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**Money Market Operations in Fiscal 2014**

**Financial Markets Department**

**Bank of Japan**

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Financial Markets Department, Bank of Japan

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## **I. Introduction**

During fiscal 2014 (April 1, 2014 to March 31, 2015), following on from the previous fiscal year, the Bank of Japan pursued extremely powerful monetary easing under quantitative and qualitative monetary easing (QQE) and significantly increased the amount outstanding of the monetary base through purchases of a wide range of assets, including large-scale purchases of Japanese government bonds (JGBs).

In the period through October 2014, the Bank conducted its money market operations so that the monetary base would increase at an annual pace of about 60-70 trillion yen through purchases of a wide range of assets, including purchases of JGBs, treasury discount bills (T-Bills), CP, corporate bonds, exchange-traded funds (ETFs), and Japan real estate investment trusts (J-REITs). This was in accordance with the guideline for money market operations under QQE introduced in April 2013.

At the Monetary Policy Meeting (MPM) held on October 31, 2014, the Bank decided on the expansion of QQE. Specifically, the annual pace of increase in the monetary base was accelerated from about 60-70 trillion yen to about 80 trillion yen, and the pace of increase in the Bank's JGB holdings was expanded from about 50 trillion yen per year to about 80 trillion yen per year. In addition, the average remaining maturity of the Bank's JGB purchases was extended from about 7 years to about 7-10 years. Furthermore, a decision was made to triple the annual paces of increase in the amount outstanding of its holdings of ETFs and J-REITs to about 3 trillion yen and 90 billion yen, respectively. The Bank has since purchased assets at an increasingly high pace in accordance with this new guideline for money market operations.

As a result of these money market operations, the monetary base at the end of 2014 stood at 275.9 trillion yen, an increase of 74.0 trillion yen from the same time a year earlier.

Furthermore, the Bank's operations continued to steadily increase the monetary base, which reached 295.9 trillion yen at the end of March 2015, up 76.0 trillion yen from a year earlier. The amount outstanding of JGBs held by the Bank reached 201.8 trillion yen at the end of

2014, up 60.2 trillion yen from a year earlier, and 220.1 trillion yen at the end of March 2015, up 66.0 trillion yen from a year earlier.

The composition of this paper is as follows. Chapter 2 gives an outline of the conduct of money market operations by the Bank during fiscal 2014. Chapter 3 covers developments in domestic money and bond markets under the conduct of these money market operations. Chapter 4 describes the conduct of the measures in money market operations. Chapter 5 discusses systemic changes related to money market operations. Finally, Chapter 6 explains actions to enhance dialogue with market participants.

## **II. Outline of the Conduct of Money Market Operations by the Bank during Fiscal 2014**

### **A. Conduct of Money Market Operations**

#### **1. Monetary Policy Decisions and Guideline for Money Market Operations: Expansion of QQE**

From the start of fiscal 2014 until the decision to expand QQE was made at the MPM held on October 31, 2014, the Bank continued with the guidelines for money market operations decided when it introduced QQE on April 4, 2013. This guideline stipulated that the Bank would (1) conduct money market operations so that the monetary base increased at an annual pace of about 60-70 trillion yen, (2) purchase JGBs so that their amount outstanding increased at an annual pace of about 50 trillion yen and that the average remaining maturity of purchases would be about 7 years, and (3) purchase ETFs and J-REITs so that their amount outstanding increased at an annual pace of about 1 trillion yen and 30 billion yen, respectively.

At the MPM held on October 31, 2014, the Bank decided on the expansion of QQE as follows.

(1) Accelerating the pace of increase in the monetary base

The Bank will conduct money market operations so that the monetary base increases at an annual pace of about 80 trillion yen (an addition of about 10-20 trillion yen compared with

the past).

(2) Increasing asset purchases and extending the average remaining maturity of JGB purchases

(a) The Bank will purchase JGBs so that their amount outstanding increases at an annual pace of about 80 trillion yen (an addition of about 30 trillion yen compared with the past). With a view to encouraging a decline in interest rates across the entire yield curve, the Bank will conduct purchases in a flexible manner in accordance with financial market conditions. The average remaining maturity of the Bank's JGB purchases will be extended to about 7-10 years (an extension of about 3 years at maximum compared with the past).

(b) The Bank will purchase ETFs and J-REITs so that their amounts outstanding increase at an annual pace of about 3 trillion yen (tripled compared with the past) and about 90 billion yen (tripled compared with the past), respectively. The Bank will make ETFs that track the JPX-Nikkei Index 400 eligible for purchase.<sup>(Note)</sup>

(Note) As for CP and corporate bonds, the Bank will maintain their amounts outstanding at about 2.2 trillion yen and about 3.2 trillion yen, respectively (as in the past).

In subsequent MPMs held in fiscal 2014, the Bank decided to continue with the above guideline for money market operations.

Furthermore, at the MPM held on January 20 and 21, 2015, the Bank decided to enhance the Fund-Provisioning Measure to Stimulate Bank Lending (hereafter the "Stimulating Bank Lending Facility") and the Fund-Provisioning Measure to Support Strengthening the Foundations for Economic Growth (hereafter the "Growth-Supporting Funding Facility"), and to extend these facilities by 1 year, along with both the Funds-Supplying Operation to Support Financial Institutions in Disaster Areas affected by the Great East Japan Earthquake, and the Temporary Rules regarding the Eligibility Standards for Debt of Companies in Disaster Areas. Specifically, with regard to the main rules for the Growth-Supporting Funding Facility, the Bank increased the maximum amount of funds that it could provide to each financial institution from 1 trillion yen to 2 trillion yen, and also increased the maximum amount outstanding of its fund-provisioning as a whole from 7

trillion yen to 10 trillion yen. Moreover, as for the Stimulating Bank Lending Facility and the Growth-Supporting Funding Facility, the Bank introduced a new framework for enabling financial institutions, which do not have a current account at the Bank, to use these facilities through their central organizations.

## **2. Conduct of Money Market Operations**

Based on the above decisions, the Bank conducted money market operations as described below during fiscal 2014.

First, outright purchases of JGBs were in principle conducted at a pace of approximately 8-10 times per month, with purchases made at a pace of around 6-8 trillion yen per month through October 2014, and at a pace of 8-12 trillion yen per month after the expansion of QQE on October 31.

In addition, during fiscal 2014 the Bank offered outright purchases of T-Bills once a week in principle and purchased roughly around 1-3 trillion yen of T-Bills per operation. Outright purchases of CP, corporate bonds, and other financial assets were also carried out based on the guideline for asset purchase set under the QQE.

In principle, the Bank continued to offer the fixed-rate funds-supplying operations against pooled collateral with a 3-month term, while considering market participants' incentive to bid. Nonetheless, reflecting the Bank's provision of ample funds to financial markets through the large-scale purchases of a wide range of assets conducted concurrently under QQE, perceptions of abundant liquidity remained extremely strong in the money markets, and the demand for these operations was generally sluggish.

Based on the U.S. dollar liquidity swap arrangements with the Federal Reserve, in principle the Bank offered 1-week U.S. dollar funds-supplying operations once a week. Under the stable dollar funding market, much of the use of these operations was for maintaining administrative expertise.

Regarding the Growth-Supporting Funding Facility and the Stimulating Bank Lending Facility, offers were made once every 3 months for each. The funds-supplying operation to support financial institutions in disaster areas was conducted once a month.

## **B. The Bank's Balance Sheet**

Under the conduct of the aforementioned money market operations, the monetary base and the Bank's balance sheet expanded significantly. Specifically, at the end of 2014 the monetary base stood at 275.9 trillion yen, and the size of the Bank's balance sheet amounted to 300.2 trillion yen, up 74.0 trillion yen and 76.0 trillion yen, respectively, from the end of 2013. The monetary base and the size of the Bank's balance sheet continued to expand, reaching 295.9 trillion yen and 323.6 trillion yen, respectively, at the end of March 2015. These figures represented increases of 76.0 trillion yen and 82.0 trillion yen, respectively, from the end of March 2014.

On the asset side, as a result of the Bank's purchases of JGBs, ETFs, and J-REITs under QQE, the amounts outstanding of these assets increased steadily and at the end of 2014 were roughly consistent with the Bank's balance-sheet projection for the end of 2014 that was released when QQE was expanded at the end of October 2014 (Chart 2-1).

The amounts outstanding of major assets at the end of March 2015 showed that they had all increased from their year-earlier levels, with JGBs amounting to 220.1 trillion yen (up 66.0 trillion yen year on year), T-Bills purchased amounting to 37.9 trillion yen (up 6.3 trillion yen year on year), ETFs amounting to 4.5 trillion yen (up 1.6 trillion yen year on year), and J-REITs amounting to 0.21 trillion yen (up 0.06 trillion yen year on year). In addition, the Loan Support Program (excluding the special rules for the U.S. dollar lending arrangement for the Growth-Supporting Funding Facility) increased by 15.2 trillion yen from a year-earlier level to 27.0 trillion yen.

Meanwhile, the amount outstanding of the fixed-rate funds-supplying operations against pooled collateral decreased by 7.4 trillion yen from the end of March 2014 to 6.8 trillion



yen at the end of March 2015, reflecting extremely strong perceptions of abundant liquidity in the money markets.

**Chart 2-1: The Bank's Balance Sheet**

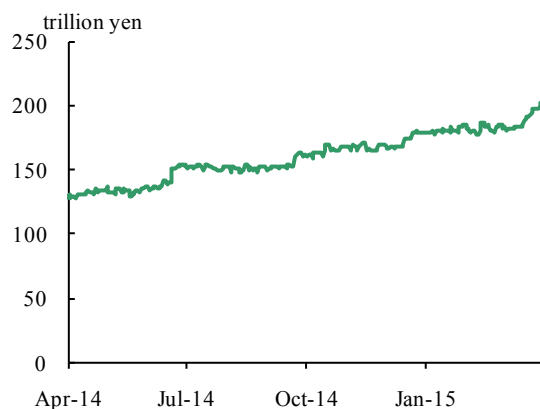
	End-Mar. 2013 (actual)	End-Dec. 2013 (actual)	End-Mar. 2014 (actual)	End-Dec. 2014		End-Mar. 2015 (actual)	The pace of annual increase (released on Oct. 31, 2014)
				Projection as of Oct. 31, 2014	Actual		
				Monetary base	146.0		

Breakdown of the Bank's balance sheet

	End-Mar. 2013 (actual)	End-Dec. 2013 (actual)	End-Mar. 2014 (actual)	Projection as of Oct. 31, 2014	Actual	End-Mar. 2015 (actual)	
JGBs	91.3	141.6	154.2	200	201.8	220.1	About 80 trillion
CP	1.2	2.2	1.9	2.2	2.2	2.0	Maintain the outstanding balance
Corporate bonds	2.9	3.2	3.2	3.2	3.2	3.2	Maintain the outstanding balance
ETFs	1.5	2.5	2.9	3.8	3.8	4.5	About 3 trillion
J-REITs	0.12	0.14	0.15	0.18	0.18	0.21	About 90 billion
Loan Support Program	3.4	8.4	11.8	—	23.4	27.0	—
Outright purchases of T-Bills	16.4	24.2	31.6	—	38.4	37.9	—
Funds-supplying operations against pooled collateral	21.7	18.1	14.1	—	8.0	6.8	—
Total assets (including others)	164.8	224.2	241.6	297	300.2	323.6	—
Banknotes	83.4	90.1	86.6	93	93.1	89.7	—
Current account balances	58.1	107.1	128.7	177	178.1	201.6	—
Total liabilities and net assets (including others)	164.8	224.2	241.6	297	300.2	323.6	—

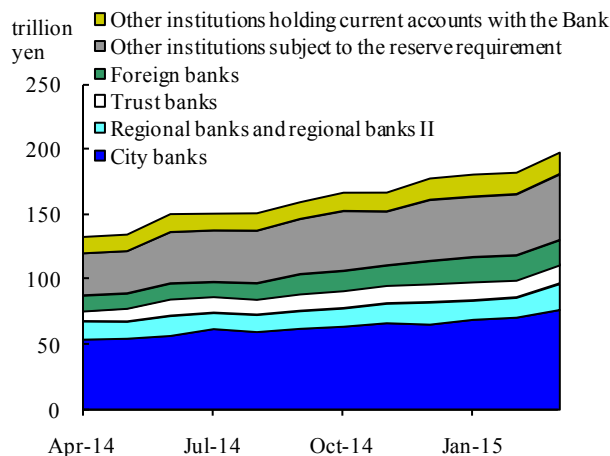
On the liability side, the current account balances at the Bank increased to 178.1 trillion yen at the end of 2014, roughly consistent with the projection, reflecting the increase in the Bank's provision of funds through, for example, purchases of various assets under QQE. The balances reached 201.6 trillion yen at the end of March 2015, up 72.9 trillion yen year on year (Chart 2-2). Looking at the current account balances at the Bank by sector, increases were seen in all sectors, but the increase was especially large for city banks as well as other institutions subject to the reserve requirement (Chart 2-3).

