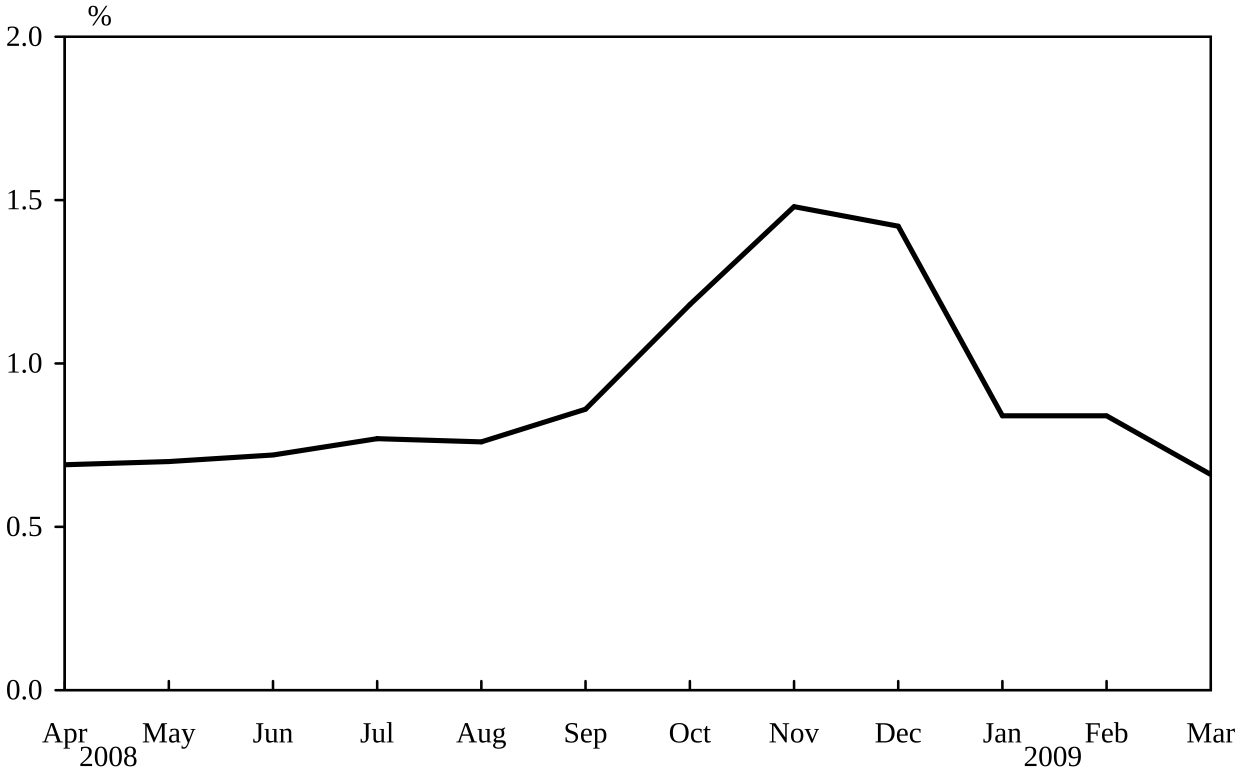
Notes:

1. Outright purchases of T-Bills, outright purchases of CP, and outright purchases of corporate bonds are not included in short-term funds-supplying operations. Securities lending facility to provide the markets with a secondary source of JGSs is not included in short-term funds-absorbing operations.
2. Offer date basis

Source: Bank of Japan

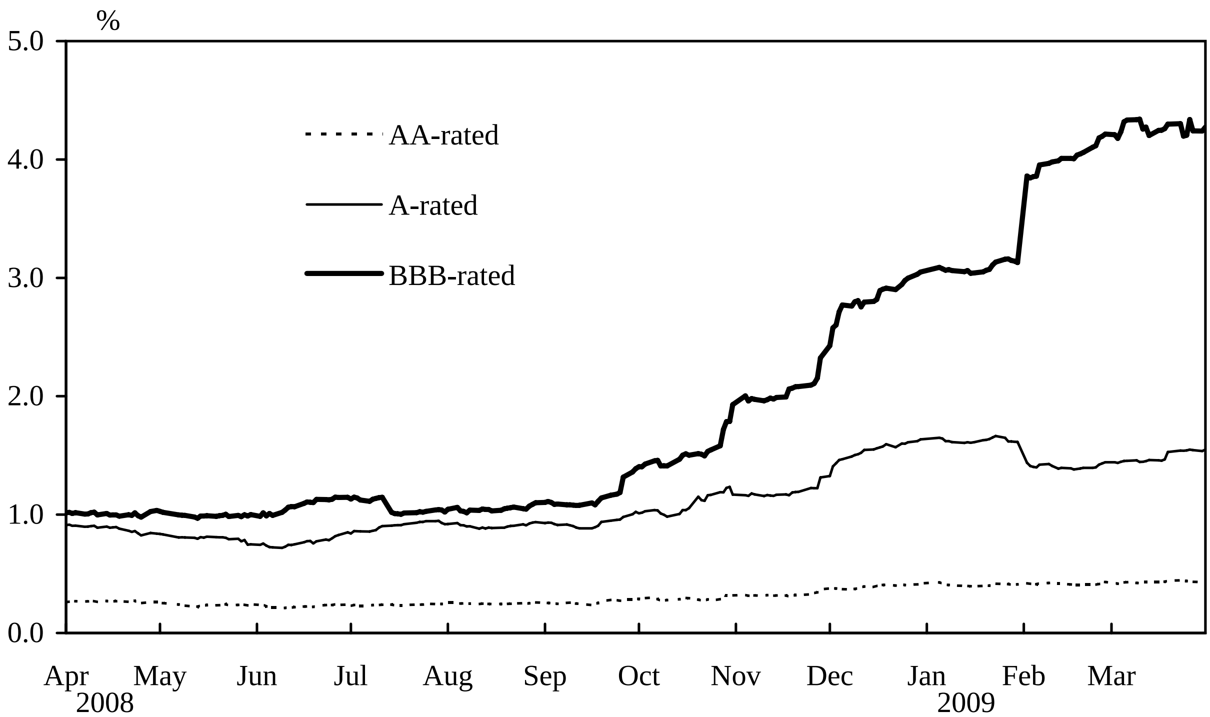
[Chart 9] CP Issuance Rates and Spreads of Corporate Bond Yields over Government Bond Yields

(1) CP Issuance Rates



Note: Yields on new issues with rate equivalent to a-1 or higher; average rates of selected dealers.
Source: Bank of Japan

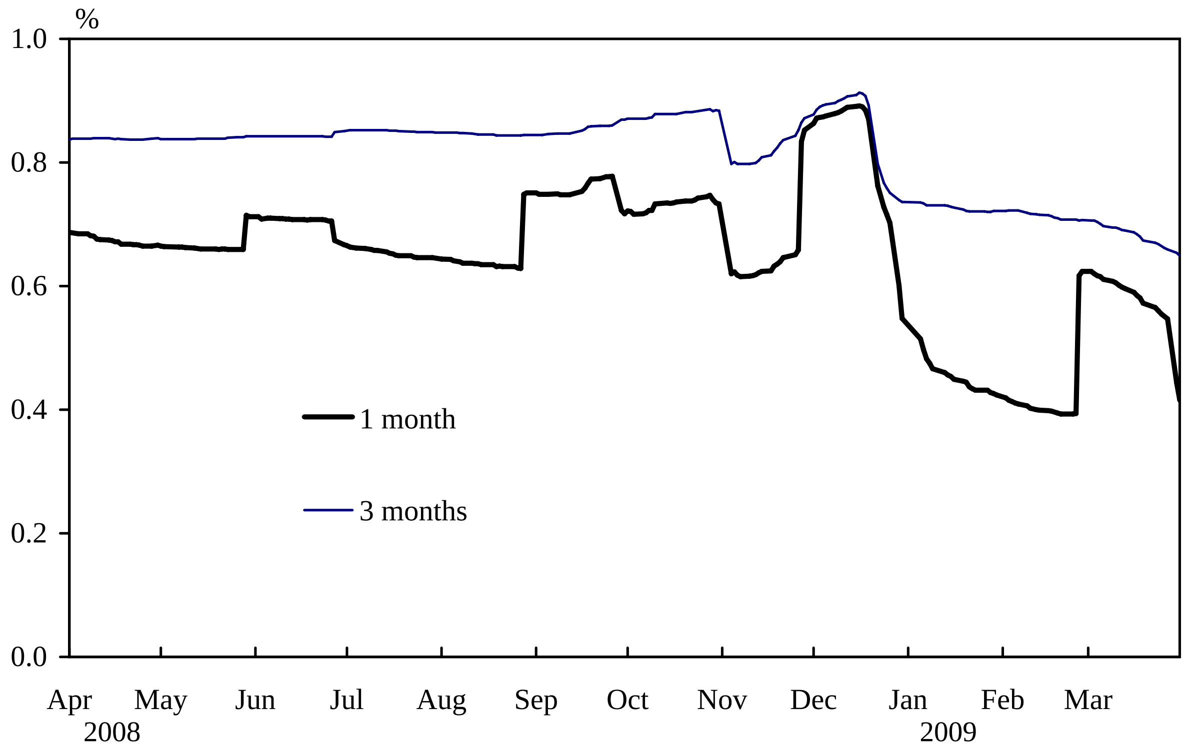
(2) Spreads of Corporate Bond Yields over Government Bond Yields



