BOJ Reports & Research Papers

September 2021

Market Operations in Fiscal 2020

Financial Markets Department

Bank of Japan

Table of Contents

Summary

The Bank of Japan pursued powerful monetary easing throughout fiscal 2020 under the framework of Quantitative and Qualitative Monetary Easing (QQE) with Yield Curve Control, with a view to achieving the price stability target of 2 percent. It conducted (1) the Special Program to Support Financing in Response to the Novel Coronavirus (COVID-19); (2) an ample and flexible provision of funds both in yen and foreign currencies without setting upper limits, mainly through purchases of Japanese government bonds (JGBs) and the U.S. dollar funds-supplying operations; and (3) active purchases of exchange-traded funds (ETFs) and Japan real estate investment trusts (J-REITs), in line with its stance on monetary easing and taking into consideration the impact of COVID-19 on the economy.

Turning to the environment surrounding the Bank's market operations, global financial and capital markets were destabilized due to the spread of COVID-19; upward pressure on Japanese long-term interest rates as well as substantial increases in CP issuance rates and U.S. dollar funding costs were observed from March 2020 through the beginning of fiscal 2020.[1] Moreover, the government made substantial increases in its issuance of treasury discount bills (T-Bills) and JGBs from May and July 2020, respectively, mainly in line with its emergency economic measures. The Bank conducted various market operations, based on guidelines for market operations and for asset purchases decided at each Monetary Policy Meeting (MPM), and continued to (1) support financing mainly of firms, (2) maintain stability in financial markets, and (3) maintain accommodative financial conditions through supporting such financing and maintaining stability, while taking account of various changes in the environment surrounding financial markets -- mainly those mentioned above.

The following were the key points in the conduct of the Bank's operations throughout fiscal 2020.

With respect to (1) the <u>Special Program to Support Financing in Response to the Novel Coronavirus (COVID-19)</u>, the Bank significantly increased the amount of its <u>outright purchases of CP and corporate bonds</u> per auction in response to revisions made to its guidelines for asset purchases -- to increase the maximum amounts of additional purchases of CP and corporate bonds to 15 trillion yen in total and to substantially raise the maximum amounts outstanding of a single issuer's CP and corporate bonds to be purchased. For

[1] In Japan, the fiscal year starts in April and ends in March of the following year.

purchases of corporate bonds, the Bank has set a new sub-segment, "residual maturity of more than 3 years and up to 5 years," as the remaining maturity of corporate bonds eligible for purchase was extended from "1 year or more and up to 3 years" to "1 year or more and up to 5 years," and made purchases accordingly since May 2020. Meanwhile, the Bank flexibly adjusted each purchase size in accordance with factors such as supply and demand conditions in the market and set the lowest bidding yield partly in view of the impact on market functioning. Subsequently, issuance rates for CP decreased markedly after a sharp rise in April 2020, and the corporate bond yield spreads gradually narrowed.

The Bank offered the Special Funds-Supplying Operations to Facilitate Financing in Response to the Novel Coronavirus (COVID-19) twice a month up until August 2020 and once a month from September onward. Moreover, the Bank extended the duration of loans from three months to six months from June onward. It also offered the operations in combination with the newly introduced "New Fund-Provisioning Measure." Loans were utilized by a wide range of sectors and the amount outstanding of the loans increased significantly throughout the fiscal year.

Next, as for (2) an ample and flexible provision of yen and foreign currency funds without setting upper limits, the Bank conducted outright purchases of JGBs so that the yield curve would be formed in a manner consistent with its guidelines for market operations. It flexibly adjusted the purchase size, frequency and issues to be purchased depending on market conditions at the time, so that the functioning of the market would be maintained. Around the period leading up to summer 2020, the Bank increased the frequency of purchases in the maturity zones having residual maturities up to 10 years and also raised their monthly purchase amounts in a phased manner, with a view to maintaining stability in the bond market and stabilizing the entire yield curve at a low level, taking into consideration that the market liquidity remained low and that the government decided to increase the issuance of JGBs. Subsequently, the Bank decreased the frequency of purchases in the short- and medium-term zones from November 2020 onward, and then decreased the purchase amounts in a phased manner in these maturity zones, as the liquidity and functioning of the market gradually improved, mainly taking into consideration the tightening supply and demand against the backdrop of active purchases by the Bank as well as demand from financial institutions for collateral. Meanwhile, the Bank kept the amounts and frequency of monthly purchases of super-long-term JGBs with a residual maturity of over 10 years unchanged throughout the fiscal year, given the existence of a stable investor base and the relatively favorable supply and demand conditions. In addition, the Bank selected issues eligible for purchases more flexibly than in previous times by, for example, excluding some JGBs in a wide range of zones from those eligible for purchase from summer 2020 onward, mainly taking into consideration supply and demand conditions of individual JGBs, as well as continuing to exclude on-the-run super-long-term JGBs from those eligible for purchase. As a result of these operations, long-term interest rates (10-year JGB yields) remained at around 0 percent throughout the fiscal year. Looking at developments in more detail, rates continued to fluctuate in a narrow range due partly to active purchases by the Bank from July 2020, when additional issuance of JGBs by the government took place, through the beginning of 2021. Thereafter, fluctuations were seen occasionally, mainly owing to fluctuations in overseas interest rates and varied market speculation concerning an assessment for further effective and sustainable monetary easing that the Bank announced in December 2020 its plan to carry out.