**Chart 2-2: Current Account Balances at the Bank**



Note: Based on daily data.

**Chart 2-3: Current Account Balances at the Bank by Sector**



Notes: 1. Average amount outstanding for each reserve maintenance period.  
 2. "Other institutions holding current accounts with the Bank" indicates those that are not subject to the reserve requirement but hold current accounts at the Bank.

**Box 1: Comparison of Monetary Policies and Balance Sheets of Major Central Banks**

In fiscal 2014, the Bank pursued powerful monetary easing through efforts such as the purchase of JGBs under QQE. The European Central Bank (ECB) also implemented monetary easing measures such as the public sector purchase programme (PSPP) for purchasing bonds including those issued by euro area central governments. Meanwhile, the Federal Reserve concluded purchases of government bonds and agency mortgage-backed securities (MBSs) through 3 rounds of large-scale asset purchases (LSAPs).

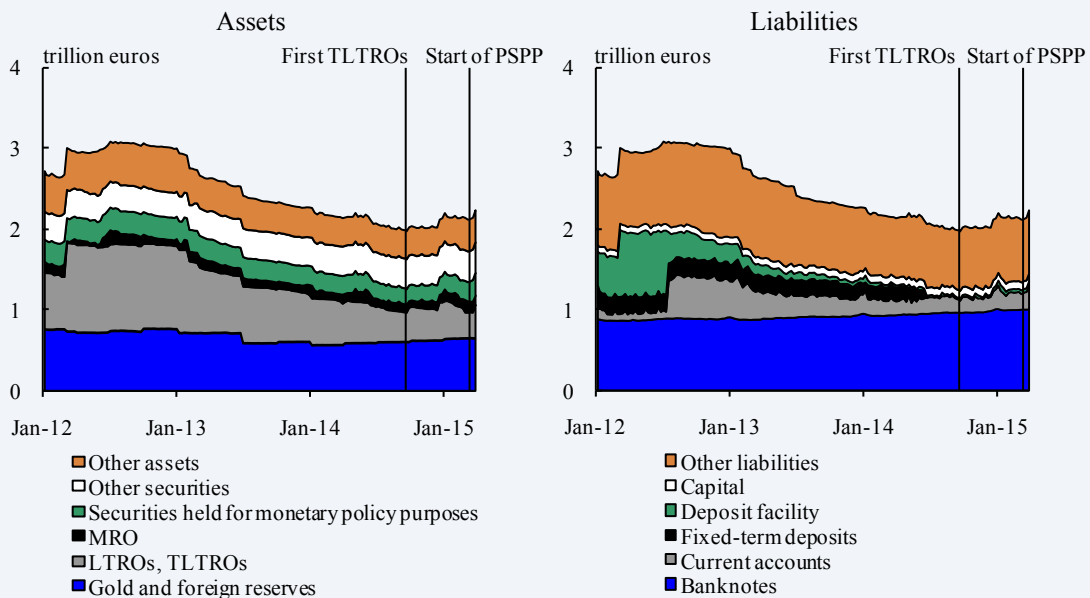
In June 2014, the ECB lowered the interest rate on the deposit facility from 0 percent to negative 0.1 percent, and introduced targeted longer-term refinancing operations (TLTROs) with the initial operation in September 2014, supplying funds at a fixed rate for up to 4 years based on the increase in lending, to promote lending by financial institutions.

In September of the same year, the ECB lowered the interest rate on the deposit facility to negative 0.2 percent. Later, in October, the asset-backed securities purchase programme (ABSPP), commenced in November 2014 and the covered bond purchase programme

(CBPP3), commenced in October 2014, were introduced to promote the expansion of credit in the euro area. Furthermore, the PSPP (commenced in March 2015) was introduced in January 2015 to purchase bonds including those issued by euro area central governments and certain agencies located in the euro area. Under this PSPP, combined with the ABSPP and CBPP3, the ECB decided to purchase assets totaling 60 billion euros per month.

Looking at the balance sheet of the ECB, the assets side, which was around 3 trillion euros in 2012, decreased to around 2 trillion euros in September 2014 primarily because of the reduction of the balance of longer-term refinancing operations (LTROs) supplying funds at a fixed rate for up to 3 years (Box Chart 1-1). Subsequently, the assets side began to follow an expanding trend again, reflecting the execution of TLTROs and purchases of assets through the ABSPP, CBPP3, and PSPP. Looking at the liabilities side, although they were decreasing until around September 2014 due to the decline in deposits reflecting the aforementioned reduction in the balance of LTROs, they turned to an increasing trend thereafter, reflecting the accumulation of deposits through various asset purchases.

**Box Chart 1-1: Assets and Liabilities of the ECB**

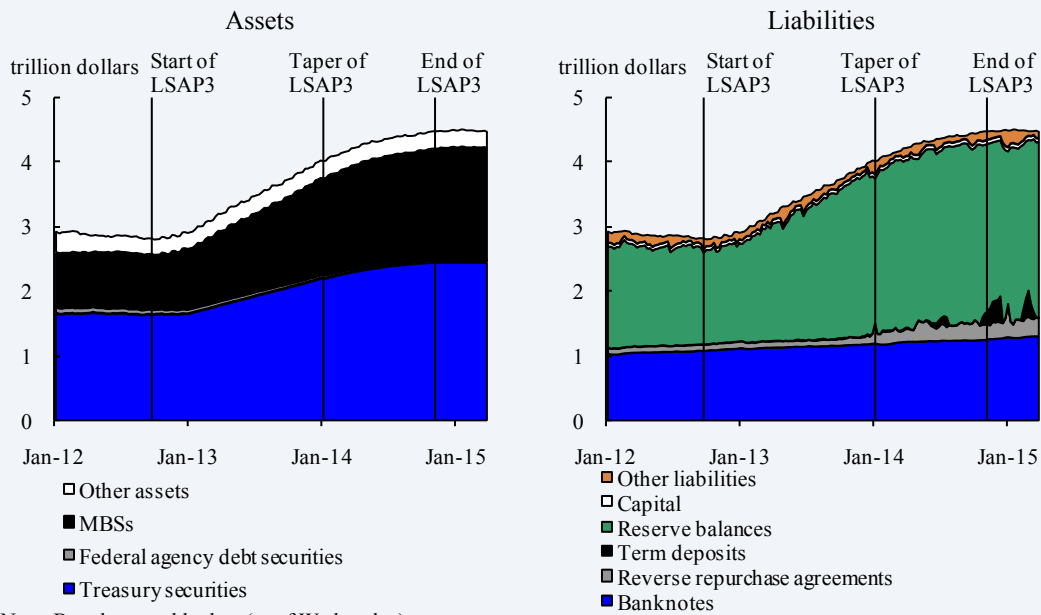


- Notes: 1. The consolidated assets and liabilities of the ECB and the national central banks in the euro area. Based on weekly data.  
 2. MRO, LTROs, and TLTROs denote the main refinancing operations, long-term refinancing operations, and targeted long term refinancing operations, respectively.

Meanwhile, the Federal Reserve gradually lowered the purchasing pace of agency MBSs (commenced in September 2012 at 40 billion U.S. dollars per month) and government bonds (commenced in January 2013 at 45 billion U.S. dollars per month) through LSAP3 from the beginning of 2014, and concluded new purchases in October 2014. At present, the funds redeemed from the purchased assets continue to be reinvested.

As for the size of the Federal Reserve's assets, the pace of expansion moderated after the beginning of 2014, and after concluding the new purchases of assets, the size generally remained unchanged (Box Chart 1-2). Looking at the liabilities side, while current account balances generally remained flat, funds shifted from current accounts to the Term Deposit Facility and reverse repurchase agreements, which were introduced on a trial basis as funds-absorbing operations.

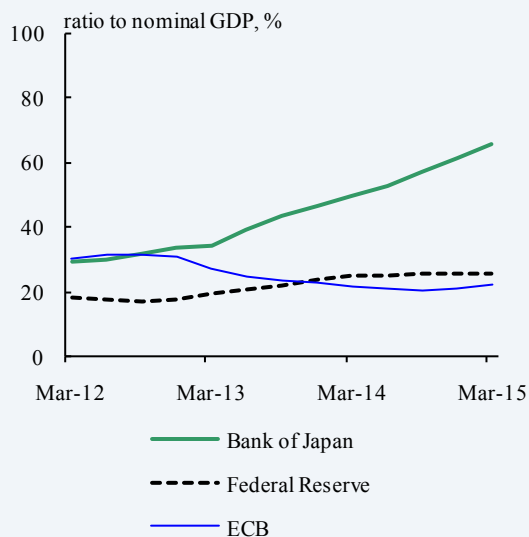
**Box Chart 1-2: Assets and Liabilities of the Federal Reserve**



Looking at the ratio of the central banks' balance sheets total to nominal GDP as of March 31, 2015, that for the Federal Reserve and the ECB was around 25 percent and 20 percent, respectively, while that for the Bank continued to be extremely high at around 65 percent (Box Chart 1-3).

The ECB announced that it would continue to purchase assets equivalent to 60 billion euros per month until at least September 2016. Assuming that the purchasing of assets continues at this pace, the size of the ECB's assets is expected to expand to around 30 percent of the nominal GDP in September 2016.

**Box Chart 1-3: Asset Sizes of Major Central Banks**



Notes: 1. Each asset size at the quarter-end is divided by the nominal GDP of the corresponding quarter.  
2. The first quarter of 2015 is calculated using the nominal GDP of the last quarter of 2014.

## C. Developments in Excess and Shortage of Funds

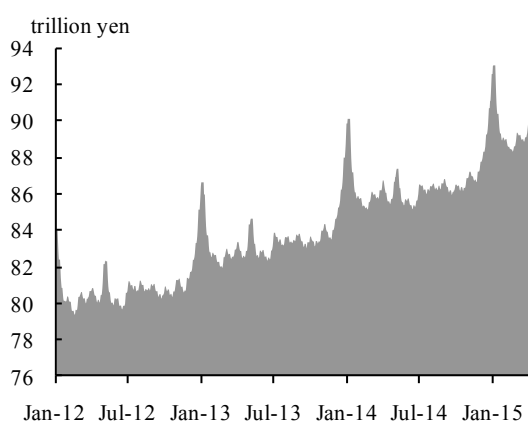
Developments in excess and shortage of funds showed that the shortage of funds amounted to 135.2 trillion yen, up from 111.6 trillion yen in fiscal 2013 (although the current account balances at the Bank followed an uptrend given the Bank's large-scale asset purchases, which more than offset such shortage of funds). This reflected a significant decrease in the redemption of Japanese government securities (JGSs) to private financial institutions due to the Bank's large-scale purchases of JGBs and T-Bills under QQE.

### 1. Changes in Banknotes

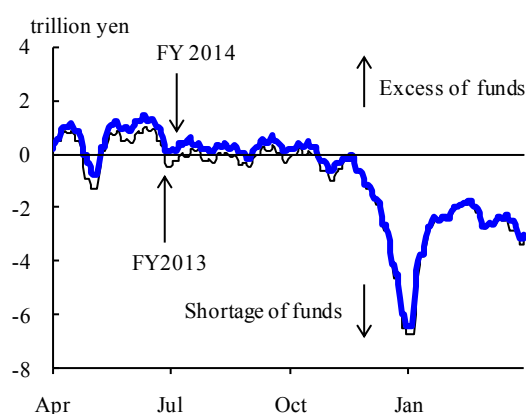
During fiscal 2014, the outstanding balance of banknotes remained on an uptrend, reaching 93.1 trillion yen (up 3.3 percent year on year) at the end of 2014 and 89.7 trillion yen (up 3.5 percent year on year) at the end of March 2015 (Chart 2-4). Reflecting this increase in banknote issuance, changes in banknotes in terms of the supply and demand conditions of funds continued to be sources of decrease in the current account balances at the Bank, or shortage of funds, as the amount of net issuance was 3.0 trillion yen, around the same level as that in fiscal 2013, which was 3.3 trillion yen.

The cumulative changes in banknotes from the start of fiscal 2014 showed that seasonal fluctuations in the amounts of issuance and redemption remained more or less unchanged from fiscal 2013. At the end of 2014, net issuance expanded to 6.5 trillion yen to meet the year-end demand for banknotes. After the turn of the year, as banknotes used in the market at the year-end were withdrawn from circulation, net issuance fell to 3.0 trillion yen at the end of March 2015 (Chart 2-5).