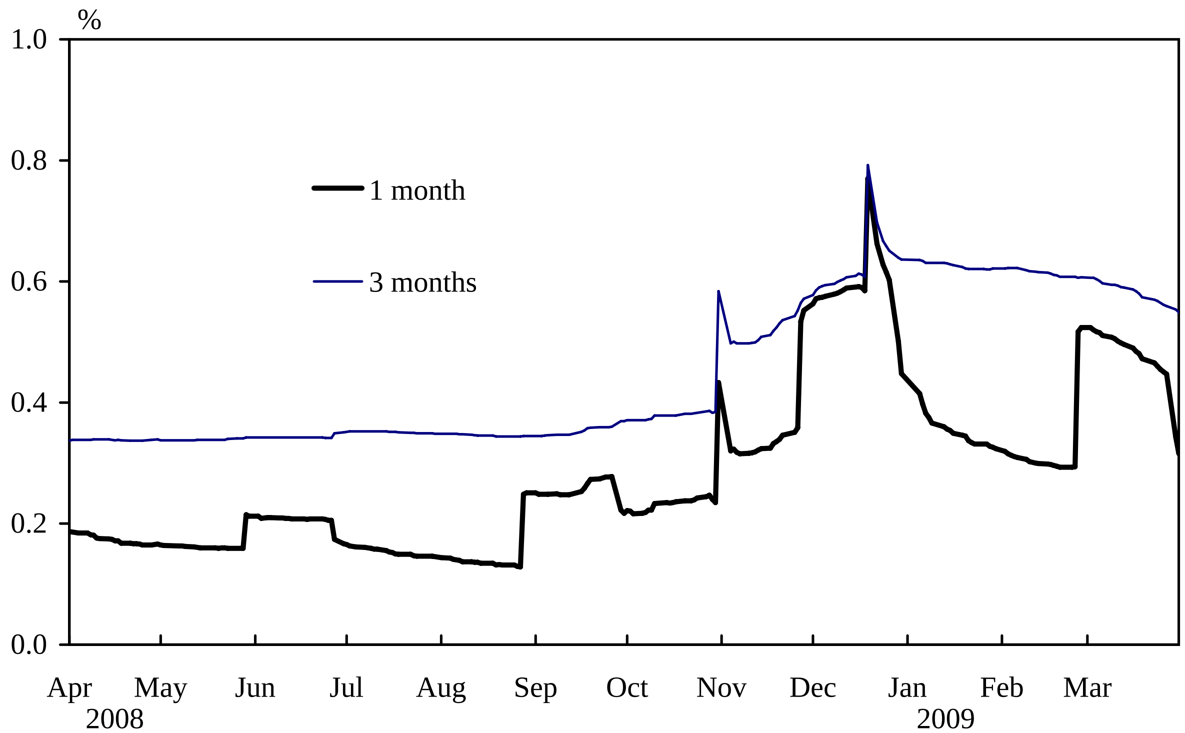
Note: Yields on corporate bonds have been calculated on the expanded pool of issues with maturity of three to seven years.
Source: Japan Securities Dealers Association

[Chart 10] Yen Term Rates; Euro-yen TIBOR

(1) Euro-yen TIBOR (1 month, 3 months)



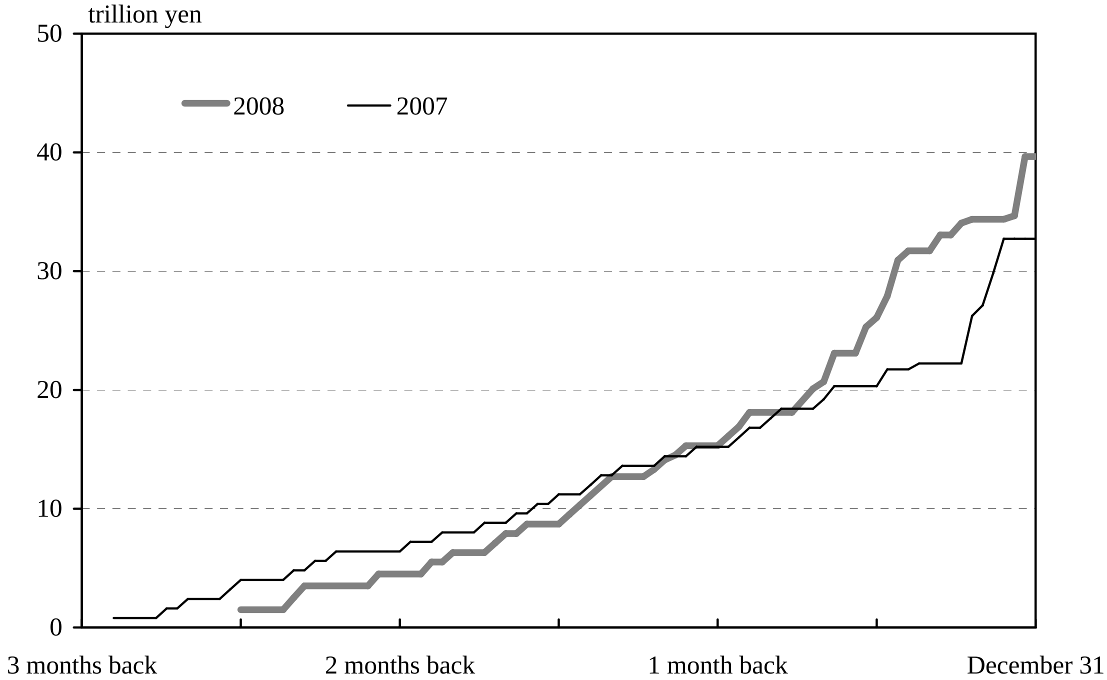
(2) Spreads of Euro-yen TIBOR over Target Rate



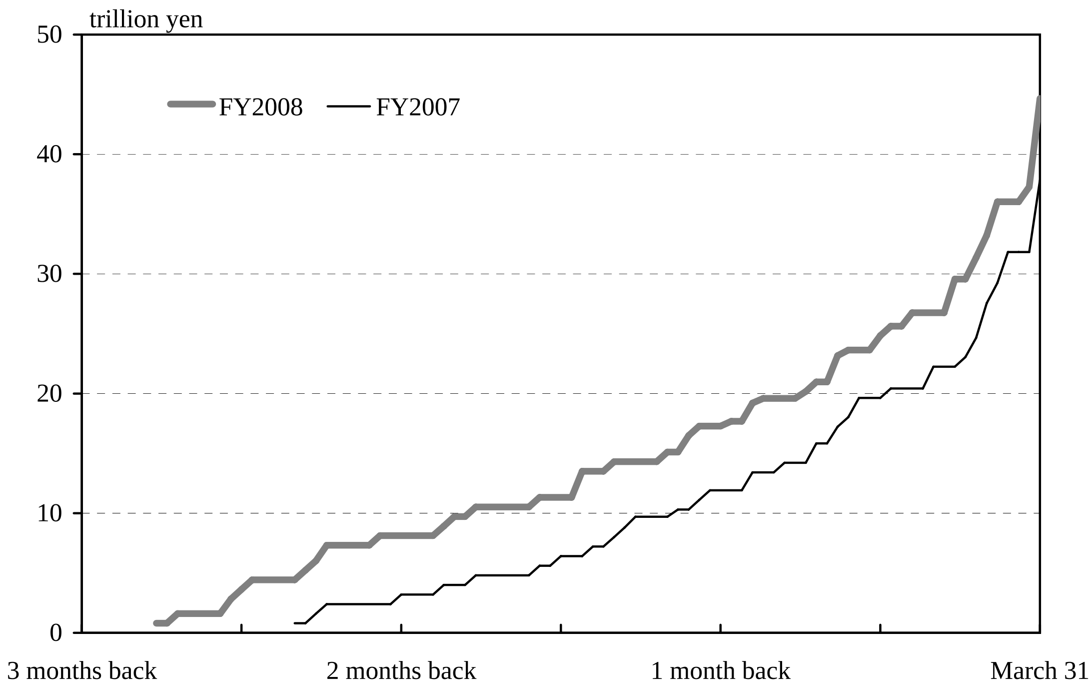
Source: Japanese Bankers Association, Bank of Japan

[Chart 11] Funds-Supplying in Operations Carrying over the Calender and Fiscal Year-Ends

(1) Calender Year-End



(2) Fiscal Year-End



Notes:

1.Start-date basis

2.Short-term funds-supplying operations (outright purchases of T-Bills, outright purchases of CP, and outright purchases of corporate bonds are not included)

Source: Bank of Japan

[Chart 12] Deviation of the Uncollateralized Overnight Call Rate from the Target

Reserve maintenance period	Number of business days (days)	Target (A) (%)	Deviation from target (B) (%)	Relative deviation (B)/(A)	Range of daily weighted average of uncollateralized overnight call rate (%)	Average for reserve maintenance period
April 2008	(19)	0.50	0.01	0.02	0.475 - 0.522	0.501
May 2008	(21)	0.50	0.02	0.03	0.453 - 0.533	0.503
June 2008	(22)	0.50	0.02	0.04	0.454 - 0.572	0.506
July 2008	(22)	0.50	0.01	0.01	0.499 - 0.519	0.504
August 2008	(20)	0.50	0.01	0.02	0.468 - 0.516	0.501
September 2008	(20)	0.50	0.05	0.11	0.348 - 0.585	0.489
October 2008	(12)	0.50	0.04	0.08	0.384 - 0.515	0.493
FY 2008 (Target: "around 0.5 percent")	(136)	0.50	0.03	0.05	0.348 - 0.585	0.500
October 2008	(9)	0.30	0.01	0.03	0.280 - 0.306	0.314
November 2008	(20)	0.30	0.04	0.12	0.222 - 0.318	0.279
December 2008	(4)	0.30	0.07	0.24	0.203 - 0.242	0.221
FY 2008 (Target: "around 0.3 percent")	(33)	0.30	0.04	0.13	0.203 - 0.318	0.283
December 2008	(14)	0.10	0.02	0.19	0.103 - 0.133	0.113
January 2009	(20)	0.10	0.02	0.19	0.109 - 0.128	0.118
February 2009	(20)	0.10	0.01	0.07	0.099 - 0.114	0.105
March 2009	(22)	0.10	0.00	0.05	0.088 - 0.109	0.100
FY 2008 (Target: "around 0.1 percent")	(76)	0.10	0.01	0.13	0.088 - 0.133	0.109

Notes:

1. Deviation from the target is defined as follows:

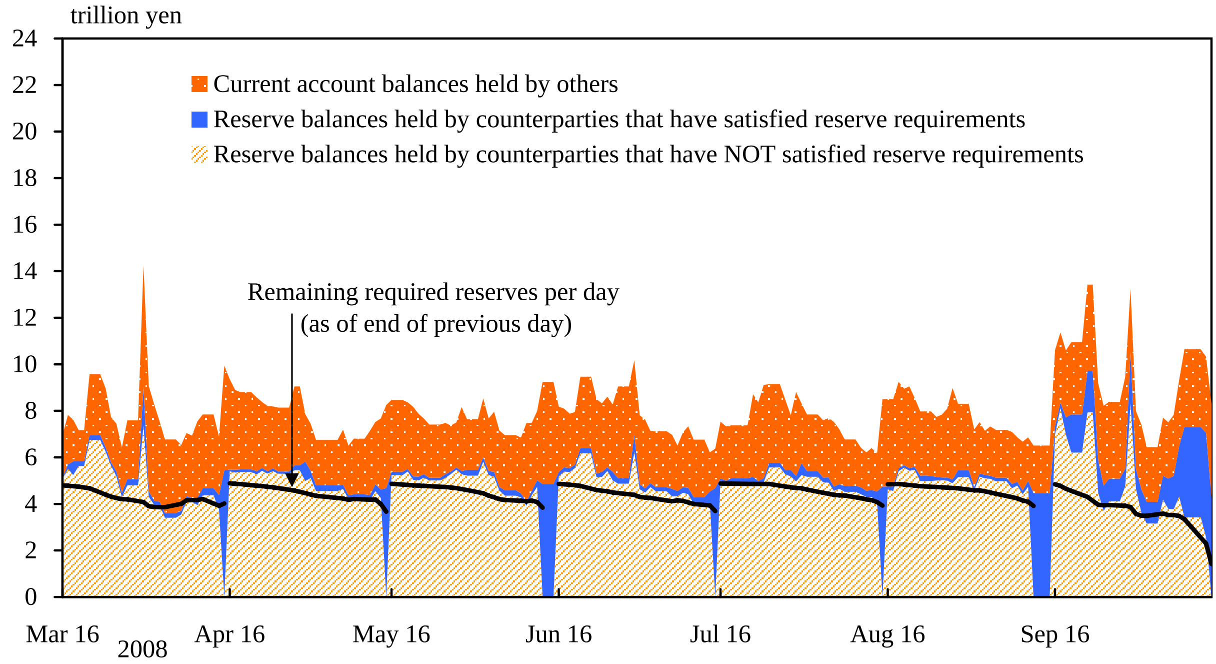
$$\text{Deviation} = \sqrt{\frac{\sum(\text{weighted average rate} - \text{target rate})^2}{\text{number of business days}}}$$

2. "Average for reserve maintenance period" is the simple average of the weighted average rate for the reserve maintenance period (previous business day's rate is applied to non-business days).