With respect to outright purchases of T-Bills, the Bank clearly stated in advance that it would purchase about 500 billion to 3.0 trillion yen of T-Bills per auction, partly in view of the impact of the government's large-scale additional issuance of T-Bills on the money market, and flexibly adjusted purchase amounts within this range, taking into consideration developments in supply and demand conditions in the market. Consequently, the yields on T-Bills generally remained stable at around the level of the short-term policy interest rate even amid the additional issuance of T-Bills by the government on a large scale.

Moreover, regarding the provision of foreign currency funds, the Bank offered 1-week operations of U.S. Dollar Funds-Supplying Operations, based on the U.S. Dollar-Yen Swap Agreement with the Federal Reserve Bank of New York, on all business days in principle until the end of June 2020. Subsequently, the Bank reduced the frequency of the 1-week operations in a phased manner, offering them on a weekly basis in principle from September 2020 onward, in view of improvements in U.S. dollar funding conditions and the low demand for the 1-week operations. With respect to the 3-month operations, the Bank offered them on a weekly basis, in principle, throughout the fiscal year. U.S. dollar funding costs rose significantly and the amount of usage of the operations also increased substantially toward the end of June 2020; however, the amount gradually decreased as the U.S. dollar money markets regained stability.

With respect to (3) outright purchases of ETFs and J-REITs, the Bank conducted active purchases in line with its guidelines for asset purchases so that their amounts outstanding would increase at annual paces with upper limits of about 12 trillion yen and 180 billion yen, respectively. The Bank adjusted each purchase's amount flexibly.

At the MPM held in March 2021, the Bank conducted the assessment for further effective and sustainable monetary easing, as described above, and decisions such as the following were made: (1) to establish the "Interest Scheme to Promote Lending"; (2) to clarify that the range of 10-year JGB yield fluctuations would be between around plus and minus 0.25 percent from the target level in order to flexibly conduct yield curve control during normal times; (3) and to purchase ETFs and J-REITs as necessary with upper limits on annual paces of increase in their amounts outstanding and maintain these upper limits even after COVID-19 subsided.

Meanwhile, turning to the money market, GC repo rates remained stable at a level slightly above the short-term policy interest rate under the three-tier system applied to current accounts held at the Bank. Moreover, the uncollateralized call rate remained in negative territory. In the uncollateralized call market, an increasing number of financial institutions, mainly those that had increased financing capacity against the backdrop of the raised upper bound on their macro add-on balances through using the Special Operations in Response to the Novel Coronavirus (COVID-19), accelerated their funding.

I. Introduction

During fiscal 2020 (April 1, 2020 to March 31, 2021), the Bank of Japan pursued powerful monetary easing under the framework of Quantitative and Qualitative Monetary Easing (QQE) with Yield Curve Control with a view to achieving the price stability target of 2 percent.

Based on the foregoing, as part of countermeasures against the impact of COVID-19, the Bank conducted (1) purchases of CP and corporate bonds as well as the Special Funds-Supplying Operations to Facilitate Financing in Response to the Novel Coronavirus (COVID-19) under the Special Program to Support Financing in Response to the Novel Coronavirus (COVID-19); (2) an ample and flexible provision of funds mainly through purchases of JGBs and U.S. dollar funds-supplying operations; and (3) active purchases of ETFs and J-REITs. These were carried out with the aim to support financing, mainly of firms, and to maintain stability in financial markets.

At the Monetary Policy Meeting (MPM) held on March 18 and 19, 2021, the Bank conducted an assessment for further effective and sustainable monetary easing, and decisions such as the following were made: to establish the Interest Scheme to Promote Lending; to clarify that the range of 10-year JGB yield fluctuations would be between around plus and minus 0.25 percent from the target level, in order to flexibly conduct yield curve control during normal times; and to purchase ETFs and J-REITs as necessary with upper limits of about 12 trillion yen and about 180 billion yen, respectively, on annual paces of increase in their amounts outstanding and to maintain these upper limits even after COVID-19 subsides.

Under the monetary policy described above, with respect to yield curve control, the Bank applied a negative interest rate of minus 0.1 percent to the policy-rate balances in current accounts held by financial institutions at the Bank for short-term interest rates and purchased JGBs so that 10-year JGB yields remain at around 0 percent for long-term interest rates, which is in line with the guideline for market operations determined at each MPM. Based on the above, 10-year JGB yields stayed at around 0 percent and a yield curve consistent with the guidelines for market operations was formed throughout fiscal 2020.

With respect to purchases of assets other than JGBs, the Bank purchased a wide range of assets, including ETFs, J-REITs, CP, and corporate bonds, in line with the guidelines for asset purchases also determined at each MPM.

This paper elaborates on these market operations in fiscal 2020. The rest of this paper is organized as follows. First, Chapter II provides an outline of the Bank's market operations. Next, Chapter III describes the developments in financial markets such as Japanese money markets and bond markets, and the conduct of each measure in market operations. Chapter IV discusses changes in the frameworks related to market operations. Finally, Chapter V presents the Bank's actions to enhance dialogue with market participants.

II. Outline of the Conduct of Market Operations by the Bank during Fiscal 2020

A. Market Operations

1. Monetary Policy Decisions and the Guidelines for Market Operations and Asset Purchases

With a view to achieving the price stability target of 2 percent, the Bank implemented active measures to address the impact of COVID-19 on the economy and pursued powerful monetary easing throughout fiscal 2020 under the framework of QQE with Yield Curve Control introduced at the MPM held on September 20 and 21, 2016.