**Chart 2-4: Outstanding Balance of Banknotes**



**Chart 2-5: Cumulative Changes in Banknotes in terms of Excess and Shortage of Funds**

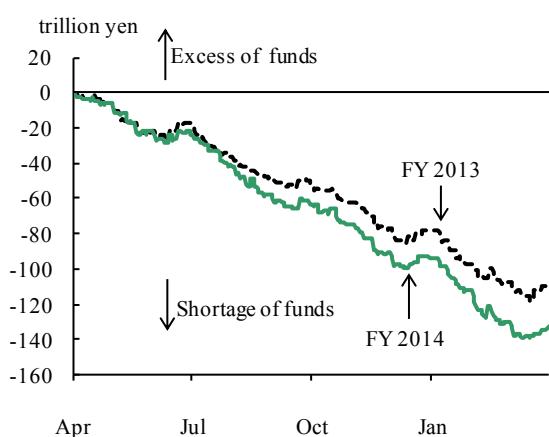


## 2. Changes in Treasury Funds and Others

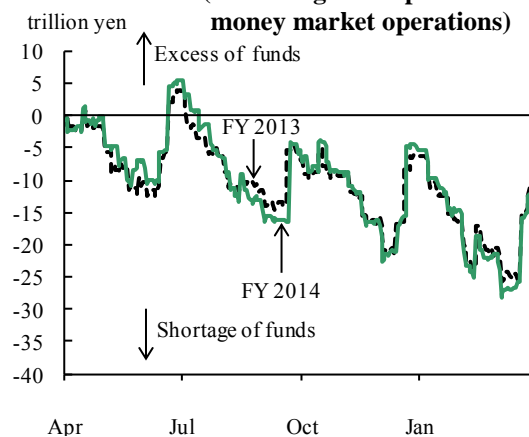
In fiscal 2014, net receipts from JGBs and T-Bills (sources of decrease in current account balances at the Bank, or shortage of funds) exceeded net payments of fiscal payments and revenues (sources of increase in current account balances at the Bank, or excess of funds). As a result, changes in treasury funds and others registered net receipts of 132.1 trillion yen, up from net receipts of 108.4 trillion yen in fiscal 2013 (Chart 2-6).

The increase in net receipts during fiscal 2014 occurred mainly because the redemption to the Bank increased, resulting from the Bank's large-scale purchases of JGBs and T-Bills under QQE, while the redemption to private financial institutions (payments to current accounts at the Bank) decreased.<sup>1</sup> After the impact of money market operations conducted by the Bank was removed, net receipts of treasury funds and others in fiscal 2014 amounted to 9.0 trillion yen vis-à-vis net receipts of 8.1 trillion yen in fiscal 2013 (also after removing the impact of the Bank's money market operations), having moved in the direction of shortage of funds by 0.9 trillion yen (Chart 2-7). One of the factors that led to this was a decrease in net payments of fiscal payments and revenues due to an increase in tax receipts.

**Chart 2-6: Cumulative Changes in Treasury Funds and Others in terms of Excess and Shortage of Funds**



**Chart 2-7: Cumulative Changes in Treasury Funds and Others in terms of Excess and Shortage of Funds (Removing the impact of the Bank's money market operations)**



<sup>1</sup> When the Bank purchases JGBs and T-Bills from financial institutions and holds them to maturity, redemption proceeds that would have been deposited in current accounts of financial institutions involved are not paid to financial institutions, and treasury payments to current accounts at the Bank decrease. Although receipts and payments of treasury funds and others during a fiscal year as a whole are supposed to be more or less equal, such treatment leads to large net receipts (shortage of funds).

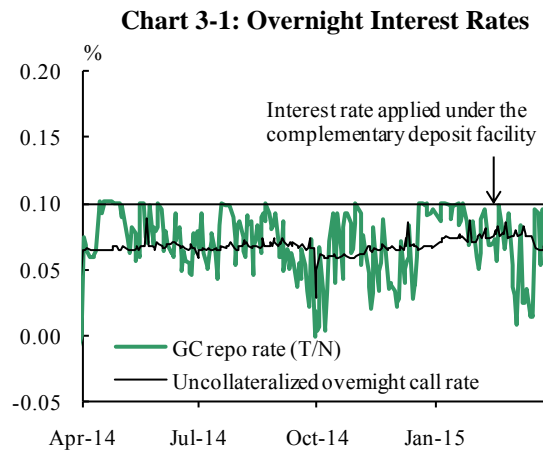
### III. Developments in the Domestic Money Markets and Bond Markets

#### A. Overnight Money Market

During fiscal 2014, interest rates in the overnight money market remained at extremely low levels, mainly due to the Bank's provision of ample funds under QQE.

The uncollateralized overnight call rate remained at an extremely low level in the range of 0.06-0.08 percent amid the Bank's continued provision of ample funds (Chart 3-1).

The general collateral (GC) repo rate had generally been at a level below the interest rate applied under the complementary deposit facility of 0.1 percent, albeit with some fluctuations.



Note: Based on contract date.

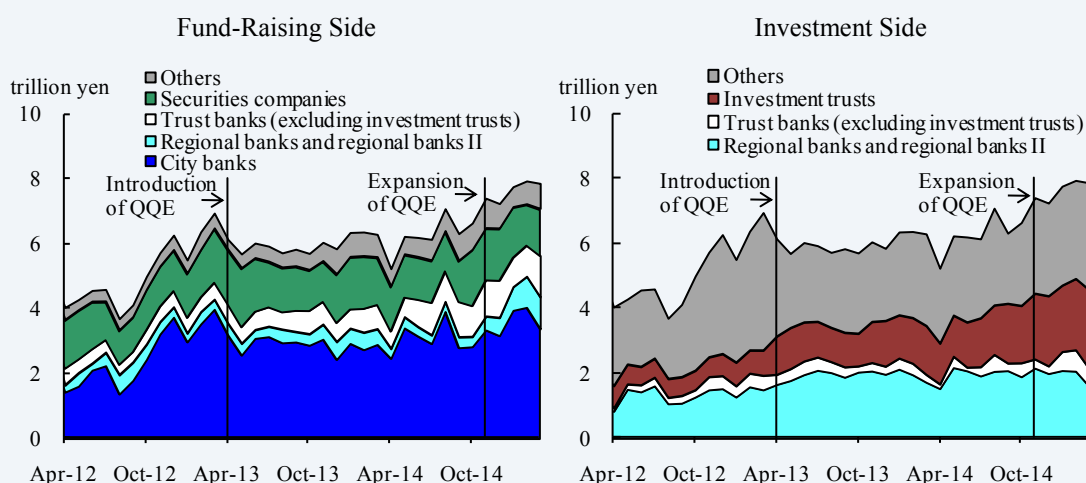


## Box 2: Uncollateralized Call Market after the Introduction of QQE

Against the background of the Bank's further provision of ample funds since the introduction of QQE, the need for financial institutions to raise funds through the uncollateralized call market to cover fund shortages declined even more. However, the amounts outstanding of uncollateralized call transactions followed a moderate uptrend.

For the investment side, the outstanding amount of investment increased, particularly for investment trusts. This is because amid the inflow of funds to investment trusts reflecting the continued rise in stock prices, investment trusts increased their investment in the uncollateralized call market -- which has relatively higher returns -- as yields on T-Bills declined against the background of events including the Bank's purchases of assets (Box Chart 2). Moreover, the amounts outstanding of uncollateralized call transactions further increased when yields on T-Bills temporarily turned negative after September 2014, as it became more attractive to invest in the uncollateralized call market and as the outstanding amount of investment by investment trusts further increased due to the rise in stock prices.

**Box Chart 2: Amounts Outstanding in the Uncollateralized Call Market by Sector**



- Notes: 1. Transactions intermediated by *tanshi* companies (monthly average balance).  
 2. "City banks" includes city banks, Shinsei Bank, and Aozora Bank. "Securities companies" refers to the financial instruments firms providing the first instruments business (limited to those providing securities-related business) and securities finance companies as stipulated in the Financial Instruments and Exchange Act.

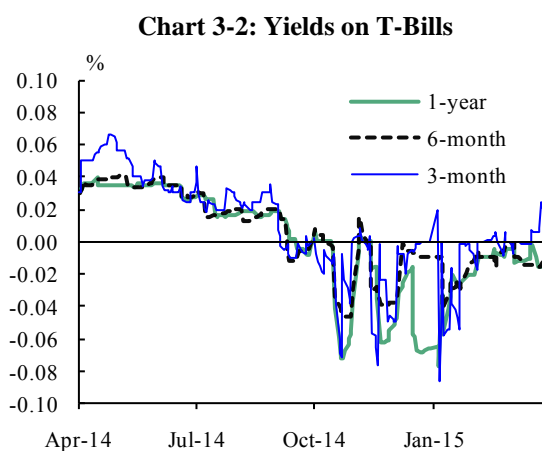
On the other hand, for the fund-raising side, financial institutions eligible for remuneration under the complementary deposit facility (hereafter "institutions eligible for remuneration") such as city banks and trust banks increased their fund-raising, becoming the funding destination for investment trusts, as mentioned above.

The outstanding amount of transactions in the uncollateralized call market maintained a reasonable amount, even amid the Bank's provision of ample funds under QQE. This was due to the demand of financial institutions not eligible for remuneration under the complementary deposit facility (hereafter "institutions not eligible for remuneration"), such as investment trusts, to invest their surplus funds in the uncollateralized call market and institutions eligible for remuneration, such as banks, to become recipients of these funds, while the interest rate applied under the complementary deposit facility remained positive. Moreover, amounts outstanding of uncollateralized call transactions were underpinned by factors such as (1) the need of some market participants to maintain relationships with counterparties or their own internal administrative structures and expertise, or (2) transactions in the Osaka money market to strengthen market participants' business continuity programs.

## B. T-Bill Market

Yields on T-Bills followed a moderate declining trend in the first half of fiscal 2014, while the Bank purchased a large amount of T-Bills under QQE, and the amount outstanding of T-Bills in the market followed a downtrend (Chart 3-2). Yields on T-Bills turned negative for the first time in September 2014 against the background of the growing demand for T-Bills toward quarter-ends, and often remained in negative territory thereafter. After the start of 2015, yields on T-Bills were almost at zero, while the amount outstanding of T-Bills purchased remained more or less unchanged.

There was a need among private financial institutions to hold T-Bills as collateral and among institutions not eligible for remunerations such as foreign investors and investment trusts to hold T-Bills as a fund management tool, even though yields on T-Bills had fallen below the interest rate applied under the complementary deposit facility. Of these, it was notable that while investment trusts temporarily decreased their holdings of T-Bills when yields turned negative, some foreign investors continued their investment in T-Bills. This was attributable to the fact that during fiscal 2014 a rise in premiums on U.S. dollar-funding costs was often observed, and foreign investors with ample dollars were often able to obtain yen at negative rates through a foreign exchange swap transaction. Considering this environment, they were able to ensure a profit even when the yields on T-Bills were marginally negative.

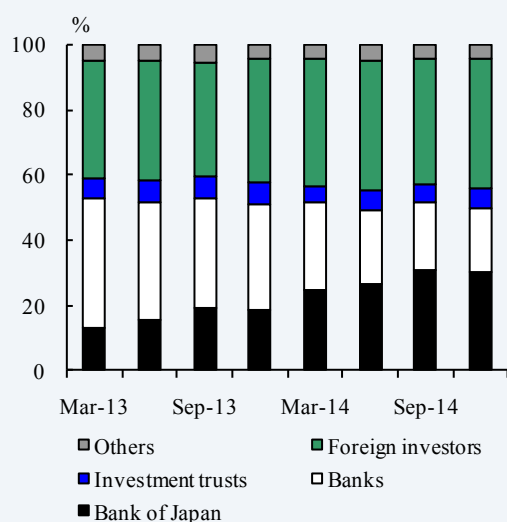


### Box 3: Investment of Foreign Investors and Negative Yields

Looking at the changes in T-Bill holdings by sector from the end of March 2013 to the end of December 2014, while the outstanding amount held by banks decreased significantly amid the Bank's accumulation of T-Bill purchases, the outstanding amount held by foreign investors remained generally unchanged (Box Chart 3-1). T-Bill holdings by foreign investors seemed to consist mainly of foreign reserve management by, for example, foreign central banks. This indicates that there was a certain level of demand for T-Bills among foreign investors inelastic to yield levels, to disperse the currency composition of their foreign reserve portfolios.