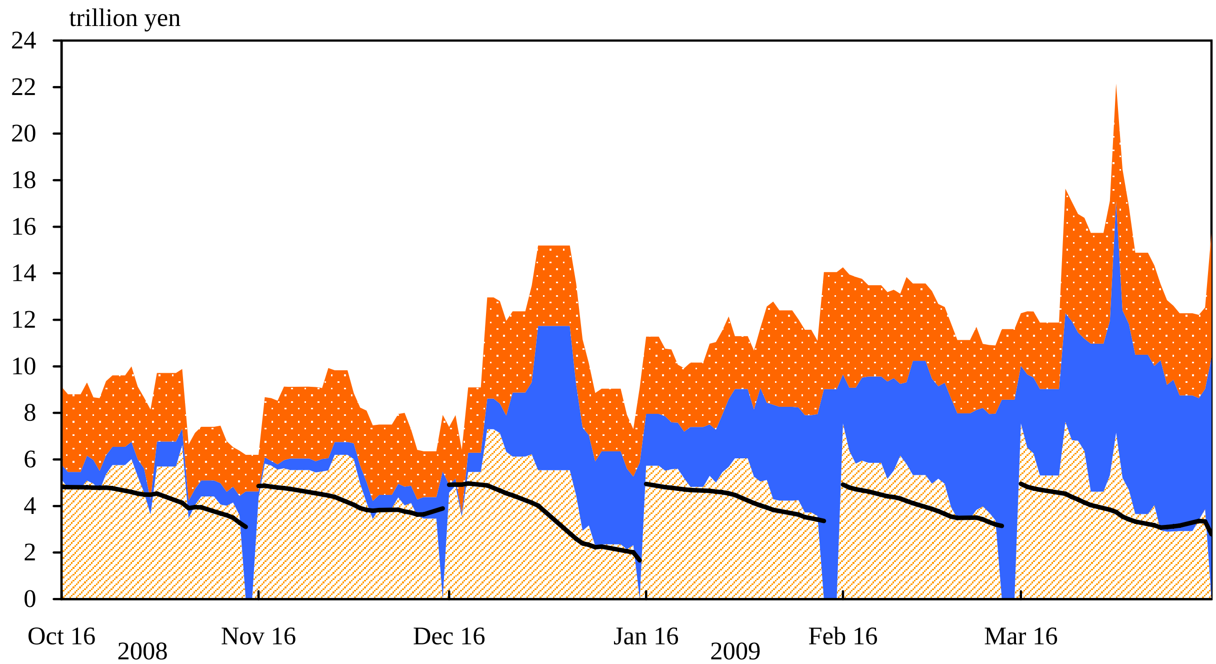
Source: Bank of Japan

[Chart 13] Current Account Balances and Reserve Balances

(1) March 2008 reserve maintenance period - September 2008 reserve maintenance period (March 16 - October 15, 2008)



(2) October 2008 reserve maintenance period - March 2009 reserve maintenance period (October 16, 2008 - April 15, 2009)

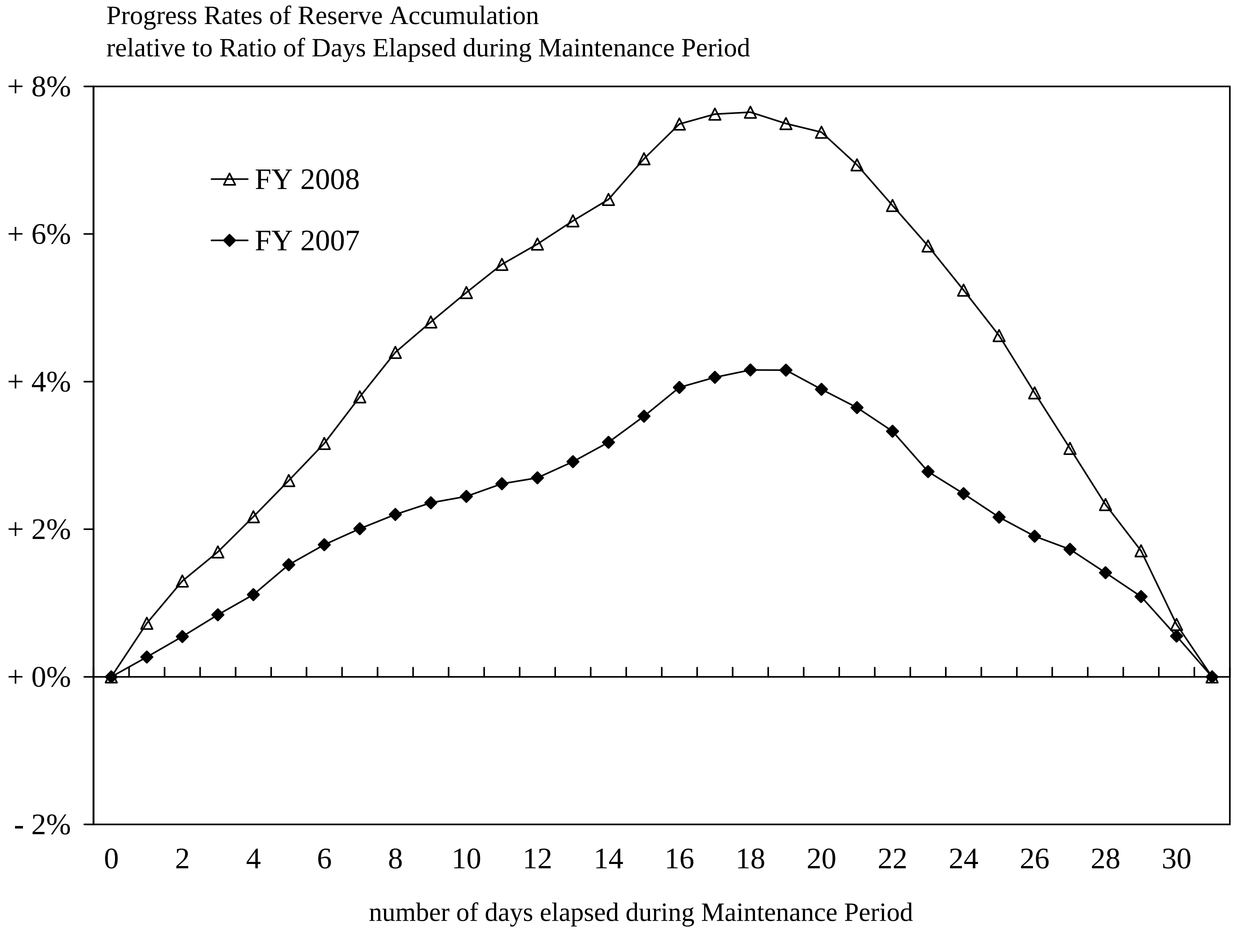


Notes:

1. "Counterparties that have NOT satisfied reserve requirements" are counterparties subject to reserve requirements that have not completed the accumulation of reserves required for the current reserve maintenance period as of the end of the day (does not include figures for the Japan Post Bank).
2. "Counterparties that have satisfied reserve requirements" are counterparties subject to reserve requirements that have completed the accumulation of reserves required for the current reserve maintenance period as of the end of the day (does not include figures for the Japan Post Bank).
3. "Others" are counterparties not subject to reserve requirements and the Japan Post bank.

Source: Bank of Japan

[Chart 14] Progress of Accumulation of Reserves



Notes:

1."Progress Rates of Reserve Accumulation" on a particular date during a maintenance period can be derived by dividing the cumulative reserve balance maintained by financial instititions from the start of the reserve maintenance period to the date, by cumulative total required reserves for the maintenance period (the Progress Rates for each year are calculated by averaging the Progress Rates vis-à-vis number of days elapesed over a year).

2. "Ratio of Days Elapsed during Maintenance Period" is the ratio of days elapsed since the start of the reseve maintenance period to the total number of days in the reserve maintenance period (the Ratio for each year is calculated by averaging the Ratio vis-à-vis number of days elapsed over a year).

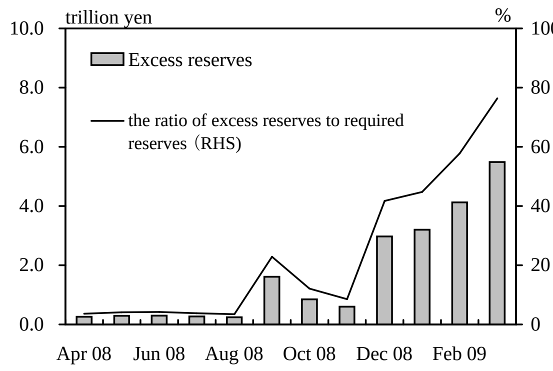
3. "Progress Rates of Reserve Accumulation relative to Ratio of Days Elapsed during Maintenance Periods" is the difference between Progress rate of Reserve Accumulation and Ratio of Days Elapesd during Maintenance Periods. When reserve balances are accumulated at a steady pace, this figure tends to be small for each day.

4. The figures for the Japan Post Bank (Japan Post Public Corporation through September 2007) are not included in reserve balances.