Specifically, at the MPM held on April 27, 2020, the Bank decided to strengthen monetary easing mainly by increasing purchases of CP and corporate bonds, enhancing the Special Funds-Supplying Operations to Facilitate Financing in Response to the Novel Coronavirus (COVID-19) (hereinafter referred to as the Special Operations in Response to COVID-19), and further actively purchasing JGBs with a view to doing its utmost to ensure smooth financing, such as of financial institutions and firms, and maintaining stability in financial markets. In addition, at the unscheduled MPM held on May 22, the Bank decided to introduce a "New Fund-Provisioning Measure" through which funds will be supplied up to the maximum amounts outstanding of eligible loans reported by eligible counterparties to further support financing of small and medium-sized firms. This measure constitutes the Special Program to Support Financing in Response to the Novel Coronavirus (COVID-19), together with the purchases of CP and corporate bonds by the Bank and the Special Operations in Response to COVID-19. Meanwhile, the duration of the program was extended by 6 months until the end of March 2021. Moreover, at the MPM held on December 17 and 18, 2020, the Bank further extended the duration of the program by 6 months until the end of September 2021. This decision was made with a view to continuing to support financing, mainly of firms.

At the MPM held on March 18 and 19, 2021, with a view to achieving the price stability target, the Bank conducted an assessment for further effective and sustainable monetary easing (hereinafter referred to as the "assessment") and decided to, for example, clarify the range of 10-year JGB yield fluctuations, make revisions to the guidelines for asset purchases, establish the Interest Scheme to Promote Lending, and introduce "fixed-rate purchase operations for consecutive days" (see Chapter IV.A below), given that economic activity and prices are projected to remain under downward pressure for a prolonged period due to the impact of COVID-19.

Under the monetary policy described above, the guideline for market operations pertaining to yield curve control was to (1) "apply a negative interest rate of minus 0.1 percent to the policy-rate balances in current accounts held by financial institutions at the Bank" for short-term interest rates; and (2) purchase JGBs so that "10-year JGB yields remain at around 0 percent" for long-term interest rates throughout fiscal 2020. With regard to the amount of JGBs to be purchased, the Bank had maintained its stance to "conduct purchases in a flexible manner so that their amount outstanding will increase at an annual pace of about 80 trillion yen"; however, at the MPM held on April 27, 2020, the Bank decided to "purchase a necessary amount of JGBs without setting an upper limit" with a view to maintaining stability in the bond market and stabilizing the entire yield curve at a low level. In addition, with respect to fluctuations in long-term interest rates, the Bank considered that "the yields may move upward and downward to some extent mainly depending on developments in economic activity and prices," while the Bank had "announced to allow long-term interest rates (10-year JGB yields) to move upward and downward in about double the range, which was previously between around plus and minus 0.1 percent from the target level" when the "Strengthening the Framework for Continuous Powerful Monetary Easing" was implemented in July 2018. Based on the results of the "assessment" at the MPM held on March 18 and 19, 2021, the Bank clarified that the fluctuations were "between around plus and minus 0.25 percent from the target level."

As for the guidelines for asset purchases excluding those for JGBs, the Bank was to "actively purchase ETFs and J-REITs for the time being so that their amounts outstanding will increase at annual paces with the upper limit of about 12 trillion yen and about 180 billion yen, respectively."[2] Subsequently, based on the results of the "assessment," the Bank decided to maintain the increased upper limits even after COVID-19 subsides at the MPM held on March 18 and 19, 2021. With respect to CP and corporate bond purchases, it was decided to "maintain their amounts outstanding at about 2 trillion yen and about 3 trillion yen, respectively."[3] Moreover, at the MPM held on March 16, 2020, the maximum amount of additional purchases was set at 1 trillion yen

[2] Prior to the decision made at the MPM on March 18 and 19, 2021, the guideline for purchases of ETFs and J-REITs was, in principle, to "purchase these assets so that their amounts outstanding would increase at annual paces of about 6 trillion yen and about 90 billion yen, respectively. With a view to lowering risk premia of asset prices in an appropriate manner, the Bank may increase or decrease the amount of purchases depending on market conditions."

[3] Prior to the decision made at the MPM on April 27, 2020, the guideline for purchases of CP and corporate bonds was to "maintain their amounts outstanding at about 2.2 trillion yen and about 3.2 trillion yen, respectively."

for each asset. Subsequently, the maximum amounts of additional purchases were increased significantly to 7.5 trillion yen for each asset at the MPM held on April 27, 2020. Thereafter, it was decided that "the additional purchases of CP and corporate bonds would be conducted with an upper limit on the amount outstanding of 15 trillion yen in total and that 15 trillion yen would be distributed between each asset depending on market conditions" at the MPM held on December 17 and 18, 2020. Furthermore, the Bank decided to "purchase CP and corporate bonds with an upper limit on the amount outstanding of about 20 trillion yen in total until the end of September 2021" at the MPM held on March 18 and 19, 2021."[4]

In addition, with respect to its inflation-overshooting commitment, it was stipulated that the Bank was to "continue expanding the monetary base until the year-on-year rate of increase in the observed CPI (all items less fresh food) exceeds 2 percent and stays above the target in a stable manner."

2. Summary of Operations

During fiscal 2020, the Bank conducted various market operations as described below based on the above guidelines for market operations and asset purchases.

With regard to outright purchases of JGBs, the Bank conducted purchases so that the yield curve would be formed in a manner consistent with its guidelines for market operations. The Bank flexibly adjusted the purchase size, frequency, and issues to be purchased depending on market conditions at the time so that the functioning of the market would be maintained.