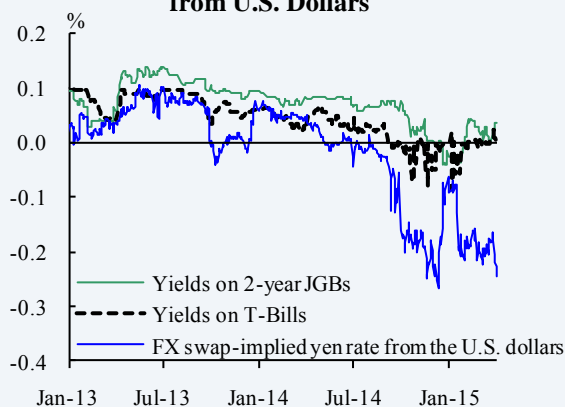
Some foreign investors purchase T-Bills by funding yen in exchange for foreign currencies. During the second half of 2014, the foreign exchange swap-implied yen rate -- yen funding costs in the U.S. dollar/yen foreign exchange swap market -- remained significantly below the yields on T-Bills, which were in negative territory (Box Chart 3-2). Foreign investors with dollars were therefore still able to obtain profitability by investing in T-Bills, when considering the negative foreign exchange swap-implied yen rate.

**Box Chart 3-1: Share of T-Bill Holdings by Sector**



Notes: 1. T-Bills held by the central government and the Fiscal Loan Fund are excluded.  
2. T-Bills underwritten by the Bank are excluded.

**Box Chart 3-2: Yields on T-Bills, 2-Year JGBs, and the FX Swap-Implied Yen Rate from U.S. Dollars**



Notes: 1. Yields on T-Bills and the FX swap-implied yen rate from the U.S. dollars are the 3-month rate.  
2. The FX swap-implied yen rate from the U.S. dollars is the total funding cost of raising U.S. dollars at U.S. dollar LIBOR and converting the proceeds into yen through an FX swap.

As the yields on T-Bills declined, some investors who had been investing in T-Bills shifted to JGBs with short remaining maturity, seeking relatively high yields. In this situation, foreign investors seemed to have continued to invest in JGBs with negative yields against the background of yen funding costs in the foreign exchange swap market, which were at low levels. Such behavior by foreign investors was one factor putting downward pressure on JGBs with short remaining maturity.

### **C. JGB Market**

Japanese long-term interest rates (yields on newly issued 10-year JGBs) followed a moderate downtrend as the Bank's large-scale JGB purchases continued to exert downward pressure on interest rates from the supply and demand perspective. The Bank's large-scale JGB purchases increased further when QQE expanded at the end of October 2014 and U.S. and European long-term interest rates followed a downtrend reflecting the large drop in crude oil prices. Along with these factors, the declining trend in long-term yields became more evident especially after autumn 2014 and temporarily declined to a historical low level of below 0.2 percent (on an intraday basis) in January 2015 (Charts 3-3 and 3-4). Long-term interest rates rose somewhat thereafter and remained within a range between 0.2 and 0.5 percent, primarily reflecting the bottoming out of crude oil prices, rebound in U.S. long-term interest rates, and sense of caution over the decline in Japanese long-term interest rates.

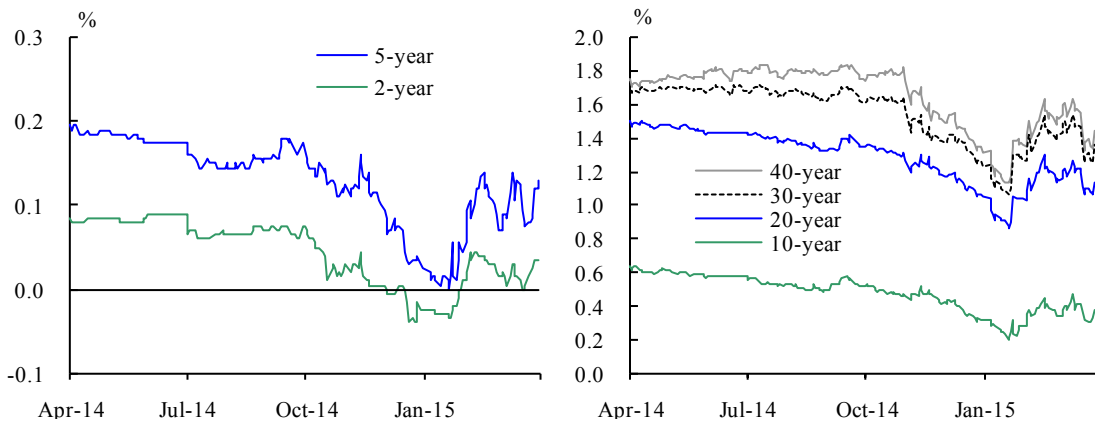
Yields on super-long-term JGBs declined somewhat largely partly because the Bank, in line with the expansion of QQE, extended the average remaining maturity of the Bank's JGB purchases from about 7 years at that time to about 7-10 years and increased its purchases of super-long-term JGBs. Thereafter, yields on super-long-term JGBs rose, while long-term interest rates rose somewhat as well.

Yields on short- and medium-term JGBs such as those for 2-year and 5-year JGBs followed a declining trend, partly because banks and other financial institutions shifted their needs as collateral from T-Bills to short- and medium-term JGBs, amid the decline in yields on

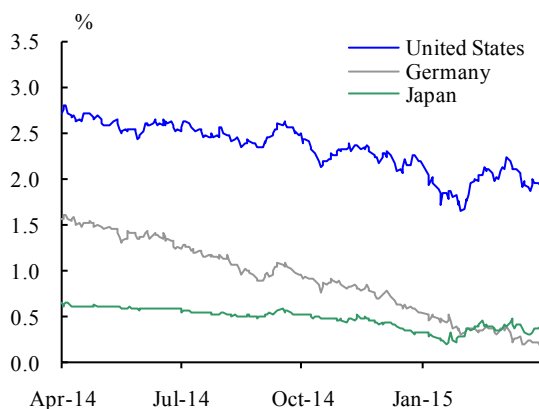
T-Bills to negative territory after autumn 2014. After the expansion of QQE at the end of October 2014, even the yield of the medium-term zone temporarily fell into negative territory -- 2-year JGBs and 5-year JGBs were transacted at negative yields for the first time at the end of November 2014 and the middle of January 2015, respectively. Thereafter, yields on short- and medium-term JGBs rebounded somewhat while the negative yields on T-Bills rose close to zero and long-term interest rates rose somewhat.

Meanwhile, although the implied volatility of JGB futures prices remained at a low level during fiscal 2014, it increased temporarily after the middle of January, reflecting movements such as the rebound after the decline in long-term interest rates (Chart 3-5).

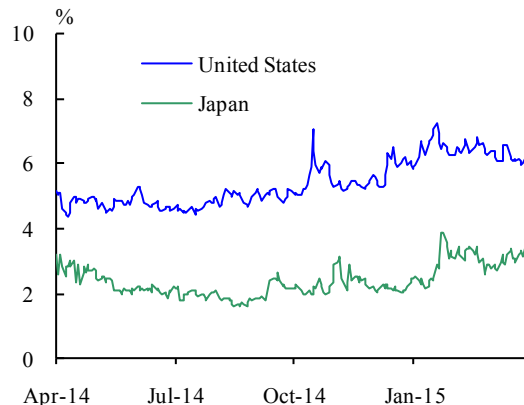
**Chart 3-3: Yields on JGBs**



**Chart 3-4: Long-Term Yields**



**Chart 3-5: Implied Volatilities of Government Bond Futures Prices**



- Notes: 1. Model-free implied volatilities that are calculated by using price information from futures options markets and correspond to options market participants' expected change in government bond prices for the next 3 months.  
 2. Options on JGB futures traded on the Tokyo Stock Exchange for Japan; options on U.S. Treasury futures traded on the Chicago Board of Trade for the United States.

#### **Box 4: Changes in the Structure of JGB Holdings by Private Entities**

Before the introduction of QQE, JGB holdings by private entities as a whole was following an increasing trend in line with the amount outstanding of JGBs issued. However, looking at the changes in the structure of JGB holdings between the introduction of QQE and the end of December 2014, *Flow of Funds Accounts Statistics* shows that the JGB holdings by private entities as a whole turned to a decrease, amid the significant increase in JGB holdings by the Bank.

Looking at changes in JGB holdings by each private entity after the introduction of QQE, depository institutions -- which are the largest holders of JGBs (that is, domestic banks and financial institutions for small businesses including Japan Post Bank) -- largely decreased their holdings.

Domestic banks significantly decreased their holdings of JGBs between April and June 2013, immediately after the introduction of QQE, against the background of events such as a rise in JGB volatility. Their holdings continued to decline moderately while the yields on JGBs followed a decreasing trend (Box Chart 4-1). City banks decreased their holdings by around 30 trillion yen, the largest amount among the domestic banks (Box Chart 4-2).

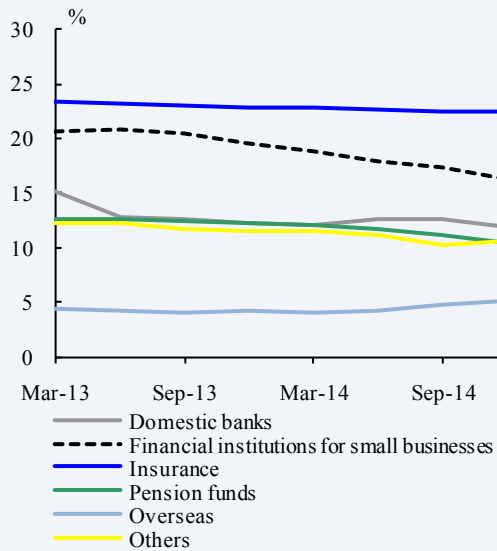
Financial institutions for small businesses took a cautious stance on bond investment, reflecting factors such as a decline in JGB yields, especially after the end of September 2013, and reduced their JGB holdings at a pace of around 4 trillion yen per quarter. The accumulated reduction since April 2013 was about 23 trillion yen.

Pension funds also increased their pace of reduction especially after the end of September 2014, as public pensions such as Government Pension Investment Fund lowered their target asset allocation for domestic bonds.

Meanwhile, overseas entities slightly increased their outstanding amount, especially after the second half of 2014. Concurrently, insurance companies purchased JGBs commensurate with inflow of funds, including those deriving from new contracts of savings insurance

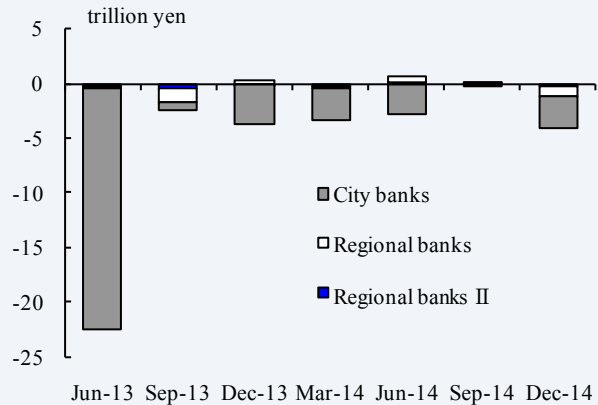
products. However, because they held down JGB purchases in line with declining yields, their outstanding amount remained generally unchanged.

**Box Chart 4-1: Share of JGB Holdings by Private Sector**



Note: Share among JGBs outstanding.

**Box Chart 4-2: Changes of JGB Holdings by Domestic Banks**



Note: Changes from the previous quarter.

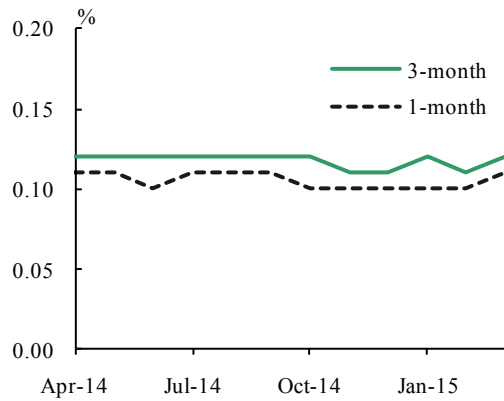
The largest holder of JGBs among private entities as of the end of 2014 was depository institutions such as domestic banks and financial institutions for small businesses. This remained unchanged before and after the introduction of QQE.

#### D. CP and Corporate Bond Markets

Yields on credit instruments such as CP issuance rates and corporate bond yields generally remained stable at low levels thanks to improved credit risk perceptions among market participants and the Bank's continued purchases of CP and corporate bonds against the background of the sustained accommodative monetary environment (Charts 3-6 and 3-7). In the CP market, issuance rates often fell below 0.1 percent, especially among issues with high ratings. In the corporate bond market, yield spreads between corporate bonds and JGBs remained at low levels.