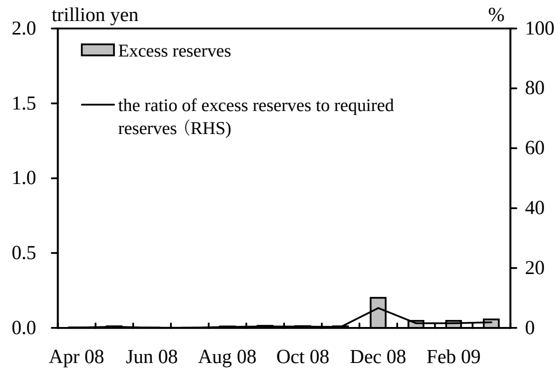
Source: Bank of Japan

[Chart 15] Excess Reserves by Sector

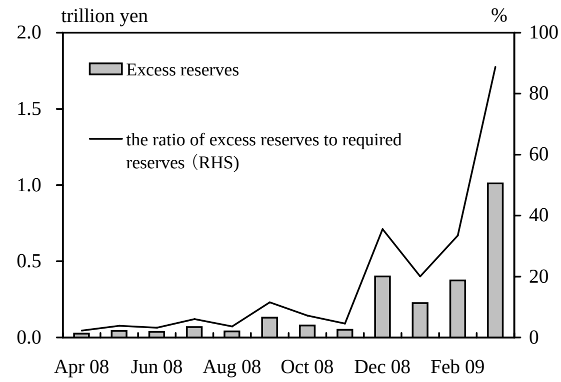
(1) Institutions Subject to the Reserve
Requirement System (total)



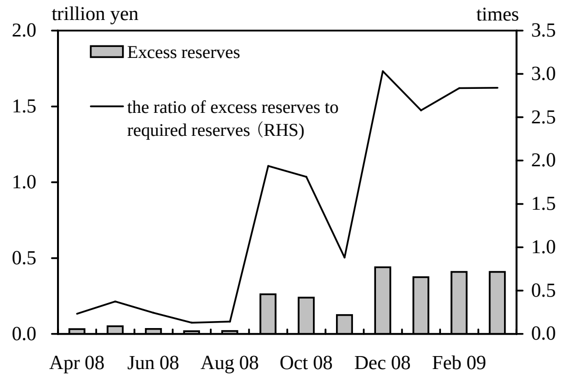
(1) – [1] City Banks



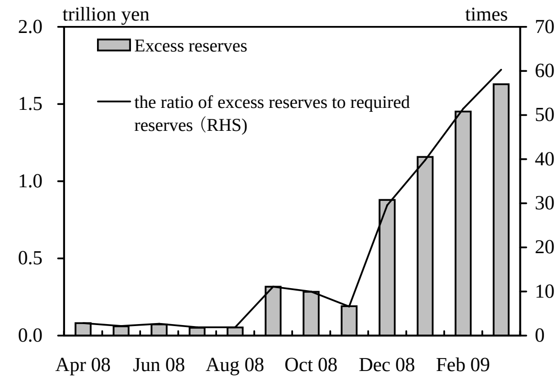
(1) – [2] Regional Banks



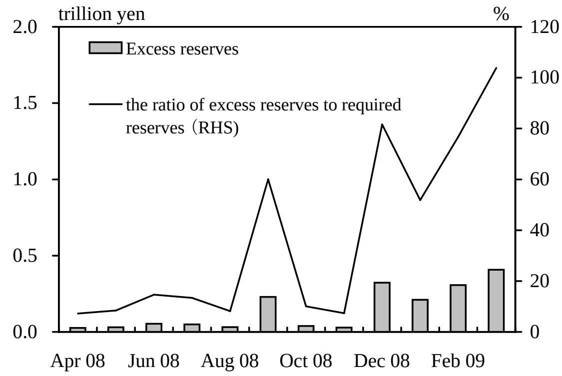
(1) – [3] Regional Banks II



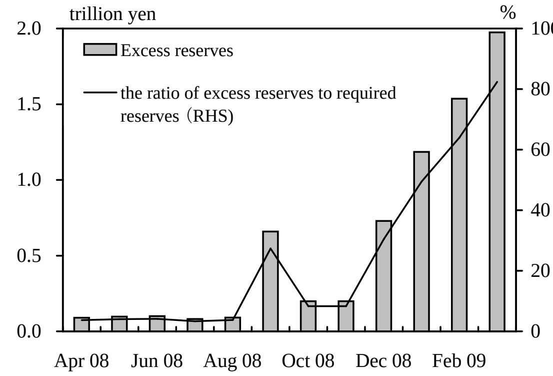
(1) – [4] Foreign Banks



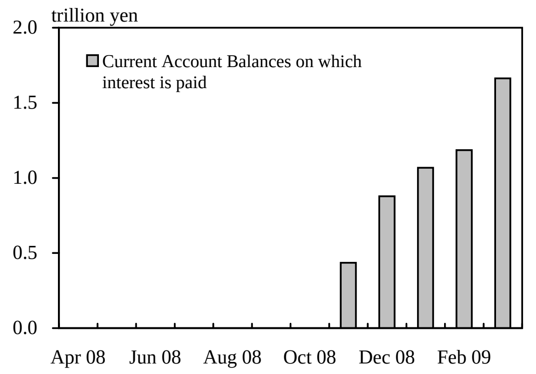
(1) – [5] Trust Banks



(1) – [6] Other Institutions Subject to the
Reserve Requirement System



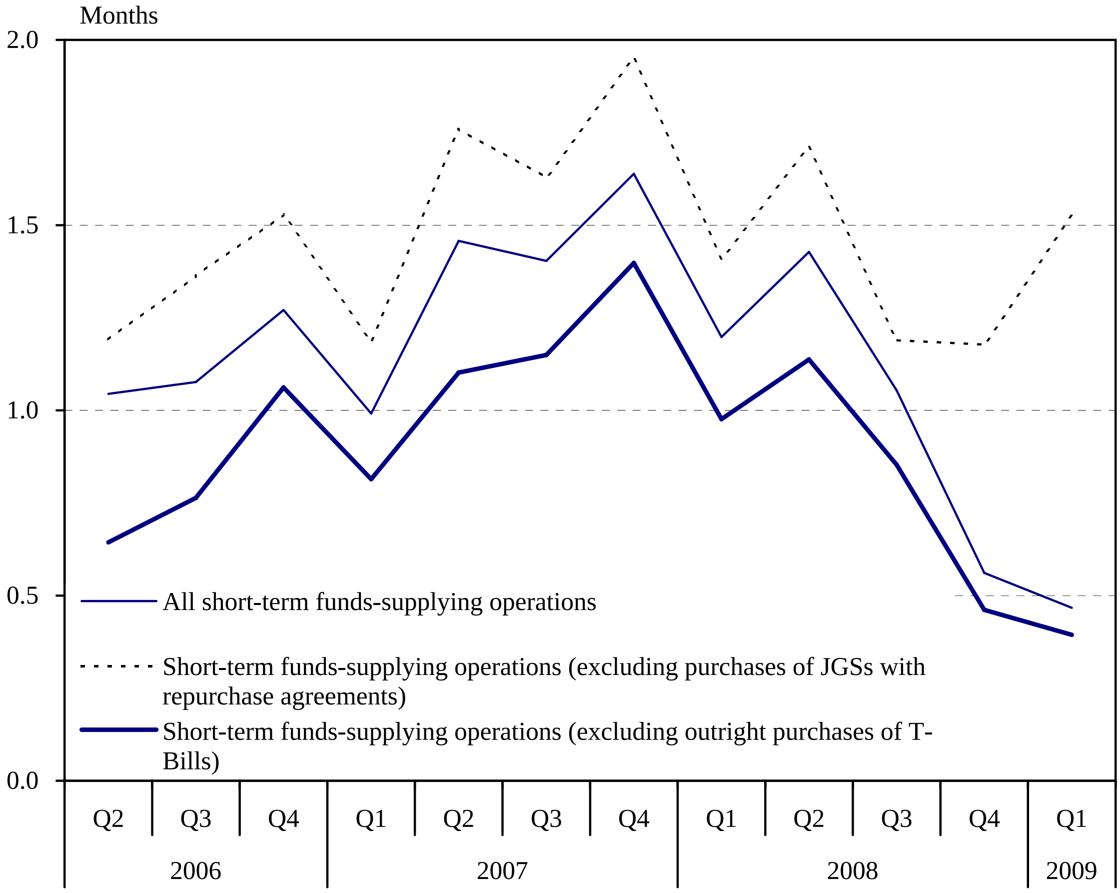
(2) Institutions not Subject to the Reserve Requirement System



Notes:
1. Average amount outstanding for each reserve maintenance period.
2. Figures for the March 2009 reserve maintenance period are provisional.

Source: Bank of Japan, "Current Account Balances by Sector"

[Chart 16] Average Length of Short-Term Funds-Supplying Operations



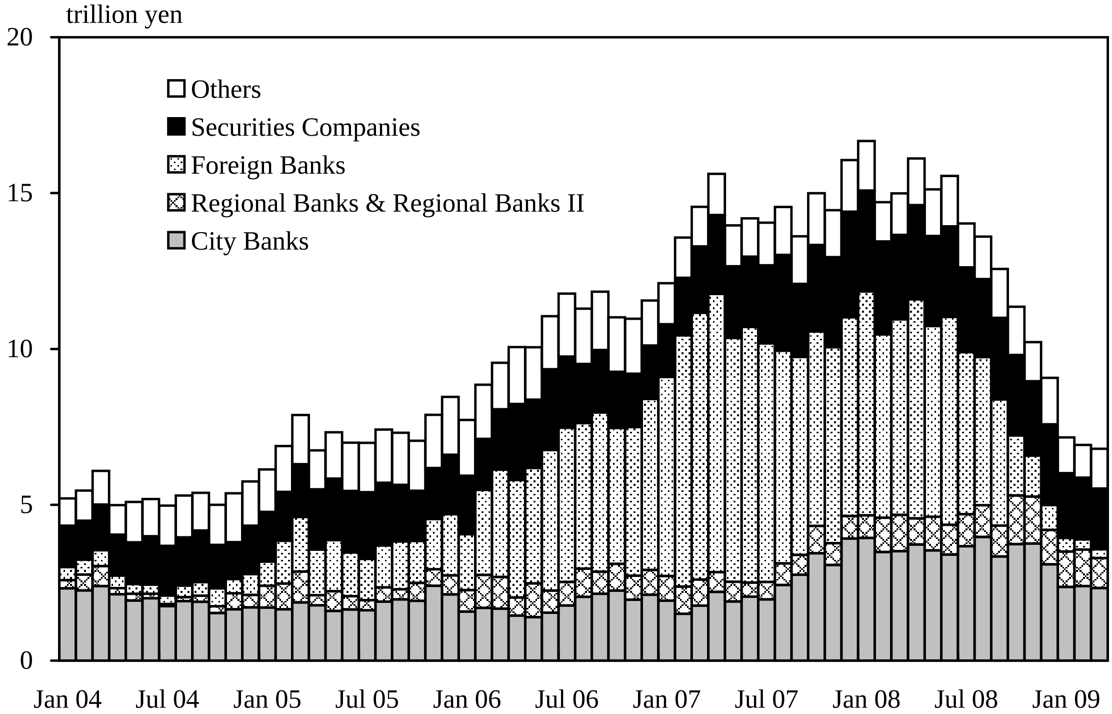
Notes:

1. "All short-term funds-supplying operations" is the weighted average of [1] the length of funds-supplying operations against pooled collateral, outright purchases of bills, purchases of CP with repurchase agreements, and special funds-supplying operations to facilitate corporate financing (including operations on a same-day basis), [2] the residual maturity of T-Bills purchased in outright purchases of T-Bills, and [3] the length of purchases of JGSs with repurchase agreements, weighted by the allotment amount. Outright purchases of CP and outright purchases of corporate bonds are not included.
2. "Short-term funds-supplying operations (excluding purchases of JGSs with repurchase agreements)" is the weighted average of [1] and [2] above, weighted by the allotment amount.
3. "Short-term funds-supplying operations (excluding outright purchases of T-Bills)" is the weighted average of [1] and [3] above, weighted by the allotment amount.