Specifically, around the period leading up to summer 2020, the Bank increased the frequency of purchases in the maturity zones having residual maturities up to 10 years and also raised their monthly purchase amounts in a phased manner, with a view to maintaining stability in the bond market and stabilizing the entire yield curve at a low level, taking into consideration that the market liquidity remained low and that the government decided to increase the issuance of JGBs as part of the emergency economic measures amid the COVID-19 crisis. Subsequently, the Bank decreased the frequency of monthly purchases while maintaining the monthly purchase amounts in each of the maturity zones of the residual maturity up to 5 years generally unchanged from

[4] A certain amount of CP and corporate bonds will continue to be purchased even after the outright purchases of CP and corporate bonds in response to the impact of COVID-19 end.

November 2020 onward, as the liquidity and functioning of the market gradually improved. From January 2021 onward, the Bank decreased the purchase amounts in a phased manner in these maturity zones, mainly taking into consideration the tightening supply and demand against the backdrop of past active purchases by the Bank as well as the robust demand from financial institutions for collateral. Meanwhile, the Bank kept the amounts and frequency of monthly purchases of super-long-term JGBs with a residual maturity of over 10 years unchanged throughout the fiscal year, given the existence of a stable investor base and the relatively favorable supply and demand conditions. In addition, the Bank selected issues eligible for purchases more flexibly than in previous times by, for example, excluding some JGBs in a wide range of zones from those eligible for purchase from summer 2020 onward, mainly taking into consideration supply and demand conditions of individual JGBs, as well as continuing to exclude on-the-run super-long-term JGBs from those eligible for purchase.

After the MPM held on March 18 and 19, 2021, the Bank made revisions to the "Outline of Outright Purchases of Japanese Government Securities," based on the results of the "assessment." The Outline stipulated that, starting from April, the amount of outright purchases of JGBs through the competitive auction method would be described as a specific amount in the announcement of the monthly schedule of outright purchases for the month, instead of showing it in the conventional form of a range. In the relevant month, the Bank, in principle, would purchase JGBs accordingly. In addition, with respect to purchases of JGBs through the fixed-rate method (fixed-rate purchase operations), it was stated to the effect that "the Bank will conduct the auctions as needed, such as when the level of the yield curve rises substantially, posing the risk of the long-term interest rate (10-year JGB yields) surpassing the upper limit of the range," clarifying the relationship between the Bank's JGB purchases and the fluctuations in the long-term interest rate.

With respect to outright purchases of T-Bills, the Bank flexibly adjusted purchase amounts, schedule of purchases, and T-Bills eligible for purchase, and conducted purchases nimbly and actively as necessary.

Specifically, considering the effects of the large-scale increase in the issuance of T-Bills on the money market, the Bank announced that the purchase size would be within the range of "about 500 billion yen to 3.0 trillion yen" in advance and flexibly adjusted the purchase sizes within the aforementioned range for each auction, while taking into consideration the supply and demand conditions. With respect to the purchase schedule, the Bank had conducted purchases generally once a week, on the second business day following the auction of T-bills in principle; however, when there were a large number of auctions in a short time frame, the Bank also conducted purchases on the following business day after the auction with a view to ensuring market stability.

The Bank significantly increased the amount of outright purchases of CP and corporate bonds per auction, given that the maximum amounts of additional purchases of CP and corporate bonds, as well as the maximum amounts outstanding of a single issuer's CP and corporate bonds to be purchased, were increased in the guidelines for asset purchases. In addition, for purchases of corporate bonds, the Bank has set a new sub-segment, "residual maturity of more than 3 years and up to 5 years," as the remaining maturity of corporate bonds eligible for purchase was extended from "1 year or more and up to 3 years" to "1 year or more and up to 5 years," and made purchases accordingly since May 2020. Meanwhile, the Bank flexibly adjusted each purchase size in accordance with factors such as supply and demand conditions in the market and set the lowest bidding yield partly in view of the impact on market functioning.

With respect to outright purchases of ETFs and J-REITs, the Bank conducted purchases in line with the above-mentioned guidelines for asset purchases so that their amounts outstanding would increase at annual paces with upper limits of about 12 trillion yen and about 180 billion yen, respectively. With respect to the ETF lending facility, running tests on the lending operation were conducted between the trustees and eligible counterparties, and lending on a daily basis commenced in June 2020.

With respect to the Fixed-Rate Funds-Supplying Operations against Pooled Collateral, the Bank continued to offer 1- to 3-week term operations generally on a bi-weekly basis, in accordance with market conditions at the time.

Offers were made once every 3 months for both the Growth-Supporting Funding Facility and the Stimulating Bank Lending Facility. The Funds-Supplying Operation to Support Financial Institutions in Disaster Areas and the Funds-Supplying Operation to Support Financial Institutions in Disaster Areas of the 2016 Kumamoto Earthquake were conducted once a month during the period from April to June 2020. Following the amendment to the Funds-Supplying Operation to Support Financial Institutions in Disaster Areas determined at the MPM held on March 16, 2020, the Bank integrated these operations into the new one from July, extended the duration of each loan to up to 2 years, and offered the operations as the new Funds-Supplying Operation to Support Financial Institutions in Disaster Areas on a monthly basis.

The Bank offered the Special Funds-Supplying Operations to Facilitate Financing in Response to the Novel Coronavirus (COVID-19) twice a month up to August 2020 and once a month from September 2020 onward. Moreover, the Bank extended the duration of loans from 3 months to 6 months from June onward, and offered these extended operations in conjunction with the newly introduced "New Fund-Provisioning Measure."