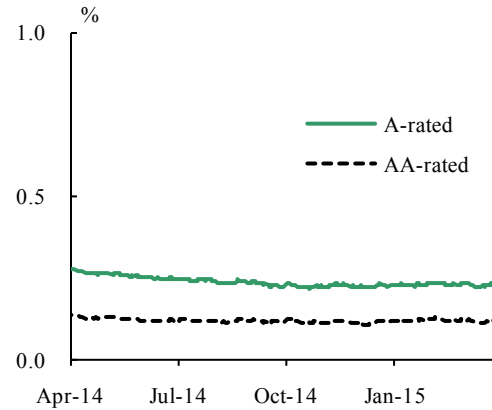


**Chart 3-6: CP Issuance Rates**



Note: Those of the corporate sector, on a monthly basis.

**Chart 3-7: Yield Spreads between Corporate Bonds and JGBs**

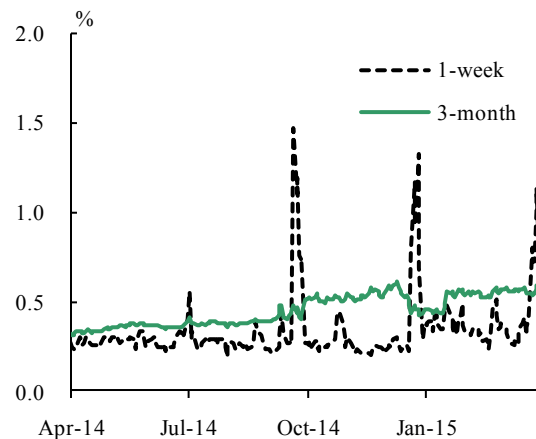


Note: Yields on JGBs with a remaining maturity of 5 years. Yields on corporate bonds are based on the expanded pool of issues with a remaining maturity of 3 to 7 years.

## E. Foreign Exchange Swap Market

In the foreign exchange swap market, the U.S. dollar-funding environment generally remained calm. However, the foreign exchange swap-implied U.S. dollar rate from the yen rose somewhat after September 2014, as foreign banks -- counterparties providing dollar funds -- limited their yen funding (dollar investing), giving consideration to financial regulation such as the leverage ratio requirement (Chart 3-8). These movements became stronger especially at the quarter-end.

**Chart 3-8: FX Swap-Implied U.S. Dollar Rate from the Yen**



Note: The FX swap-implied U.S. dollar rate from the yen is the total funding cost of raising yen at yen LIBOR and converting the proceeds into dollars through an FX swap transaction.

## **IV. Conduct of Individual Measures in Money Market Operations**

### **A. Asset Purchases**

#### **1. Outright Purchases of JGBs**

Under QQE introduced in April 2013, the Bank decided to purchase JGBs so that their amount outstanding would increase at an annual pace of about 50 trillion yen.

Later, the Bank expanded QQE at the end of October 2014, and decided to purchase JGBs so that the balance held by the Bank increased at an annual pace of about 80 trillion yen. Additionally, the average remaining maturity of the Bank's purchases was extended by about 3 years at maximum to about 7-10 years, from the previous duration of about 7 years.

In conducting such large-scale JGB purchases, the Bank's Financial Markets Department considered ensuring that there was room for flexibility in responding to market conditions, while paying attention to the predictability of operations.

Specifically, on May 29 and June 18, 2014, the Bank revised the "Outline of Outright Purchases of Japanese Government Bonds" detailing the guidelines for JGB purchases, such as amounts to be purchased from specific brackets classified by bond type and remaining maturity and frequency of purchases. In addition, when expanding QQE at the end of October that year, the Bank revised the "Outline of Outright Purchases of Japanese Government Bonds" based on the new guidelines for money market operations, and announced that it would release the "Outline of Outright Purchases of Japanese Government Bonds" for the following month on the last business day of every month, in principle. Under the above guidelines, during fiscal 2014 the Bank purchased around 6-8 trillion yen of JGBs per month before the expansion of QQE and 8-12 trillion yen of JGBs per month after the expansion (Chart 4-1).

Under the aforementioned conduct of money market operations, the amount outstanding of JGBs held by the Bank stood at 201.8 trillion yen at the end of 2014, up 60.2 trillion yen from the same time a year earlier. The amount outstanding at the end of March 2015 reached 220.1

trillion yen, up 66.0 trillion yen from a year earlier (Chart 4-2). The average remaining maturity of the Bank's JGB purchases (flow) lengthened to 7.7 years in fiscal 2014 from 7.3 years in fiscal 2013 (Chart 4-3).

**Chart 4-1: Amounts of Monthly Purchases of JGBs**

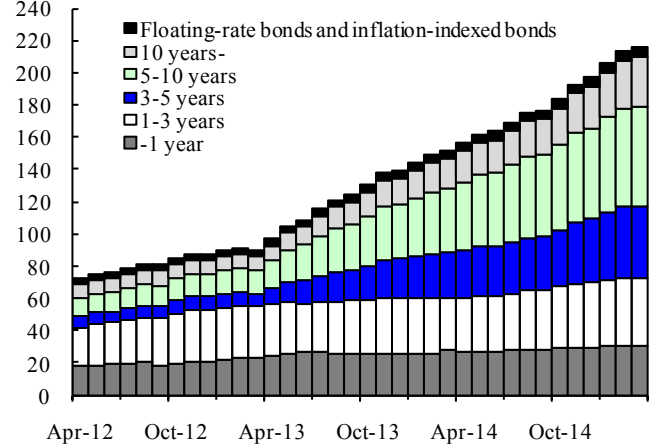
trillion yen

	Based on dates of offers	Based on dates of exercise
Apr. 2014	6.6	6.4
May	6.5	6.5
June	6.6	6.8
July	6.3	6.3
Aug.	6.4	6.4
Sep.	6.3	6.0
Oct.	6.7	7.6
Nov.	11.2	10.4
Dec.	10.2	9.7
Jan. 2015	9.3	9.4
Feb.	9.4	9.4
Mar.	8.4	9.2

Note: Face value.

**Chart 4-2: Amounts Outstanding of the Bank's JGB Holdings**

trillion yen



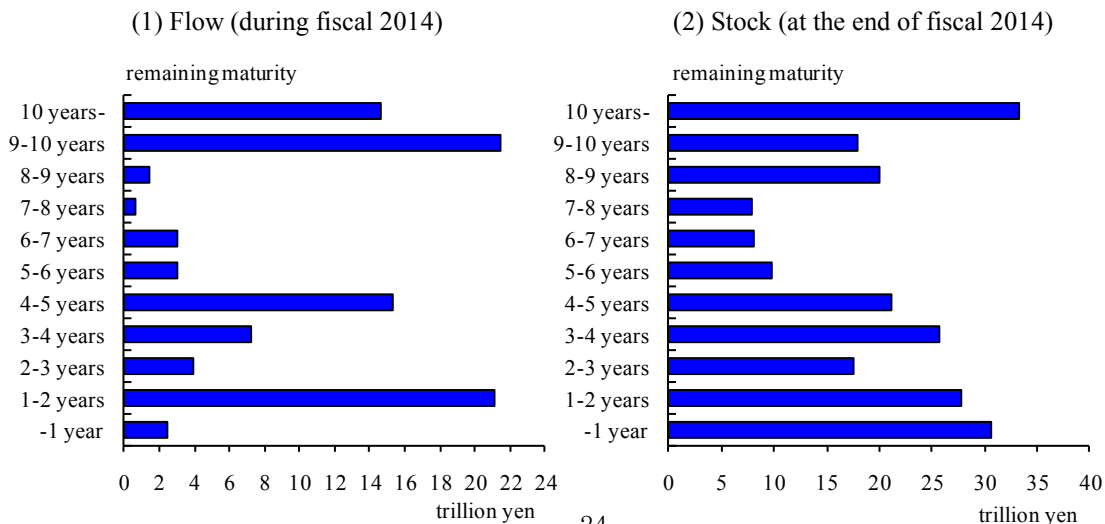
Note: Face value. JGBs purchased through the Asset Purchase Program (APP) are included. Maturity segments are as of the end of the month.

**Chart 4-3: Average Remaining Maturity of JGBs Purchased by the Bank**

	Flows during the fiscal year	Stock at the end of the fiscal year
Fiscal 2011	3.0	4.3
Fiscal 2012	3.0	3.9
Fiscal 2013	7.3	5.6
Fiscal 2014	7.7	6.5

Note: JGBs purchased through the APP are included.

**Chart 4-4: Maturity Composition of Amounts Outstanding of JGB Purchases**



### **Box 5: Relationship between Accepted Bid Yields of the Bank's JGB Purchases and Market Yields**

Here, we use information on all issues in the Bank's outright purchases of JGBs (yields and amounts of accepted bid) to calculate the difference between the accepted bid yield and market yield<sup>2</sup> and analyze the accepted bid yield. For market yield, we use the middle price of the offer price by sellers and the bid price by buyers in the secondary market immediately before the closing time of operations (approximately equal to the closing price of the morning session).

Immediately after the implementation of QQE in April 2013, many purchases were made at a yield higher than the current market yield, mainly in the super-long-term zone. This seemed to show that, amid increasing volatility in market yields, there was a growing need by financial institutions to sell bonds to reduce risks, and thus to quickly sell JGBs through the Bank's operations, even if the price was relatively lower than the market price.

However, thereafter, reflecting (1) the revision of the "Outline of Outright Purchases of Japanese Government Bonds" to decrease the amount of purchases per operation while increasing the frequency of purchases, and (2) the lowering of volatility in long-term interest rates, the difference between the accepted bid yield and market yield became almost at 0 basis points across all maturities, indicating that the Bank's purchases of JGBs were conducted almost at the same yield as the market yield.

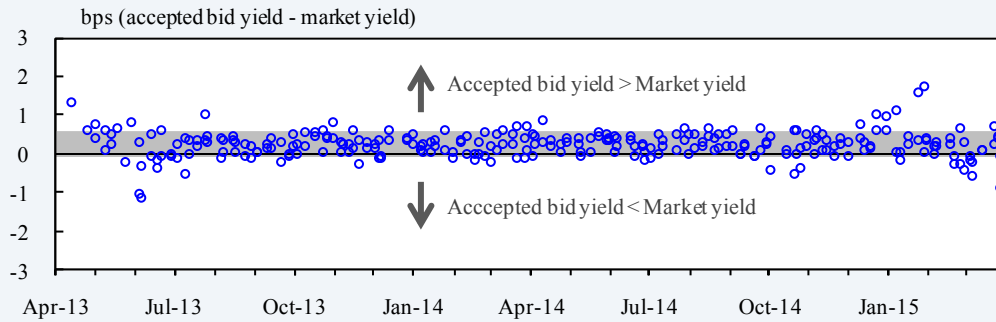
Later, reflecting the expansion of QQE at the end of October 2014 and the accompanying extension of the average remaining maturity of JGB purchases, the amount of JGB purchases increased significantly, especially in the super-long-term zone. In this situation, the Bank often purchased super-long-term government bonds at a yield slightly lower than the market yield. This seemed to be because a high proportion of super-long-term government bond holders were long-term stable investors and not many of them wanted to quickly sell super-long-term government bonds through the Bank's operations.

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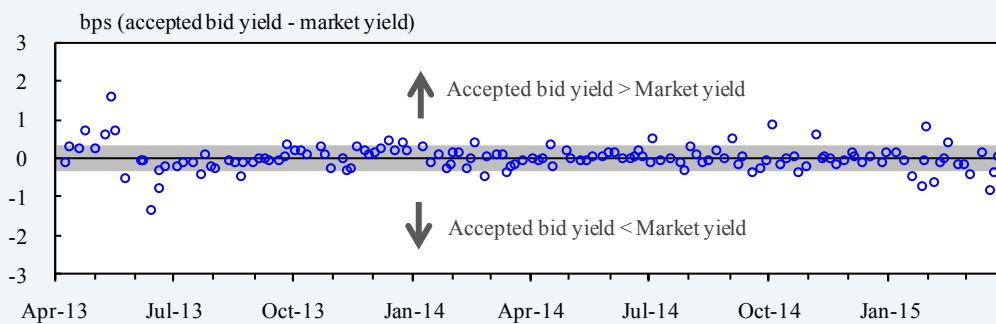
<sup>2</sup> Calculated as the weighted average using the weights of the accepted bid amount.