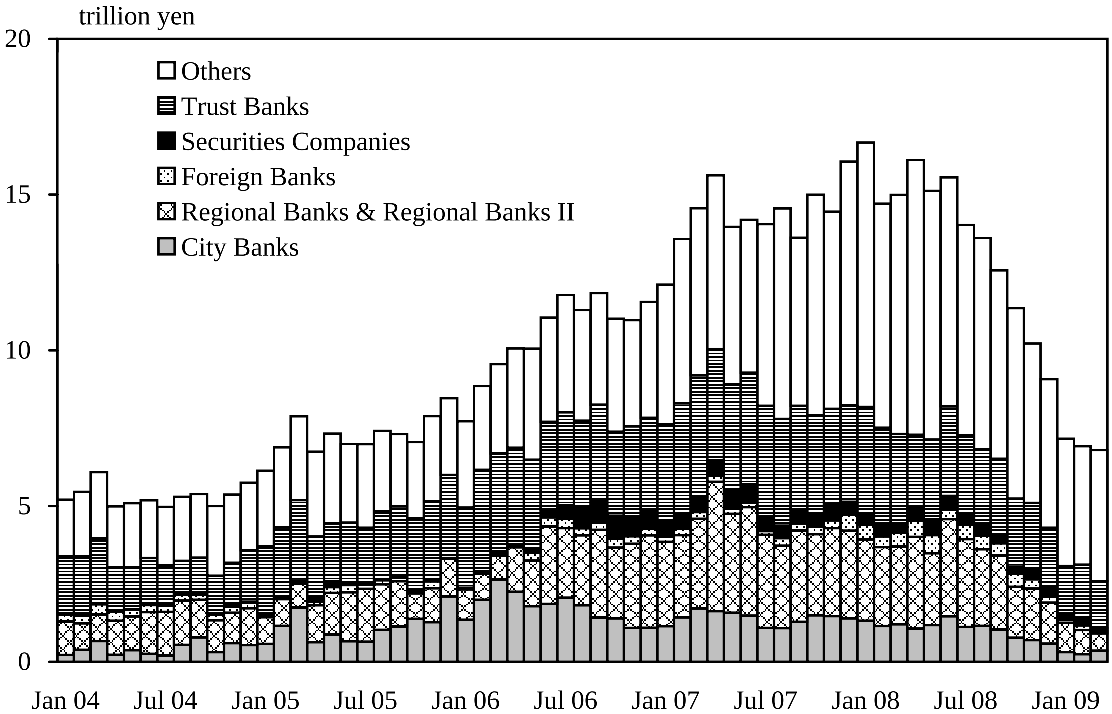
Source: Bank of Japan

[Chart 17] Amounts Outstanding in the Uncollateralized Call Market: By Sector of Participants

By Borrower



By Lender

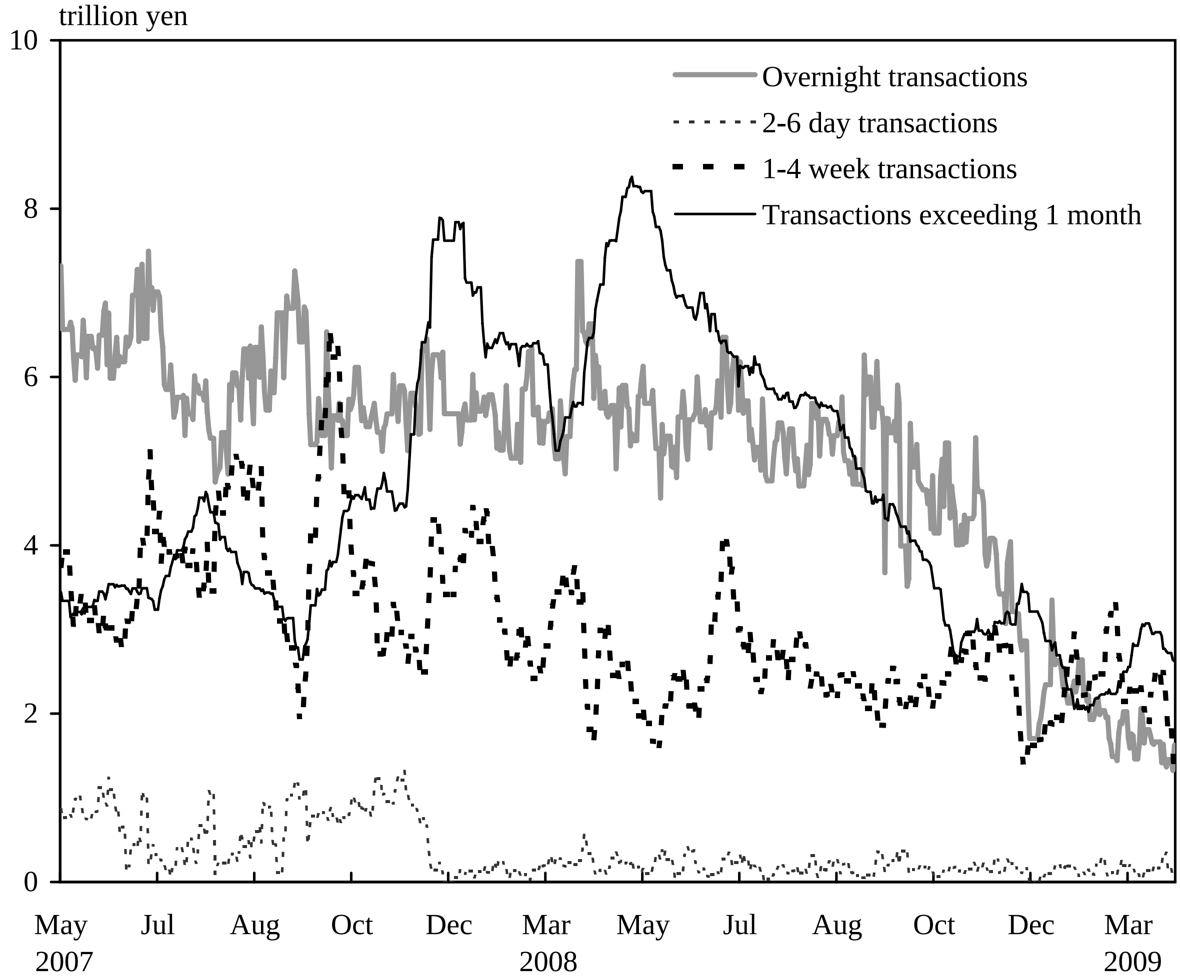


Notes:

1. Transactions intermediated by *tanshi* (average balance).
2. "City banks" includes city banks, *Shinsei Bank*, and *Aozora Bank*. "Securities companies" includes financial transactions businesses (excluding businesses categorized as "Others") and securities finance companies.

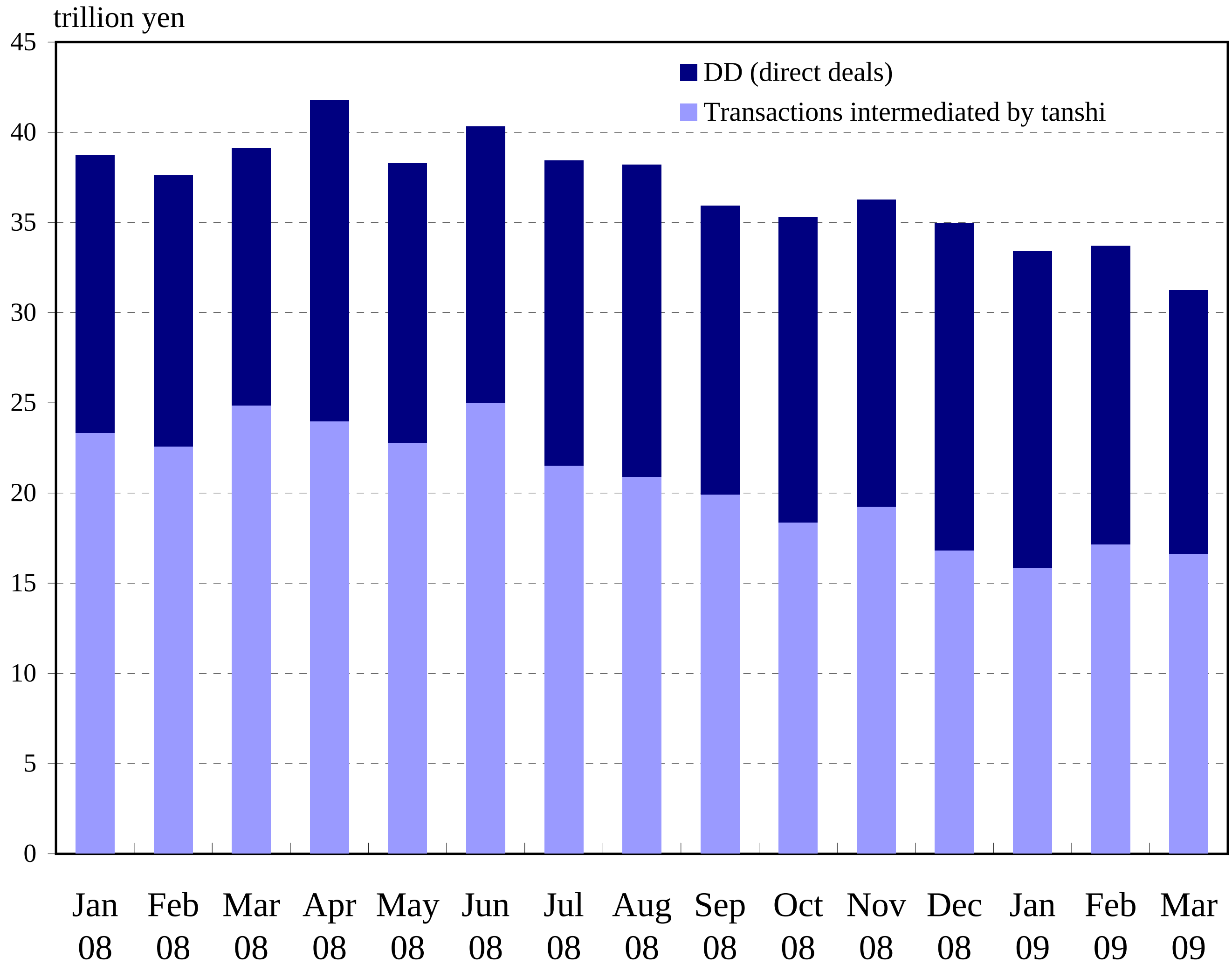
Source: Bank of Japan

[Chart 18] Amounts Outstanding in the Call Market: By Term



Source: Bank of Japan

[Chart 19] Outstanding Balances of Call Transactions
(DD and intermediated by *tanshi*)