The Bank offered the 1-week U.S. Dollar Funds-Supplying Operations based on the U.S. dollar-yen swap arrangements with the Federal Reserve Bank of New York (NY Fed), principally on all business days until the end of June 2020. Subsequently, considering the improvement in the U.S. dollar funding conditions and lowered demand for the operations, the Bank reduced the frequency in a phased manner and, from September 2020 onward, offered the operations on a weekly basis, in principle. With respect to 3-month operations, the Bank offered the operations on a weekly basis, in principle, throughout the fiscal year. The Securities Lending to Provide JGSs as Collateral for the U.S. Dollar Funds-Supplying Operations were conducted with great frequency in the beginning of fiscal 2020, in response to the counterparties' demand, under the condition that a significant amount of bids on the U.S. Dollar Funds-Supplying Operations were observed. Thereafter, the use of securities lending decreased following the decrease in bidding for the operations.

With respect to the Securities Lending Facility, the Bank extended the implementation period of the two measures (increasing the number of JGS issues offered and raising the upper limit on the number of issues allowed for the submission of bids by a counterparty per auction), which had been implemented in March 2020. The bank also made requests for issues of JGSs by counterparties in advance unnecessary, and offered issues twice a day on all business days.

3. Benchmark Ratio for Macro Add-on Balances

During fiscal 2020, the Bank set the Benchmark Ratio so that the "hypothetical policy-rate balance" stayed at about 5 trillion yen, in line with the policy to "reduce [this balance] from the current level of about 10 trillion yen on average" "…under the condition that yield curve control can be conducted appropriately" that was set forth at the MPM held on July 30 and 31, 2018. While the Benchmark Ratio is to be reviewed, in principle, once every three reserve maintenance periods, considerable uncertainties about changes in treasury funds and others and about the use of the operations persisted in fiscal 2020; therefore, the Bank reviewed the ratio every reserve maintenance period starting from May 2020.[5]

B. The Bank's Balance Sheet

Under the conduct of the aforementioned market operations, the Bank's balance sheet and the monetary base continued to expand (Chart 2-1).

The Bank's balance sheet stood at 714.6 trillion yen at the end of March 2021, an increase of 110.1 trillion yen from a year earlier. Meanwhile, the monetary base amounted to 643.6 trillion yen at the end of March 2021, an increase of 133.8 trillion yen from a year earlier.

On the asset side of the balance sheet, a wide range of assets such as the Special Operations in Response to COVID-19, JGBs, T-Bills, CP, corporate bonds, ETFs, and J-REITs increased since, under QQE with Yield Curve Control, the Bank pursued powerful monetary easing by taking active measures, considering the economic impact of COVID-19. On the other hand, reflecting the decrease in the use of the U.S. Dollar Funds-Supplying Operations, foreign currency assets decreased significantly by 18.3 trillion yen from the year-earlier level to 7.7 trillion yen.

On the liability side of the balance sheet, banknotes increased by 6.4 trillion yen from a year earlier to 116.0 trillion yen and current account balances at the Bank increased by 127.3 trillion yen from a year earlier to 522.6 trillion yen. Meanwhile, payables under repurchase agreements decreased substantially by 23.5 trillion yen from a year earlier to 0.6 trillion yen, as the Securities Lending to Provide JGSs as Collateral for the U.S. Dollar Funds-Supplying Operations and sales of JGSs with repurchase agreements to supply JGSs were decreased to zero. Other deposits, including deposits from foreign central banks and others, also decreased significantly by 25.0 trillion yen from the year-earlier level to 26.8 trillion yen.

[5] The amendments to "Principal Terms and Conditions of Complementary Deposit Facility" (made on March 19, 2021) stipulate that the Benchmark Ratio shall be reviewed, in principle, every reserve maintenance period starting from the April 2021 reserve maintenance period.

Chart 2-1: The Bank's Balance Sheet

trillion yen

	End-Mar.2016	End-Mar.2017	End-Mar.2018	End-Mar.2019	End-Mar.2020	End-Mar.2021	Year-on-year
JGBs	301.9	377.1	426.6	459.6	473.5	495.8	+22.2
CP	2.0	2.0	2.1	2.0	2.6	2.9	+0.3
Corporate bonds	3.2	3.2	3.2	3.2	3.2	7.5	+4.3
ETFs	7.6	12.9	18.9	24.8	29.7	35.9	+6.2
J-REITs	0.29	0.38	0.48	0.52	0.58	0.67	+0.1
Loan Support Program	30.1	43.4	45.6	46.1	49.2	60.0	+10.8
Outright purchases of T-Bills	36.9	32.6	18.8	7.9	10.2	34.2	+24.0
Funds-Supplying Operation to Support Financial Institutions in Disaster Areas	0.3	0.5	0.5	0.7	0.5	0.5	▲0.0
Special Funds-Supplying Operations to Facilitate Financing in Response to the Novel Coronavirus (COVID-19)	-	-	-	-	3.4	64.8	+61.4
Funds-Supplying Operations against Pooled Collateral	3.7	0.7	0.4	0.7	1.2	0.5	▲0.7
Foreign currency assets	6.7	6.6	6.4	6.7	26.0	7.7	▲18.3
Total assets (including others)	405.6	490.1	528.3	557.0	604.5	714.6	+110.1
Banknotes	95.6	99.8	104.0	107.6	109.6	116.0	+6.4
Current account balances	275.4	342.8	378.2	393.9	395.3	522.6	+127.3
Other deposits	7.5	13.6	21.4	27.5	51.8	26.8	▲25.0
Payables under repurchase agreements	0.2	3.4	0.3	0.2	24.1	0.6	▲23.5
Total liabilities and net assets (including others)	405.6	490.1	528.3	557.0	604.5	714.6	+110.1