### Box Chart 5: Difference between the Accepted Bid Yield and Market Yield

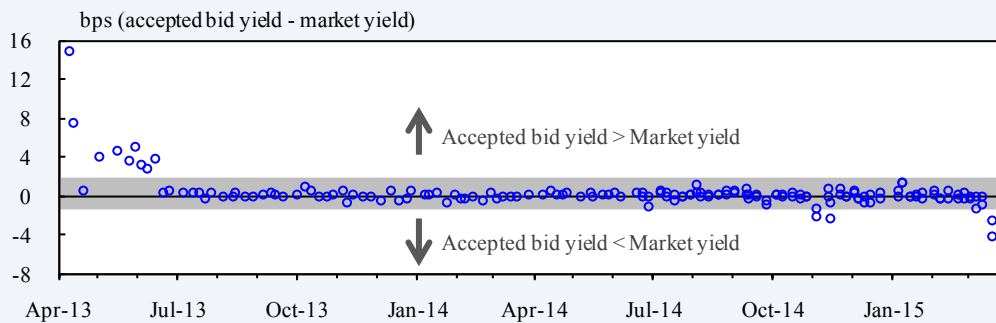
#### (1) Short and Medium Term



#### (2) Long Term



#### (3) Super Long Term



- Notes: 1. The period of analysis is from the introduction of QQE to March 31, 2015.  
 2. Short and medium term, long term, and super long term mean more than 1 year and up to 5 years, more than 5 years and up to 10 years, and more than 10 years, respectively. With regard to the auctions with residual maturity of more than 1 year and up to 5 years, and those with residual maturity of more than 10 years, the Bank had set sub-segments of the residual maturity and announced separate auctions at the same time. In these cases, the differences between the accepted bid yield and market yield are calculated separately. The analysis excludes issues which were seldom traded in secondary market and were not quoted, such as issues with short maturity.  
 3. The shaded area means the one standard deviation band of average value of the difference between the accepted bid yield and market yield in each zone during the period of analysis.

On the other hand, in the short- to medium-term zone, as the level of interest rates became negative and more investors adopted a passive stance in bond investment, the Bank purchased

JGBs in this maturity zone at a yield slightly higher than the market yield.

Later, as purchases of JGBs by the Bank progressed, the difference between the accepted bid yield and market yield for all maturities generally returned to the average range that obtained after the introduction of QQE. While many investors refrained from active bond transactions toward the end of March 2015 (the fiscal year-end), the Bank often purchased JGBs at a yield lower than the market yield.

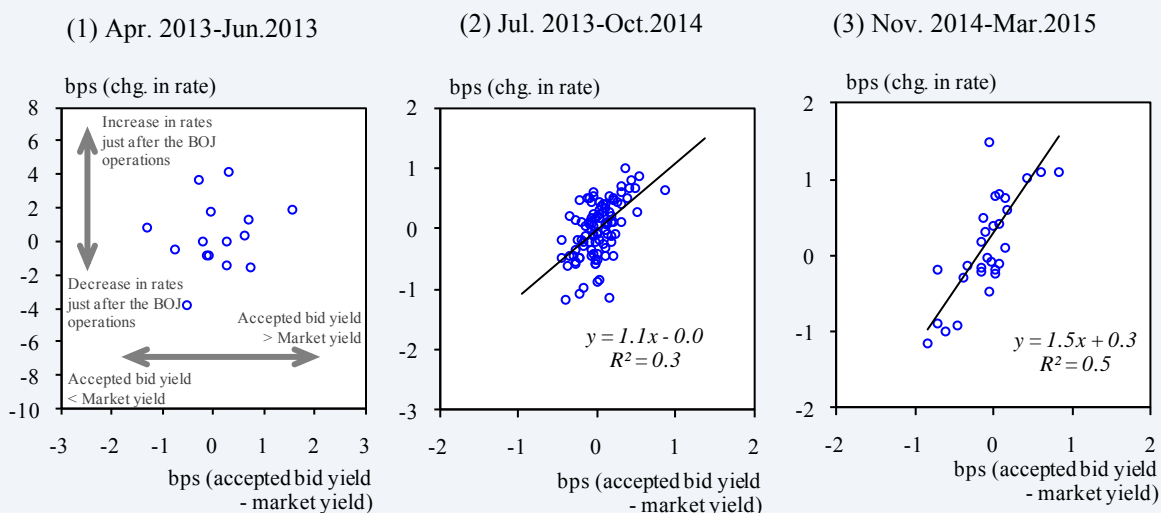
Large JGB purchases by the Bank seemed to continuously exert downward pressure on longer-term interest rates. Specifically, it is considered that this took the form of either (1) lowering the yield at each operation due to the Bank's purchasing at a yield lower than the market yield in each purchase, or (2) lowering the market yield ahead of each operation by factoring in the effects of tightening supply and demand conditions caused by the Bank's JGB purchases (meaning that each of the operations was carried out by purchasing bonds at around the same yield as the already lowered market yield). The above analysis shows that the Bank often purchased JGBs at around the same yield as the market yield, but even in such situations it could be said that downward pressure was also exerted on the yield in the form of (2).

### Box 6: Market Developments after the Bank's Outright Purchases of JGBs

What kind of impact do the results of the Bank's outright purchases of JGBs have on the formation of the yield curve in the JGB market, immediately after their release? Here, we use the difference between the accepted bid yield and market yield estimated in Box 5 to examine the relationship between this value and change in bond yields before and after the conduct of operations,<sup>3</sup> taking as an example the long-term zone (remaining maturity of more than 5 years and up to 10 years).

First, although the market showed large fluctuations immediately after the introduction of QQE, no clear relationship could be seen between the difference between the accepted bid yield and market yield and the change in bond yields before and after the conduct of operations. Thereafter, however, fluctuations in the market after operations decreased. In addition, after the Bank purchased JGBs at a lower (higher) yield than the market yield, JGBs were purchased (sold) somewhat in the market, and the yield fell (rose). This relationship was more or less maintained even after the expansion of QQE.

**Box Chart 6: Market Developments and the Results of the Outright Purchase in the Long-Term Zone**



Note: The differences between the accepted bid yield and market yield are the value calculated in Box 5.

<sup>3</sup> Change in bond yield immediately before the closing time of bidding (approximately equal to the closing price of the morning session) and immediately after the opening of afternoon session.

Fluctuations in yields were large immediately after the Bank's outright purchases of JGBs when QQE was initially introduced in April 2013. This seemed to reflect the fact that market participants had a strong feeling of uncertainty about the effects of the Bank's large-scale outright purchases of JGBs on financial markets. Thereafter, fluctuations in JGB yields immediately after the Bank's JGB purchase operations decreased. This seemed due to the fact that market participants' views on the impact of the Bank's purchases on the JGB market started to converge as (1) they gradually gained experience with the outright purchases of JGBs by the Bank and (2) the Bank revised the guidelines for purchases by increasing the frequency of purchases and decreasing the amount of purchases per operation (announced on April 18 and May 30, 2013), and announced the purchase sizes for each of the first auctions of each month (after the release on October 31, 2014).

Furthermore, it can be pointed out that the reason why JGBs were purchased (sold) somewhat in the market and the yield fell (rose) -- after the Bank purchased JGBs at a lower (higher) yield than the market yield -- is that the results of the operations began to directly reflect the supply and demand conditions of JGBs in the market, as views on the impact of the Bank's purchases on the JGB market converged, as stated above. This may have been perceived as additional information for the market and subsequently have impacted the formation of the government bond market yield after the operations.

## **2. Outright Purchases of CP**

Under QQE, the Bank purchased CP until the amount outstanding reached 2.2 trillion yen at the end of 2013 and then maintained it at around 2.2 trillion yen.

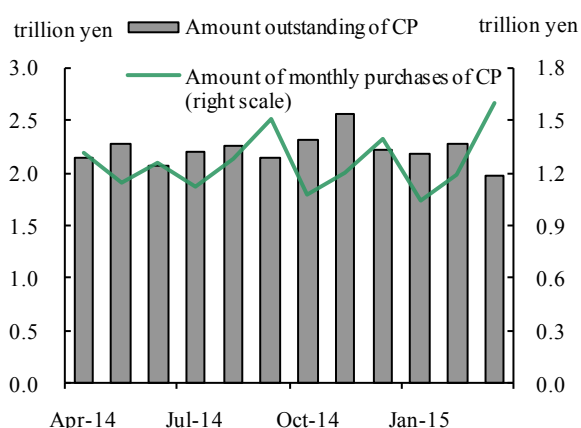
Complying with these guidelines, the Bank offered outright purchases 3 times a month with 400-450 billion yen per operation in principle. In this regard, reflecting the fact that CP redemption schedules were concentrated at quarter-ends, those for issues that had been purchased by the Bank were also concentrated at quarter-ends. Based on this, the Bank offered outright purchases that were larger than usual, including those with 500-600 billion yen per operation in September and December 2014, and maintained the amount outstanding of purchases at around 2.2 trillion yen at the end of 2014 despite the large



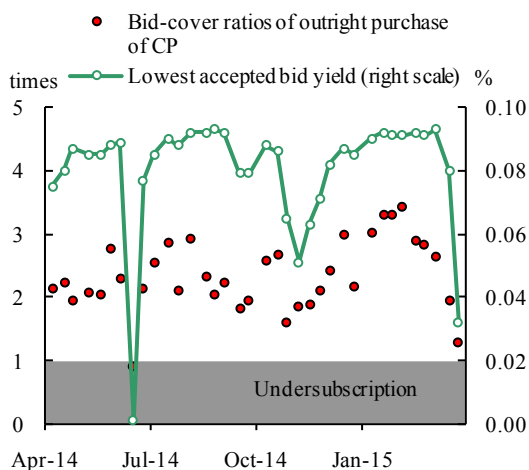
amount of redemptions. Furthermore, the Bank offered 2 outright purchases with 500 billion yen per operation, and 1 outright purchase with 600 billion yen in March 2015, an amount that was significantly larger than usual. However, the amount outstanding of purchases temporarily decreased to 2.0 trillion yen at the end of March 2015 (Chart 4-5). This was because many firms refrained further from issuing CP over the end of the accounting period in March to reduce interest-bearing debt, and the redemption schedules of the issues that had been purchased by the Bank were concentrated more heavily than at the end of other quarters.

Meanwhile, the lowest accepted bid yield was below the interest rate applied under the complementary deposit facility of 0.1 percent (Chart 4-6).

**Chart 4-5: Amount Outstanding and Amount of Monthly Purchases of CP**



**Chart 4-6: Bid-Cover Ratios and Lowest Accepted Bid Yield of Outright Purchase of CP**



### 3. Outright Purchases of Corporate Bonds

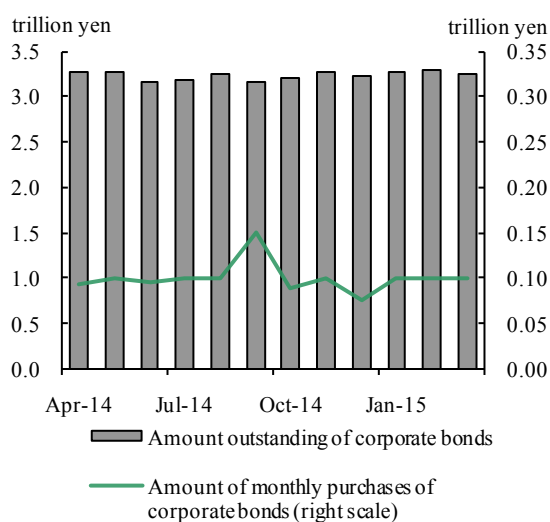
Under QQE, the Bank purchased corporate bonds until the amount outstanding reached 3.2 trillion yen at the end of 2013 and then maintained it at around 3.2 trillion yen.

Complying with these guidelines, the Bank offered outright purchases once a month with 100 billion yen per operation in principle from the beginning of fiscal 2014. However, the Bank offered outright purchases of 150 billion yen and 75 billion yen in 2014 in September (the end of the first half of the fiscal year) and December (the end of the calendar year),

respectively, taking into account the redemption schedules of the issues that had been purchased (Chart 4-7).

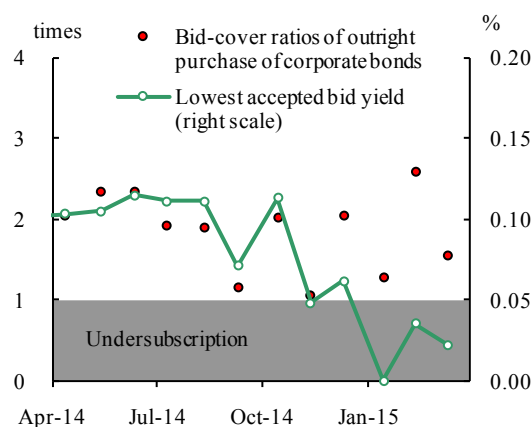
Meanwhile, the lowest accepted bid yield led a path of decline reflecting the decrease in corporate bond yield (Chart 4-8).

**Chart 4-7: Amount Outstanding and Amount of Monthly Purchases of Corporate Bonds**



Note: Corporate bonds purchased through the APP are included.

**Chart 4-8: Bid-Cover Ratios and Lowest Accepted Bid Yield of Outright Purchase of Corporate Bonds**



#### 4. Outright Purchases of ETFs

The Bank purchased ETFs at an annual pace of about 1 trillion yen before the expansion of QQE, and at an annual pace of about 3 trillion yen after its expansion, totaling 71 purchases during fiscal 2014. The amount outstanding of ETFs purchased by the Bank at the end of 2014 stood at 3.8 trillion yen (up 1.3 trillion yen from the same time a year earlier), and that at the end of March 2015 stood at 4.5 trillion yen (up 1.6 trillion yen from a year earlier).