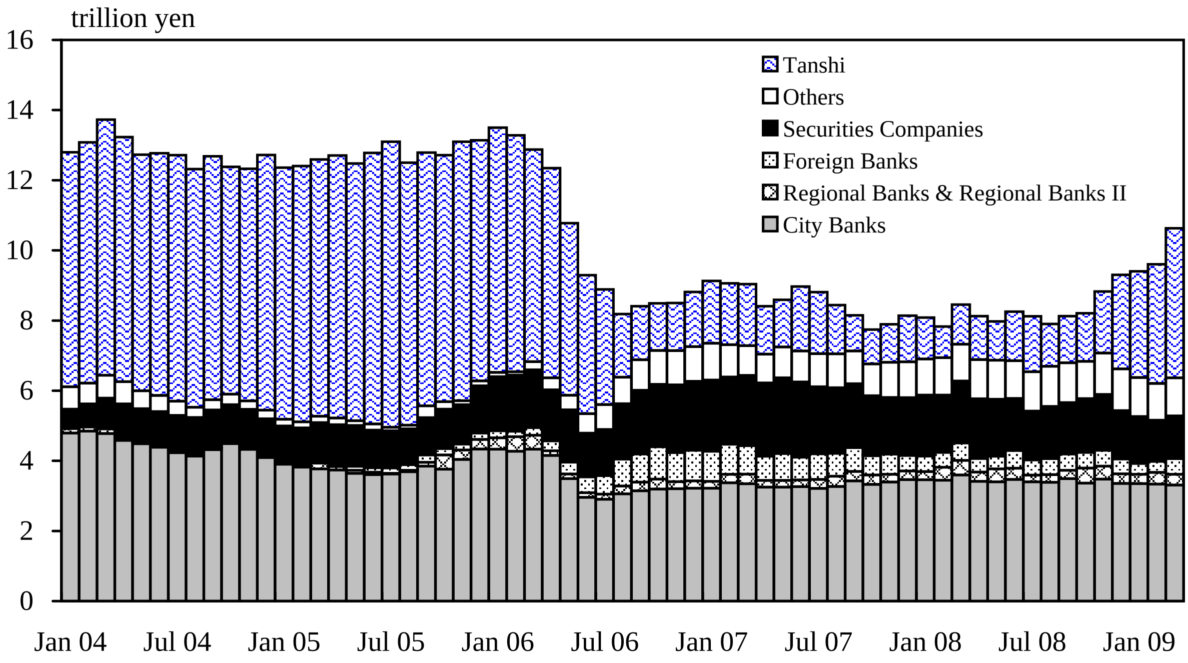
Notes:

1. Outstanding balance at the end of month.
2. Direct deals (DD) call transactions is computed by subtracting the transactions intermediated by *tanshi* from the total outstanding balance of call money for domestic banks (city banks, trust banks, regional banks, regional banks II) and branches of foreign banks in Japan.

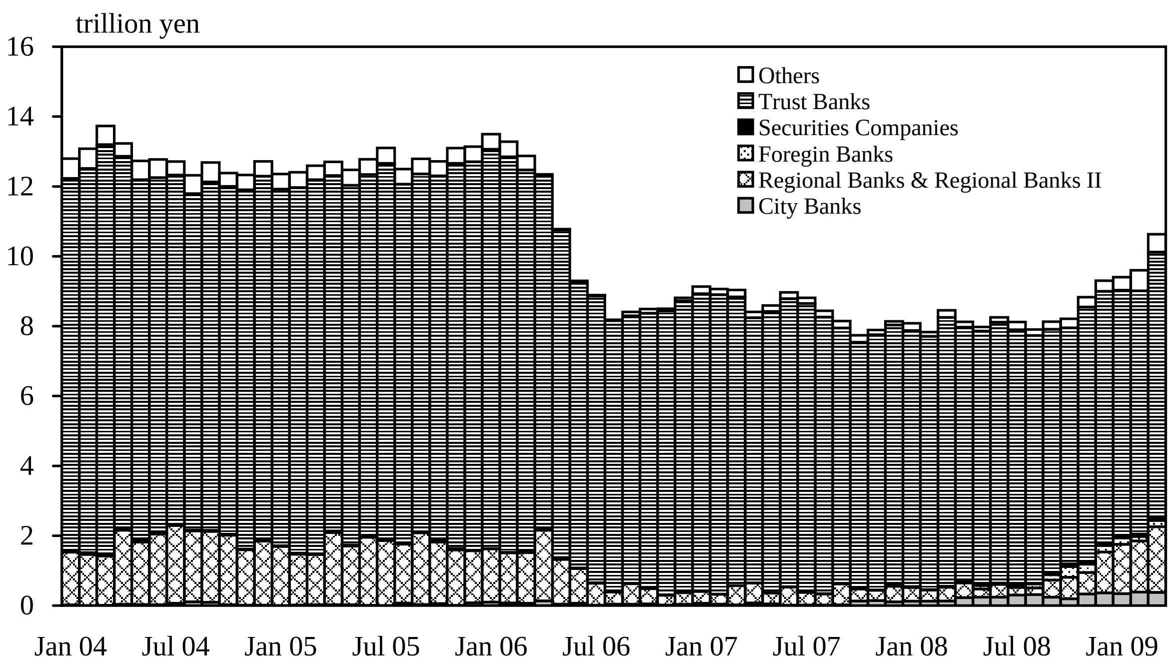
Source: Bank of Japan

[Chart 20] Amounts Outstanding in the Collateralized Call Market: By Sector of Participants

By Borrower



By Lender



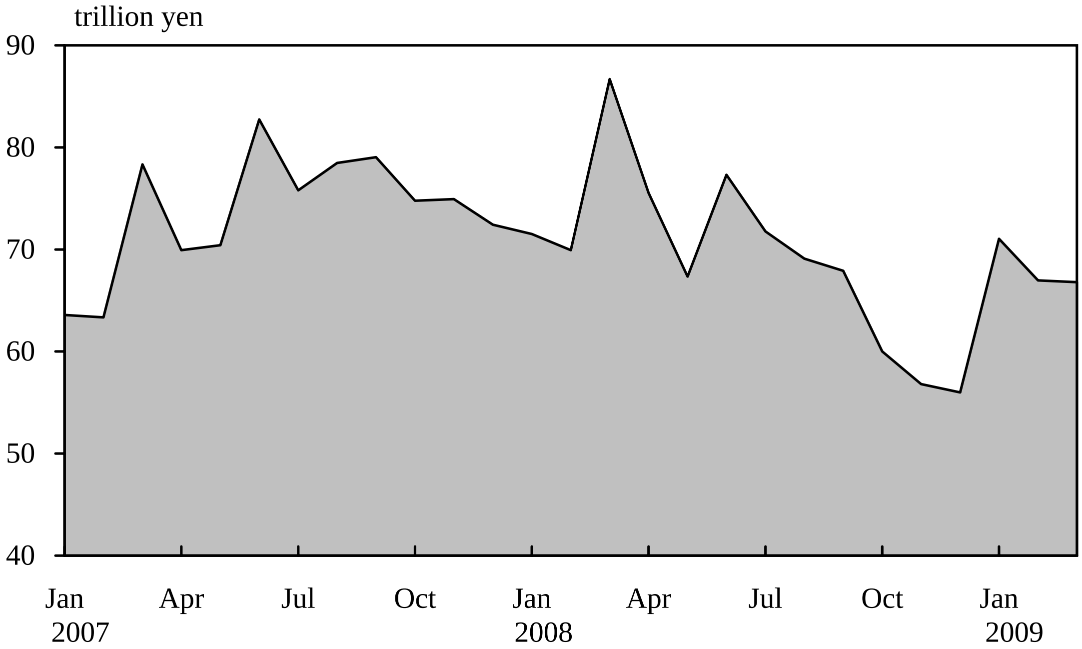
Notes:

1. Transactions intermediated by *tanshi* (average balance).
2. "City banks" includes city banks, *Shinsei Bank*, and *Aozora Bank*. "Securities companies" includes financial transactions businesses (excluding businesses categorized as "Others") and securities finance companies.

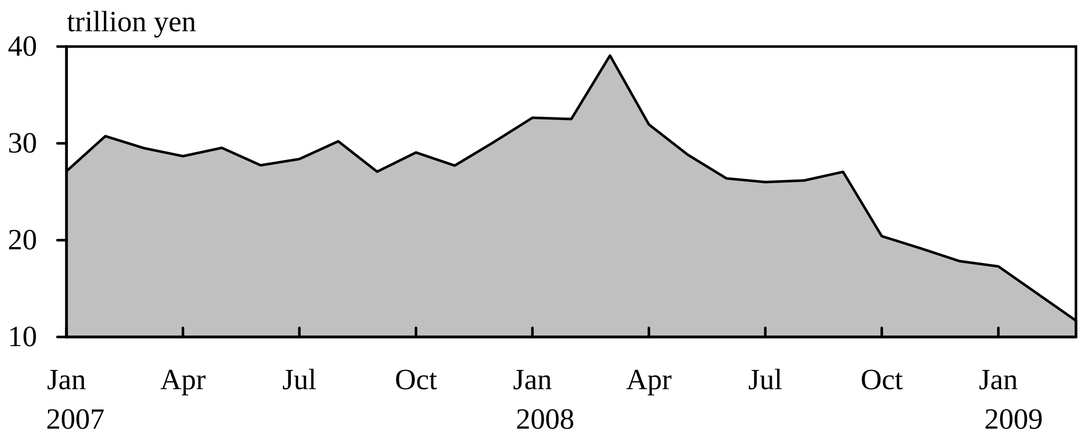
Source: Bank of Japan

[Chart 21] Outstanding Balances in Repo Market

(1) Outstanding balances of securities lending with cash collateral
(fund raising, securities lending)



(2) Outstanding balances of securities sales with repurchase agreements
(fund raising, securities selling)