Monetary base	375.7	447.3	487.0	506.3	509.8	643.6	+133.8

Notes: 1. Loan Support Program does not include the Special Rules for the U.S. Dollar Lending Arrangement to Enhance the Growth-Supporting Funding Facility.
2. "Outright purchases of T-bills" does not reflect changes in the amount of T-bills induced by, for example, the Bank's transactions with the government.
3. "Funds-Supplying Operation to Support Financial Institutions in Disaster Areas" includes the funds-supplying operations to support financial institutions in disaster areas of the 2016 Kumamoto earthquake.
4. "Special Operations in Response to COVID-19" in March 2020 is the balance of the Special Funds-Supplying Operations to Facilitate Corporate Financing regarding the Novel Coronavirus.
5. "Foreign currency assets" is the sum of foreign currency-denominated assets held by the Bank, foreign currency loans by U.S. Dollar Funds-Supplying Operations against pooled collateral, and other assets.
6. "Other deposits" represents deposits such as those held by foreign central banks.
7. "Payables under repurchase agreements" includes the Securities Lending Facility, sales of JGSs with repurchase agreements, and Securities Lending to Provide JGSs as Collateral for the U.S. Dollar Funds-Supplying Operations.

C. Developments in Exogenous Sources of Changes in Current Account Balances at the Bank

Financial institutions' current account balances at the Bank change along with market operations as well as receipts and payments of banknotes and treasury funds between financial institutions and the Bank or the government. Changes in the current account balances at the Bank resulting from factors other than market operations are called "exogenous sources of changes in current account balances at the Bank." Exogenous sources of changes in current account balances at the Bank are categorized into (1) "changes in banknotes" resulting from exchanges of banknotes for deposits in the current accounts and (2) "changes in treasury funds and others" mainly resulting from exchanges of funds between the current accounts and government deposits.

During fiscal 2020, exogenous sources of changes in current account balances at the Bank, particularly changes in treasury funds and others, caused current account balances to decrease by 155.1 trillion yen. The decrease was large compared with the 75.9 trillion yen decrease in fiscal 2019, due mainly to larger net receipts (more issuance than redemption, a source of decrease in current account balances) from JGBs (with a residual maturity of more than 1 year) and T-Bills issuances.

1. Changes in Banknotes

The outstanding balance of banknotes continued on an uptrend during fiscal 2020, and stood at 118.3 trillion yen (an increase of 5.0 percent year-on-year) at the end of December 2020 and 116.0 trillion yen (an increase of 5.8 percent year-on-year) at the end of March 2021 (Chart 2-2). Reflecting this increase in banknote issuance, changes in banknotes continued to be a source of decrease in current account balances at the Bank in fiscal 2020, as the amount of net issuance was significantly larger than that of fiscal 2019, increasing from 2.1 trillion yen to 6.4 trillion yen.

The cumulative changes in banknotes from the start of fiscal 2020 indicated that households, in particular, possessed an excess amount of banknotes due to the heightened uncertainty caused by the spread of COVID-19, especially in the first half, and the amount of net issuance leaned toward increases compared with previous years. Accordingly, the cumulative amount of net issuance in fiscal 2020 exceeded that of fiscal 2019 (Chart 2-3).

Chart 2-2: Outstanding Balance of Banknotes Issued

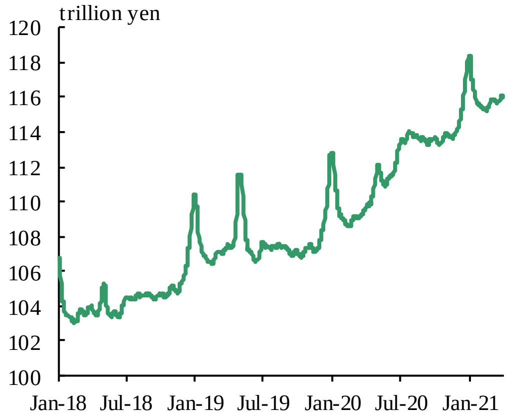
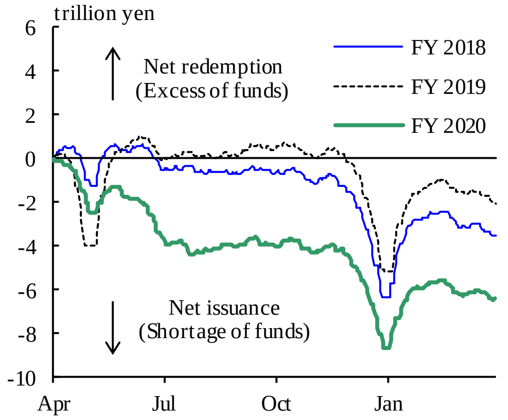


Chart 2-3: Cumulative Changes in Banknotes from the Start of the Fiscal Year



2. Changes in Treasury Funds and Others

In fiscal 2020, changes in treasury funds and others registered net receipts of 148.7 trillion yen (decrease in current account balances at the Bank),[6] an increase from the net receipts of 73.8 trillion yen in fiscal 2019 (Chart 2-4). After adjusting for the increment by which the repayment amount to financial institutions decreased as a result of the Bank having purchased JGBs and T-Bills as part of its market operations (hereinafter referred to as the "repayment adjustment"[7]), net receipts amounted to 20.3 trillion yen. Compared with fiscal 2019 when this was 3.1 trillion yen after the repayment adjustment, these net receipts decreased the current account balances at the

6 The net amount of JGBs and T-Bills issued (or redeemed) is registered as changes in treasury funds and others, provided that the Bank does not engage in market operations. If the Bank purchases JGBs and T-Bills from financial institutions and holds them to maturity, these positions are not netted out. Specifically, the Bank records net receipts for changes in treasury funds and others (decrease in current account balances at the Bank) when JGBs and T-Bills are issued by the government. The Bank's purchases of JGBs and T-Bills are sources of increase in current account balances at the Bank, while the current account balances do not see a change upon redemption of the securities. As a result, changes in treasury funds and others register substantial net receipts (decrease in current account balances at the Bank) due to the Bank's market operations, although receipts and payments for changes in treasury funds and others are assumed to be largely commensurate with one another.