#### 5. Outright Purchases of J-REITs

The Bank purchased J-REITs at an annual pace of about 30 billion yen before the expansion of QQE, and at an annual pace of about 90 billion yen after its expansion, totaling 66 purchases during fiscal 2014. The amount outstanding of J-REITs purchased by the Bank at

the end of 2014 stood at 177.8 billion yen (up 37.6 billion yen from the same time a year earlier), and that at the end of March 2015 stood at 206.3 billion yen (up 57.5 billion yen from a year earlier).

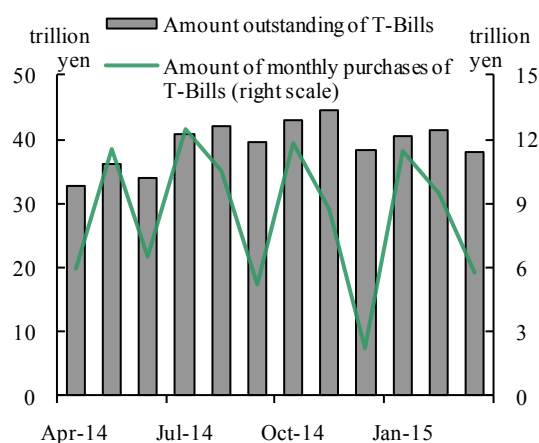
## B. Short-Term Operations

### 1. Outright Purchases of T-Bills

Under QQE, the Bank continually offered outright purchases of T-Bills once a week in principle. As the amount outstanding of the fixed-rate funds-supplying operations against pooled collateral followed a decreasing trend with extremely strong perceptions of abundant liquidity in the money markets, the amount outstanding of purchases of T-Bills trended up, to accumulate the amount outstanding of the monetary base in accordance with the guideline for money market operations.

In fiscal 2014, the Bank offered 2-3 trillion yen per operation in principle, and reduced the amount in September and December 2014 when supply and demand conditions for T-Bills tightened. As a result of such purchases, the amount outstanding of purchases of T-Bills stood at 38.4 trillion yen at the end of 2014, up 14.2 trillion yen from the same time a year earlier. From the beginning of 2015, the Bank offered 1-3 trillion yen per operation. As a result, the amount outstanding of purchases of T-Bills remained more or less flat. The amount outstanding of purchases was 37.9 trillion yen at the end of March 2015, up 6.3 trillion yen from a year earlier (Chart 4-9).

**Chart 4-9: Amount Outstanding and Amount of Monthly Purchases of T-Bills**



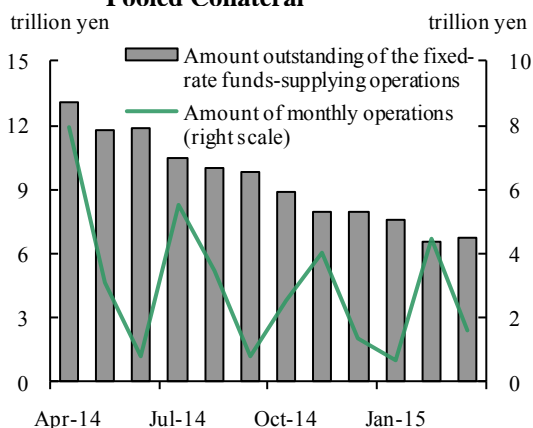
## 2. Fixed-Rate Funds-Supplying Operation against Pooled Collateral

In principle, the Bank continued to conduct the fixed-rate funds-supplying operations against pooled collateral with a 3-month term at a pace of 800 billion yen per operation, when the loans matured. However, loans that matured from the operations conducted in April to May 2013 -- immediately after the introduction of QQE -- with a 1-year term at a pace of 1.5-2 trillion yen per operation were offered with a 3-month term at a pace of 1-2.5 trillion yen per operation.

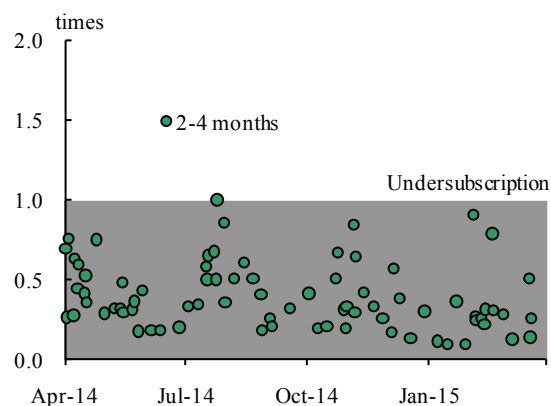
Reflecting the Bank's provision of ample funds to financial markets through the large-scale purchases of a wide range of assets conducted under QQE, perceptions of abundant liquidity remained extremely strong in the money markets. Thus, demand for the funds-supplying operations against pooled collateral was sluggish, and the amount outstanding followed a declining trend (Charts 4-10 and 4-11).

As a result of these operations, the amount outstanding of the operations stood at 6.8 trillion yen at the end of March 2015, down 7.4 trillion yen from the same time a year earlier.

**Chart 4-10: Amount Outstanding and Amount of Monthly Operations of the Fixed-Rate Funds-Supplying Operations against Pooled Collateral**



**Chart 4-11: Bid-Cover Ratios of the Fixed-Rate Funds-Supplying Operations against Pooled Collateral**



## C. Loan Support Program

### 1. Growth-Supporting Funding Facility

During fiscal 2014, the Bank disbursed loans under the main rules for the

Growth-Supporting Funding Facility introduced in June 2010 once a quarter, 4 times in total. In addition, the Bank disbursed new loans 4 times in total each under (1) a line of credit for equity investments and asset-based lending established in June 2011 (special rules for equity investments and asset-based lending), (2) a line of credit for small-lot investments and loans (for 1 million yen or more but less than 10 million yen) introduced in March 2012 (special rules for small-lot investments and loans), and (3) a line of credit for investments and loans denominated in foreign currencies introduced in April 2012 (special rules for the U.S. dollar lending arrangement) (Chart 4-12).

At the end of March 2015, the outstanding balance of loans under the main rules reached 4.6 trillion yen out of the ceiling for loans to be disbursed at that time of 7 trillion yen. The outstanding balance of loans under the special rules for equity investments and asset-based lending stood at 114.1 billion yen out of the ceiling of 0.5 trillion yen; those under the special rules for small-lot investments and loans at 9.4 billion yen out of the ceiling of 0.5 trillion yen; and those under the special rules for the U.S. dollar lending arrangement at 12 billion dollars out of the ceiling of 12 billion dollars.

**Chart 4-12: Loan Disbursement under the Growth-Supporting Funding Facility**

(Main rules)

100 million yen

16th (May 30, 2014)	17th (Aug. 29)	18th (Nov. 28)	19th (Feb. 27, 2015)	Outstanding balance of loans (as of end-Mar. 2015)
4,172	6,568	11,530	6,463	45,518

(Special rules for equity investments and asset-based lending)

100 million yen

12th (May 29, 2014)	13th (Aug. 28)	14th (Nov. 27)	15th (Feb. 26, 2015)	Outstanding balance of loans (as of end-Mar. 2015)
313	29	186	54	1,140.5

(Special rules for small-lot investments and loans)

100 million yen

9th (May 29, 2014)	10th (Aug. 28)	11th (Nov. 27)	12th (Feb. 26, 2015)	Outstanding balance of loans (as of end-Mar. 2015)
15.23	11.73	8.63	15.52	94.35

(Special rules for the U.S. dollar lending arrangement)

million U.S. dollars

8th (May 29, 2014)	9th (Aug. 28)	10th (Nov. 27)	11th (Feb. 26, 2015)	Outstanding balance of loans (as of end-Mar. 2015)
1,999	1,562	172	9	11,999.9

## 2. Stimulating Bank Lending Facility

During fiscal 2014, the Bank disbursed loans under the Stimulating Bank Lending Facility introduced in December 2012 once a quarter, 4 times in total (Chart 4-13). At the end of March 2015, the outstanding balance of these loans reached 22.3 trillion yen.

**Chart 4-13: Loan Disbursement under the Stimulating Bank Lending Facility**

100 million yen

June 2014 (June 18)	Sep. 2014 (Sep. 12)	Dec. 2014 (Dec. 12)	Mar. 2015 (Mar. 16)	Outstanding balance of loans (as of end-Mar. 2015)
49,368	25,865	31,336	44,000	223,454

## D. Other Operations

### 1. Securities Lending Facility

With regard to the securities lending facility, the Bank's Financial Markets Department implemented the following measures in April to May 2014, with a view to further facilitating the Bank's money market operations as well as contributing to the smooth settlement of JGSs: (1) made 2 offers per day, (2) raised the frequency of the release of "Japanese Government Bonds Held by the Bank of Japan," and (3) clarified handling of continuous use of the facility. Furthermore, in March 2015 (1) the Bank raised the upper limit to the amount of sales per issue and (2) raised the number of business days permitted for continuous use of the facility for the same issue. Through such measures, the number of the securities lending facility auctions conducted in fiscal 2014 increased to 102 from fiscal 2013 (Chart 4-14).

**Chart 4-14: Number of the Securities Lending Facility Auctions**

	Number of operations
Fiscal 2011	14
Fiscal 2012	13
Fiscal 2013	48
Fiscal 2014	102

### 2. Funds-Supplying Operations to Support Financial Institutions in Disaster Areas

During fiscal 2014, the Bank disbursed loans once a month, 12 times in total (Chart 4-15).

The outstanding balance at the end of March 2015 stood at 0.3 trillion yen out of the ceiling of 1 trillion yen.

**Chart 4-15: Loan Disbursement under the Funds-Supplying Operations to Support Financial Institutions in Disaster Areas**

100 million yen

36th (Apr. 18, 2014)	37th (May 19)	38th (June 23)	39th (July 18)	40th (Aug. 25)	41st (Sep. 19)
1	7	546	1,105	506	975

42nd (Oct. 17)	43rd (Nov. 21)	44th (Dec. 18)	45th (Jan. 16, 2015)	46th (Feb. 20)	47th (Mar. 23)	Outstanding balance of loans (as of end-Mar. 2015)
75	0	35	2	0	0	3,252

### 3. U.S. Dollar Funds-Supplying Operations

During fiscal 2014, the Bank conducted the 1-week U.S. dollar funds-supplying operations once a week. In these operations, an unlimited amount of funds was provided at a fixed rate against eligible collateral submitted to the Bank by individual financial institutions. In view of the considerable improvement in dollar funding, the Bank, in cooperation with the Bank of England, the ECB, and the Swiss National Bank, ceased the regular offering of the 3-month U.S. dollar funds-supplying operations from May 2014.

With respect to the use of these operations, bidding increased for the offers on September 24, December 24, and March 24 -- which matured over the quarter-end, the end of September, December, and March respectively, when the cost of U.S. dollar funding increased in the market -- but biddings for offers other than these were limited to those of small amounts for maintaining administrative expertise.

#### E. Complementary Lending Facility

During fiscal 2014, the use of the complementary lending facility was extremely limited, against the background of the supply of ample funds to financial markets by the Bank under QQE, which gave rise to extremely strong perceptions of abundant liquidity in the money markets.

## V. Systemic Changes Related to Money Market Operations

### A. Extension and Enhancement of the Stimulating Bank Lending Facility and the Growth-Supporting Funding Facility

At the MPM held on January 20 and 21, 2015, the Bank decided to enhance the Stimulating Bank Lending Facility and the Growth-Supporting Funding Facility, which were due to expire at the end of June 2015, and extend these facilities by 1 year. With regard to the main rules for the Growth-Supporting Funding Facility, the Bank increased the maximum amount of funds that it could provide to each financial institution from 1 trillion yen to 2 trillion yen, and also increased the maximum amount outstanding of its fund-provisioning as a whole from 7 trillion yen to 10 trillion yen. Moreover, as for the Stimulating Bank Lending Facility and the Growth-Supporting Funding Facility, the Bank decided to introduce a new framework to enable financial institutions, which do not have a current account at the Bank, to use these facilities through their central organizations (Chart 5-1). The Bank took these measures to continue to promote the positive actions of financial institutions, firms and households, with a view to encouraging banks' lending and strengthening the foundations for economic growth.