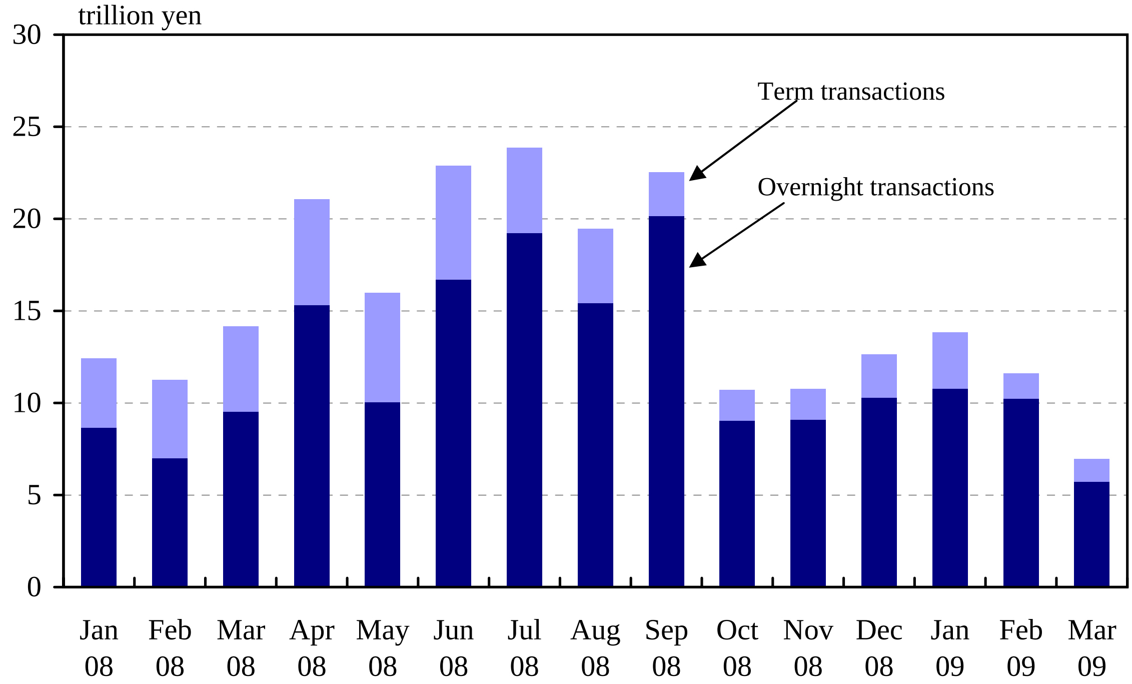
Notes:

1. There is no continuity in outstanding balances of securities lending with cash collateral between 2008 and 2009.
2. Selling transactions with repurchase agreements conducted by the Bank, government, local public organizations, and government agencies (Government) are excluded. Purchasing transactions with repurchase agreements with the Bank and Government are deducted .
3. Broadly defined, repo transactions consist of securities lending with cash collateral and securities sales with repurchase agreements. The total outstanding balances of the two types of transactions are given here. However, GC and SC are not differentiated.
   According to a survey of counterparties conducted by the Bank, outstanding balances of GC and SC as of the end of July 2008 amounted to 55.3 trillion yen and 53.4 trillion yen, respectively.

Source: Japan Securities Dealers Association

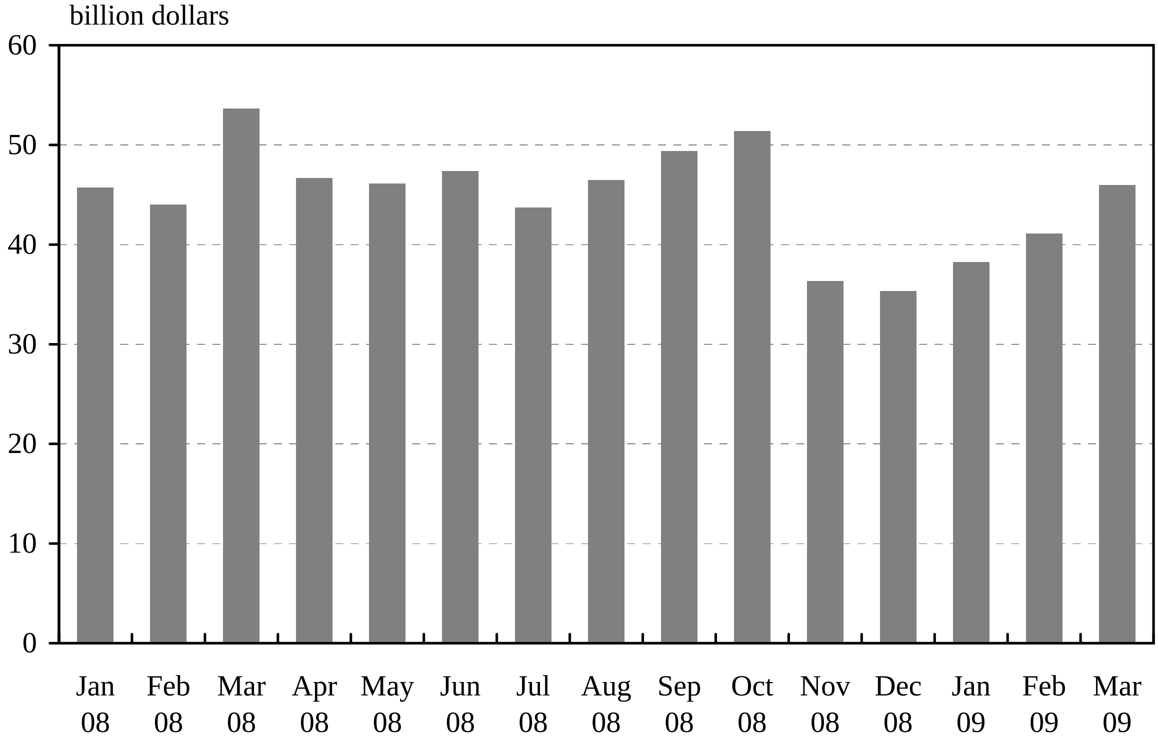
[Chart 22] Amounts of Euro-Yen and Foreign Exchange Swap Transactions

Euro-Yen Transaction Amounts (Tokyo Offshore Market)



Note: Cumulative monthly transactions related to "Offshore Accounts"
Source: Bank of Japan

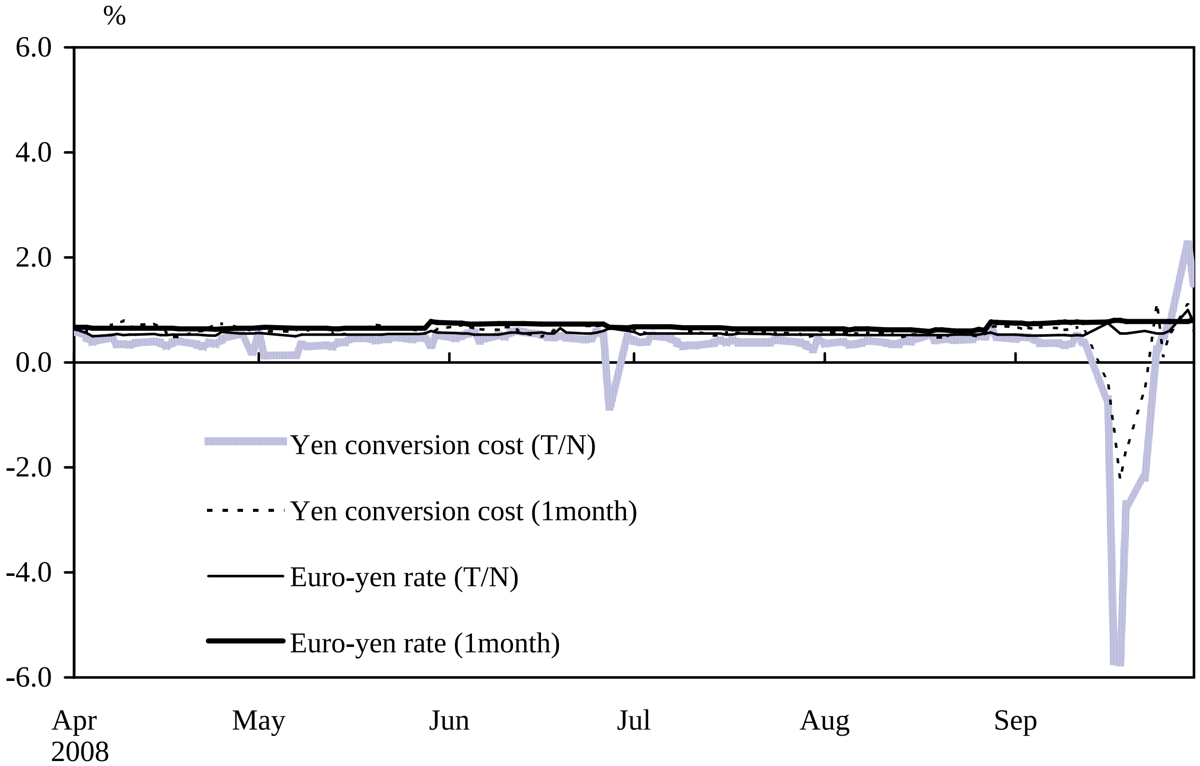
Foreign Exchange Swap Transaction Amounts
(USD/JPY transactions, average per business day)