7 With "repayment adjustments," regarding JGBs and T-Bills redeemed from the government to the Bank, adjustments are made to treat these as if the Bank sold them to financial institutions just before redemption and financial institutions received the redemptions from the government. For this reason, after repayment adjustments are carried out, there are changes in the amount of fluctuation for JGBs (with a residual maturity of more than 1 year) and T-Bills from among changes in treasury funds and others, as well as in purchases of JGBs and T-Bills as part of market operations (Chart 2-6).

Bank by 17.2 trillion yen (Charts 2-5 and 2-6).

As for the factors behind this decrease, while fiscal expenditures increased compared with fiscal 2019 in association with countermeasures against COVID-19, the net issuance amounts of T-Bills and JGBs increased significantly, exceeding the fiscal expenditures.

Specifically, with regard to the fiscal expenditures, a large amount of the budgets was implemented for economic measures and preventive measures related to COVID-19, such as special cash payments to individuals and subsidies for municipal governments in addition to financing support and cash payments for firms (Chart 2-7). On the other hand, reflecting the increase in budget size, the issuance amount of T-Bills was increased to 487.3 trillion yen (from 273.1 trillion yen in fiscal 2019) with incremental increase in the issuance amount per issue. The issuance amount of JGBs (with a maturity of more than 1 year) also increased to 139.7 trillion yen (from 122.2 trillion yen in fiscal 2019) by the additional issuance in a wide range of maturity zones. As the net amount of T-Bills and JGBs issued exceeded fiscal expenditures, the government deposit balance as of the end of March 2021 increased by 24.3 trillion yen year-on-year to 36.9 trillion yen (Chart 2-8).

Developments of yen-denominated deposits received by the Bank from foreign central banks and international institutions also affect the current account balances at the bank, which are included in "Others" of "Treasury funds and others." The balance of deposits received from overseas monetary authorities mainly for the purpose of yen-denominated foreign reserves declined in fiscal 2020. This balance tends to fluctuate significantly due mainly to the asset investment policies of the individual depositors, contributing to the daily fluctuations seen in the current account balances at the Bank.

Chart 2-4: Cumulative Changes in Treasury Funds and Others from the Start of the Fiscal Year

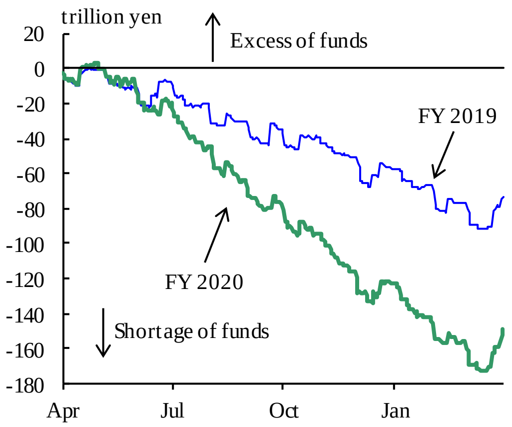


Chart 2-5: Cumulative Changes in Treasury Funds and Others from the Start of the Fiscal Year (After Repayment Adjustments)

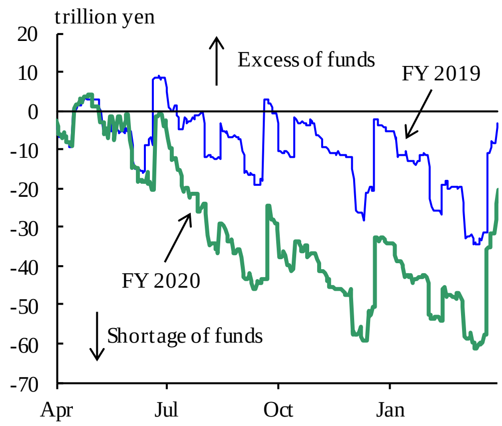


Chart 2-6: Sources of Changes in Current Account Balances at the Bank

trillion yen

	Before adjustment			After adjustment		
	FY 2019	FY 2020	Year-on-year	FY 2019	FY 2020	Year-on-year
Banknotes	-2.1	-6.4	-4.3	-2.1	-6.4	-4.3
Treasury funds and others	-73.8	-148.7	-74.9	-3.1	-20.3	-17.2
Net fiscal payments	22.0	83.4	61.4	22.0	83.4	61.4
JGBs (more than 1 year)	-73.3	-94.5	-21.2	-18.4	-33.6	-15.2
T-Bills	-17.0	-142.9	-125.9	-1.2	-75.4	-74.1
Foreign exchange	-0.9	-1.1	-0.2	-0.9	-1.1	-0.2
Others	-4.6	6.4	11.0	-4.6	6.4	11.0
Surplus/shortage of funds	-75.9	-155.1	-79.2	-5.2	-26.7	-21.5
BOJ loans and market operations	77.2	282.4	205.2	6.6	154.0	147.5
Outright purchases of JGBs	70.7	85.0	14.3	15.7	24.1	8.4
Outright purchases of T-Bills	18.1	91.6	73.5	2.3	24.1	21.7
Special funds-supplying operations to facilitate financing in response to the novel coronavirus	3.4	61.4	58.0	3.4	61.4	58.0
Securities lending to provide JGSs as collateral for the U.S. dollar funds-supplying operations	-19.2	19.2	38.5	-19.2	19.2	38.5
Loan Support Program	3.1	10.8	7.8	3.1	10.8	7.8
Other loans and market operations	1.3	14.4	13.1	1.3	14.4	13.1
Net change in current account balances	1.4	127.3	125.9	1.4	127.3	125.9