**Chart 5-1: Outline of the Extension and Enhancement of the Stimulating Bank Lending Facility and the Growth-Supporting Funding Facility**

Stimulating Bank Lending Facility	Growth-Supporting Funding Facility
<p>(1) The deadline for new applications under the facility was extended by 1 year.</p> <p>(2) A framework was introduced to enable member financial institutions of central organizations of financial cooperatives without a current account at the Bank to use the facility through their central organizations that were eligible counterparties of the facility.</p>	<p>(1) The deadline for new applications under the main rules as well as special rules for equity investments and asset-based lending, small-lot investments and loans, and the U.S. dollar lending arrangement was extended by 1 year.</p> <p>(2) With regard to the main rules, the Bank increased the maximum amount of funds that it can provide to each financial institution from 1 trillion yen to 2 trillion yen, and also increased the maximum amount outstanding of its fund-provisioning as a whole from 7 trillion yen to 10 trillion yen.</p>



	(3) A framework was introduced to enable member financial institutions of central organizations of financial cooperatives without a current account at the Bank to use the facility through their central organizations that were eligible counterparties of the facility.
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**B. Extension of the Period for the Funds-Supplying Operations to Support Financial Institutions in Disaster Areas and the Relaxation of the Collateral Eligibility Standards for the Debt of Companies in Disaster Areas**

At the MPM held on January 20 and 21, 2015, to continue supporting the efforts of financial institutions toward rebuilding the disaster areas affected by the Great East Japan Earthquake, the Bank decided to extend by 1 year the deadlines for (1) new applications for loans under the funds-supplying operation to support financial institutions in disaster areas that were due to expire at the end of April 2015 and (2) the application period for the relaxation of the collateral eligibility standards for the debt of companies in disaster areas that were due to expire at the end of April 2015.

**C. Arrangement for the Purchases of ETFs that Track the JPX-Nikkei Index 400, etc.**

At the MPM held on October 31, 2014, the Bank decided to make ETFs that track the JPX-Nikkei Index 400 eligible for purchase, reflecting the expansion of QQE. Furthermore, at the November MPM a decision was made to amend "Principal Terms and Conditions for Purchases of ETFs and J-REITs" in accordance with the aforementioned decision and enforcement of Article 9 of the 2013 Amendment Act of Financial Instruments and Exchange Act, etc. (Act No. 45, 2013).

**D. Periodic Review of Collateral Value of Eligible Collateral and Other Related Matters**

Since fiscal 2005, the Bank has generally conducted an annual review of collateral values of eligible collateral and other related matters, comprising (1) collateral value of eligible collateral, (2) the margin ratios of JGSs used in JGS purchasing operations with repurchase

agreements, and (3) margin ratios of JGSs used in the securities lending facility. The review is based on developments in financial markets, and the Bank makes necessary revisions accordingly.

During fiscal 2014, the collateral value and other related matters were revised at the MPM held on October 6 and 7, 2014.

### **E. Operational Changes to the Securities Lending Facility**

On April 14, 2014, the Bank's Financial Markets Department announced that it would implement the following measures regarding the securities lending facility, to ease stress on transactions and settlements in the JGS market with a view to further facilitating the Bank's money market operations as well as contributing to smooth settlement of JGSs.<sup>4</sup>

First, to effectively avoid a chain of fails in the overall financial market by making it possible to cover fails in the early hours of the settlement date, the Bank decided to make the securities lending facility available twice a day.

Second, to provide greater transparency about issues that could be obtained through the securities lending facility, the Bank decided to increase the frequency of release of "Japanese Government Bonds Held by the Bank of Japan" to 3 times a month (once every 10 days).

And third, to improve the predictability regarding continuous use of the securities lending facility, the Bank decided to clarify the rules on the consecutive sales transactions per government bond issue with the same counterparty.

Furthermore, on March 20, 2015, the Bank's Financial Markets Department (1) raised the upper limit to the amount of sales per issue and (2) extended the number of business days of continuous use of the securities lending facility for the same issue, to ease stress in the JGS market with a view to further facilitating the Bank's money market operations as well as

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<sup>4</sup> For details of the measures announced on April 14, 2014, see "Money Market Operations in Fiscal 2013" (the Bank's research paper issued on August 12, 2014).

contributing to smooth settlement of JGSs (Chart 5-2).

**Chart 5-2: Operational Changes to the Securities Lending Facility**

	Previous policy		New policy from March 23, 2015	
Upper limit to the amount of sales per issue	(Offer in the morning) The amount outstanding of the Bank's holdings or 200 billion yen, whichever is smaller	(Offer in the afternoon) Same but excluding the amount sold in the morning	(Offer in the morning) The amount outstanding of the Bank's holdings or <u>400 billion yen</u> , whichever is smaller	(Offer in the afternoon) Same but excluding the amount sold in the morning
Number of days of continuous use of the facility <sup>(Note)</sup>	In principle, a maximum of 5 business days		In principle, a maximum of <u>15 business days</u>	

(Note) The number of business days permitted for consecutive sales transactions per issue with the same counterparty. (This rule is not applicable to roll-over transactions subject to a fails charge in accordance with market practice.) The Bank may extend the period for consecutive sales transactions per issue when deemed necessary in light of the conditions of financial markets.

#### **F. Administrative Review of Outright Purchases of CP and Corporate Bonds**

The Bank conducted an administrative review and made all notification methods online and significantly shortened the time required for bidding process to improve the administrative efficiency of outright purchases of CP and corporate bonds conducted from November 2014.

#### **VI. Actions to Enhance Dialogue with Market Participants**

Under QQE, the Bank's Financial Markets Department has been taking a number of initiatives with a view to further enhancing dialogues with market participants, while carefully examining developments and functioning of financial markets as well as the impact on financial markets of the Bank's operations, such as large-scale purchases of a wide range of assets. Initiatives taken in fiscal 2014 include, in addition to daily market

monitoring, improvement of market surveys and expansion of forums for dialogue with market participants.

## **A. Improvement of Market Surveys**

### **1. Introduction of the "Bond Market Survey"**

The Bank's Financial Markets Department introduced the "Bond Market Survey," conducted quarterly, in February 2015 with the aim of continuously grasping market participants' views on the functioning of the bond market as well as their outlook on interest rates.

An overview of the survey is as follows.

**Chart 6-1: Outline of the Bond Market Survey**

Respondents	Eligible institutions for the Bank's outright purchases and sales of JGBs (voluntary basis)
Survey items	Functions of the bond market, outlook on interest rates, etc.
Frequency	Quarterly (a survey will be conducted in February, May, August, and November)
Timing of release	The results will be released, in principle, 5 business days prior to the first day of the MPM in the month following the survey
Method of release	The Bank's web site

The first survey was conducted from February 18 to 25, 2015, and the results were released on March 9.

### **2. Bringing Forward the Release Date of the "Tokyo Money Market Survey"**

As for the "Tokyo Money Market Survey" conducted since 2008, the Bank's Financial Markets Department, paying due attention to requests from market participants, shortened the period from the conduct (August) to the release of the results in Japanese by more than 2-4 months. Results of the 2014 survey were released on October 10, 2014.

## **B. Expanding Forums for Dialogue with Market Participants**

### **1. Establishment of the Bond Market Group**

On January 28, 2015, the Bank's Financial Markets Department announced the establishment of the Bond Market Group to further enhance dialogue with market participants by making best use of the "Bond Market Survey."

The bank decided that the meeting will be held with financial institutions participating in the "Bond Market Survey" or the Meeting with Market Participants. To facilitate more attentive dialogue with bond market participants, participants will be divided into relatively small groups and the Bank will hold meetings twice a year with each group in principle. The first meeting was held over 2 days on June 11 and 12.

### **2. Holding the Meeting with Market Participants**

On December 8, 2014, the Bank's Financial Markets Department held the fifth round of the Meeting with Market Participants that had been held at appropriate intervals since April 2013. At the meeting, the Bank explained and exchanged opinions on (1) recent developments in the financial markets and market operations after the expansion of QQE and (2) efforts aimed at enhancing dialogue with market participants.

### **3. Expansion of the Meeting on Market Operations**

On January 28, 2015, the Bank's Financial Markets Department made an announcement on the Meeting on Market Operations, which had been held in principle twice a year with eligible counterparties for market operations, stating that the time and date of meetings would be made public in advance and that its hours would be extended. At the meeting held on February 25, 2015 under this arrangement, the Bank explained and exchanged opinions on (1) recent developments in the financial markets and market operations, and (2) market-level business continuity plans (BCPs).

### **4. Establishment of the Working Level Meeting with the Study Group for Activation of Short-Term Money Markets**

As part of efforts to better utilize the "Tokyo Money Market Survey," the Bank's Financial Markets Department established a new working-level meeting between the Bank and the Study Group for Activation of Short-Term Money Markets (the Short-Term Money Markets Study Group) comprising representatives of businesses conducting short-term money market transactions. At the first meeting held on January 23, 2015, opinions were exchanged on recent developments in the short-term money markets, the latest movements in the repo market, and efforts on market-level BCPs.

**C. Response to Requests from Market Participants Regarding Market Operations**

The Bank's Financial Markets Department has been taking steps to improve and enhance market operations based on requests from market participants. In fiscal 2014, the Bank decided to respond to requests from the Short-Term Money Markets Study Group (Chart 6-2).

**Chart 6-2: Responses to Requests from the Short-Term Money Markets Study Group in Fiscal 2014**

Increasing the frequency of release of "T-Bills purchased by the Bank of Japan"	The frequency of release of "T-Bills Purchased by the Bank of Japan" was increased from once per month to 3 times per month to enhance the convenience for market participants in observing and analyzing the amount outstanding in the market, starting with the release of data as of November 10, 2014.
Holding working-level meetings with the Bank of Japan	The first working-level meeting with the Short-Term Money Markets Study Group was held on January 23, 2015.
Change of format of application forms	The file formats of some of the application forms regarding collateral accepted by the Bank were expanded to several types.

## **List of Data Sources and Referenced Materials**

Chart 2-1: Bank of Japan, "Bank of Japan Accounts (Every Ten Days)," "Monetary Base and the Bank of Japan's Transactions," etc.

Chart 2-2: Bank of Japan, "Sources of Changes in Current Account Balances at the Bank of Japan and Market Operations (Updated Every Business Day)."

Chart 2-3: Bank of Japan, "BOJ Current Account Balances by Sector."

Chart 2-4: Bank of Japan.

Chart 2-5: Bank of Japan, "Sources of Changes in Current Account Balances at the Bank of Japan and Market Operations (Updated Every Business Day)."

Chart 2-6: Bank of Japan, "Sources of Changes in Current Account Balances at the Bank of Japan and Market Operations (Updated Every Business Day)."

Chart 2-7: Bank of Japan, "Japanese Government Bonds held by the Bank of Japan," "Sources of Changes in Current Account Balances at the Bank of Japan and Market Operations (Updated Every Business Day)," "T-Bills Purchased by the Bank of Japan."

Chart 3-1: Japan Securities Dealers Association, "Tokyo Repo Rate;" Bank of Japan, "Uncollateralized Overnight Call Rate (average) (Updated Every Business Day)."

Chart 3-2: Japan Bond Trading.

Chart 3-3: Japan Bond Trading.

Chart 3-4: Bloomberg; Japan Bond Trading

Chart 3-5: Bloomberg; Bank of Japan.

Chart 3-6: Japan Securities Depository Center.

Chart 3-7: Japan Securities Dealers Association.

Chart 3-8: Bloomberg.

Chart 4-1: Bank of Japan, "Money Market Operations Conducted by the Bank of Japan."

Chart 4-2: Bank of Japan, "Japanese Government Bonds held by the Bank of Japan."

Chart 4-3: Bank of Japan.

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Chart 4-5: Bank of Japan, "Money Market Operations Conducted by the Bank of Japan,"  
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Chart 4-14: Bank of Japan, "Money Market Operations Conducted by the Bank of Japan."

Chart 4-15: Bank of Japan, "Loan Disbursement under the Funds-Supplying Operation to  
Support Financial Institutions in Disaster Areas."

Box Chart 1-1: European Central Bank, "Consolidated Financial Statement of the  
Eurosystem."

Box Chart 1-2: Federal Reserve, "Factors Affecting Reserve Balances."



Box Chart 1-3: Cabinet Office; European Central Bank; Eurostat; United States Department of Commerce; Federal Reserve; Bank of Japan.

Box Chart 2: Bank of Japan, "Amounts Outstanding in the Call Money Market."

Box Chart 3-1: Bank of Japan, "Flow of Funds Accounts," "Monetary Base and the Bank of Japan's Transactions."

Box Chart 3-2: Bloomberg; Japan Bond Trading.

Box Chart 4-1: Bank of Japan, "Flow of Funds Accounts."

Box Chart 4-2: Bank of Japan, "Financial Institutions Accounts."

Box Chart 5: Bloomberg; THOMSON REUTERS; Bank of Japan.

Box Chart 6: Bloomberg; THOMSON REUTERS; Bank of Japan.