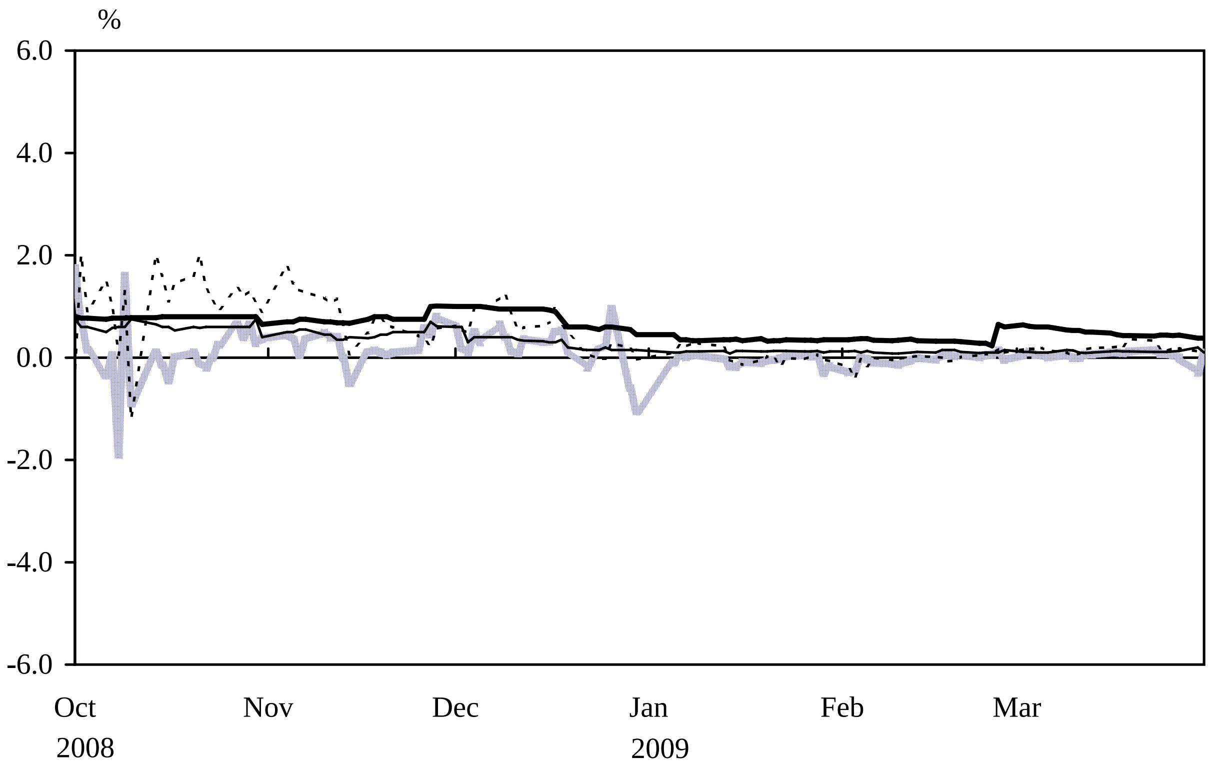
Source: Monery Brokers Association

[Chart 23] Yen Conversion Costs and Euro-Yen Rate

(1) April 1, 2008 - September 30, 2008



(2) Octorber 1, 2008 - March 31, 2009



Source: QUICK, Meitan Tradition, Bank of Japan

[Chart 24] Amounts Outstanding of Money Market Operations

trillion yen, ten billion U.S. dollars

	Mar 2008	Jun 2008	Sep 2008	Dec 2008	Mar 2009
Net amounts outstanding of short-term funds-supplying operations	45.8	35.9	44.4	48.5	55.3
Short-term funds-supplying operations	46.4	35.9	44.5	48.5	55.3
Purchases of JGSs with repurchase agreements	8.5	5.0	8.4	9.8	9.0
Funds-supplying operations against pooled collateral	29.1	21.6	25.7	25.5	25.2
At the Head Office	22.1	15.2	17.8	12.0	14.0
At all offices	7.0	6.4	7.9	13.5	11.2
Purchases of CP with repurchase agreements	0.3	0.3	0.3	4.3	3.0
Outright purchases of T-Bills	8.5	9.0	10.1	8.8	9.0
Special funds-supplying operations to facilitate corporate financing	-	-	-	-	7.5
Outright purchases of CP	-	-	-	-	1.6
Outright purchases of corporate bonds	-	-	-	-	0.04
Short-term funds-absorbing operations	0.6	0.0	0.1	0.0	0.0
Outright sales of bills	0.6	0.0	0.1	0.0	0.0
Sales of JGSs with repurchase agreements	0.0	0.0	0.0	0.0	0.0
Outright sales of T-Bills	0.0	0.0	0.0	0.0	0.0
Outright purchases of long-term JGBs	46.9	43.9	42.3	41.3	42.7
U.S. dollar funds-supplying operations	-	-	3.0	12.3	6.1

Notes: 1. "Outright purchases of long-term JGBs" is the total amount of outright purchases of JGBs and JGSs rolled over and underwritten by the Bank at maturity.
2. Outstanding balances at the end of month.

Source: Bank of Japan

[Chart25] The Bank of Japan's Balance Sheet and Money Market Operations

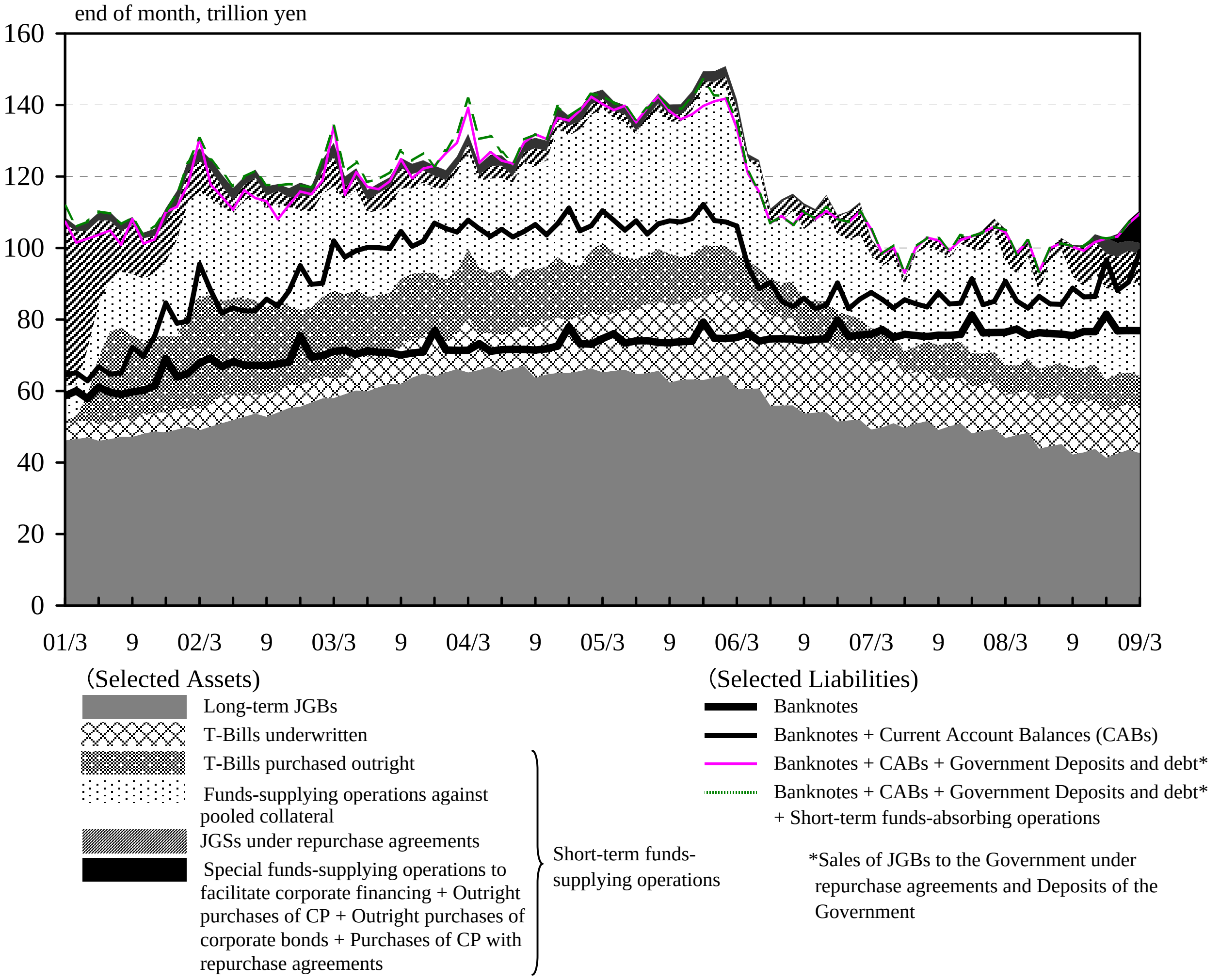
(1) The Bank's Balance Sheet (End-March 2009)

trillion yen

Assets		Liabilities and Net Assets	
Short-term funds-supplying operations	55.3	Short-term funds-absorbing operations	0.03
T-Bills underwritten by the Bank	12.6	Government deposits and others	10.5
Long-term JGBs	42.7	Current account balances	22.1
		Banknotes	76.9
Total Assets	123.9	Total Liabilities and Net Assets	123.9

Notes: 1. Selected items only
2. Short-term funds-supplying operations is the sum of "Funds-supplying operations against pooled collateral", "Purchases of JGSs with repurchase agreements", "Outright purchases of T-Bills", "Purchases of CP with repurchase agreements", "Special funds-supplying operations to facilitate corporate financing", "Outright purchases of CP", and "Outright purchases of corporate bonds"
3. T-Bills underwritten by the Bank includes "T-Bills underwritten by the Bank to supply yen funding to foreign central banks and other overseas account holders", and "T-Bills underwritten by the Bank to roll over JGBs and T-Bills"
4. Short-term funds-absorbing operations is "Securities lending as a secondary source of JGSs".
5. Government deposits and others is the sum of "Sales of JGBs to the Government under repurchase agreements" and "Deposits of the Government".

(2) Development of the Bank's Balance Sheet (from March 2001 to March 2009)



Notes: 1. Funds-Supplying Operations against Pooled Collateral includes "Outright Purchases of Bills","Outright Purchases of Bills Collateralized by Corporate Debt Obligations", Purchases of JGSs under Repurchase Agreements includes "Borrowing of JGBs against Cash Collateral (JGB repos)","Purchases of T-Bills under Repurchase Agreements", Outright purchases of CP includes "Purchases of Asset-backed Securities".
2. Short-term funds-absorbing operations includes "Outright sales of T-Bills", "Sales of T-Bills under Repurchase Agreements", "Sales of JGSs under Repurchase Agreements", "Outright Sales of Bills Drawn by the Bank of Japan", and "Securities Lending as a Secondary Source of JGSs"

[Chart 26] Amounts of Pooled Collateral Accepted by the Bank

trillion yen

Type of collateral	End-Mar 2008 Collateral value	End-Mar 2008 Share in total	End-Mar 2009 Collateral value	End-Mar 2009 Share in total
Total	79.9	100.0%	107.3	100.0%
JGSs	52.0	65.0%	70.2	65.4%
Interest-bearing JGBs [1]	37.8	47.3%	49.9	46.5%
Treasury discount bills	14.2	17.7%	20.3	18.9%
Corporate bonds	0.7	0.9%	1.5	1.4%
Other bonds	7.0	8.7%	9.3	8.6%
Short-term corporate bonds	2.5	3.1%	2.8	2.6%
Bills	0.2	0.2%	1.6	1.5%
CP	0.0	0.0%	0.5	0.5%
Loans on deeds	20.1	25.2%	24.8	23.1%
To Corporations	0.3	0.4%	4.4	4.1%
To Local allocation taxes special account, etc. [2]	19.8	24.8%	20.4	19.0%
Of which, private liabilities	3.7	4.6%	10.3	9.6%

Notes: 1. Consists of interest-bearing bonds, discount bonds, converted bonds and STRIPS.
2. Consists of Loans to Local Allocation Tax and Grant Tax Special Account, and assets of Deposit Insurance Corporation of Japan and Bank's Shareholdings Purchase Corporation.

Source: Bank of Japan

Reference 1: Loans to Companies Accepted by the Bank

100 million yen

	End-Mar 2008	End-Mar 2009
Asset-backed securities	0	426
Asset-backed commercial paper	177	5,141
(of which, accepted by the Bank as a temporary measure)	-	(15)
Corporate bonds accepted by the Bank as a temporary measure	-	737
Loans on deeds to companies accepted by the Bank as a temporary measure	-	3,195
Bonds issued by real estate investment corporations	-	37
Commercial paper issued by real estate investment corporations	-	0
Loans on deeds to real estate investment corporations	-	0
Government-guaranteed commercial paper	-	0

Reference 2 : Asset purchased under repurchase agreements by the Bank

100 million yen

	End-Mar 2008	End-Mar 2009
Government securities purchased by the Bank under repurchase agreements	84,601	89,649
Commercial paper purchased by the Bank under repurchase agreements	3,080	29,879

	End-Mar 2008	End-Mar 2009
Asset-backed commercial paper	28	5,999
(of which, purchased by the Bank as a temporary measure)	-	(5,477)
Commercial paper issued by real estate investment corporations	-	0
Government-guranteed commercial paper	-	520