Notes: 1. As for banknotes, negative figures represent a net increase in banknotes. As for treasury funds and others, negative figures represent net receipts of the treasury. As for BOJ loans and market operations, positive figures represent the supply of funds.
2. The shaded areas indicate increase or decrease of figures after repayment adjustments.

Chart 2-7: Treasury Funds Payments with Private Sector

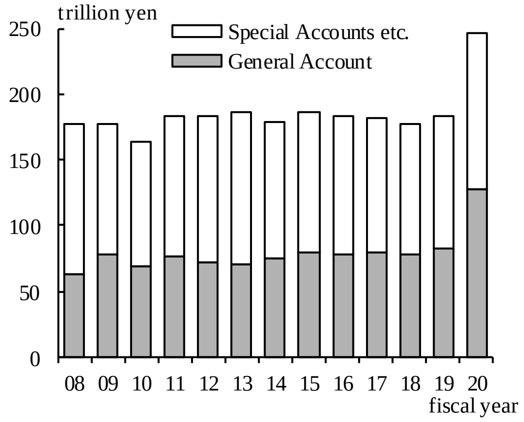
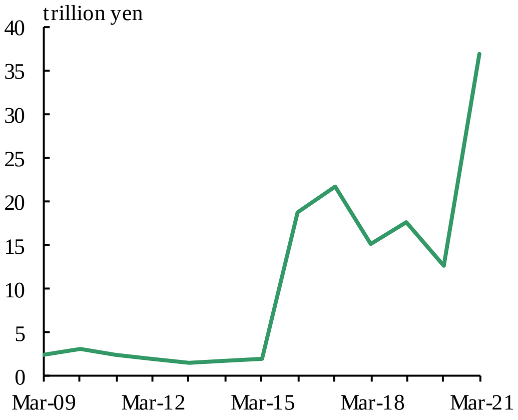


Chart 2-8: Government Deposit Balance



Box 1: Changes in Current Account Balances at the Bank and Adjustment in the Benchmark Ratio during the COVID-19 Crisis

A. Changes in Current Account Balances at the Bank

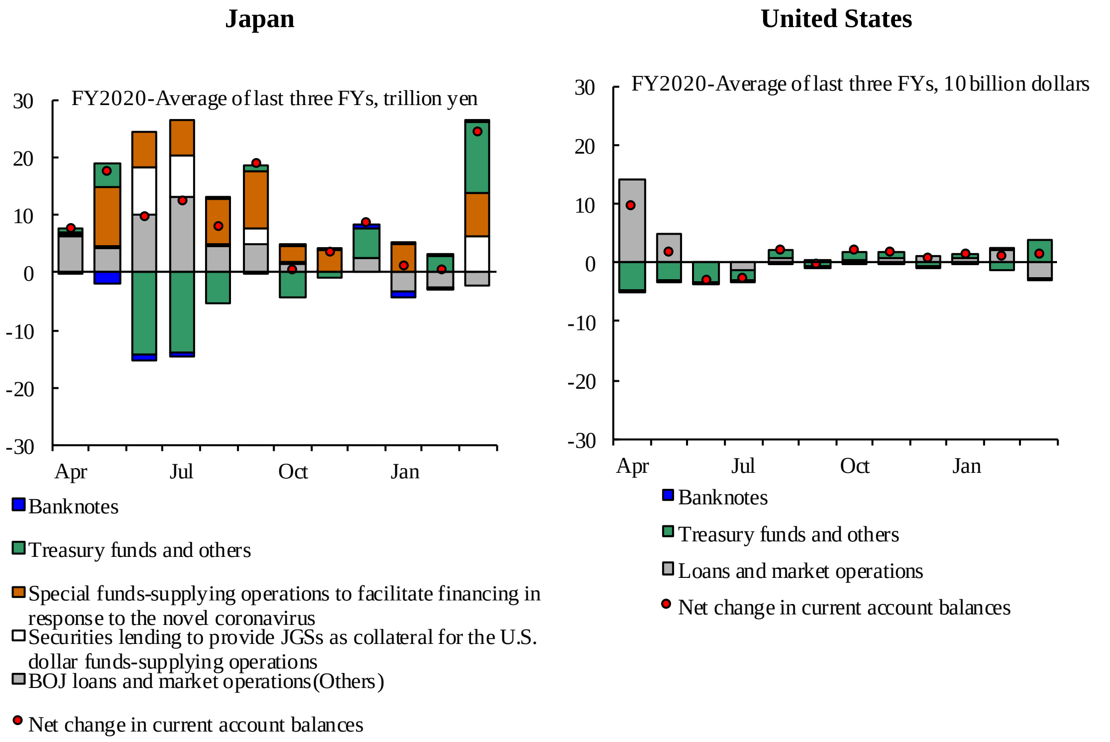
Looking back on the changes in current account balances at the Bank in fiscal 2020, changes in treasury funds and others contributed to a decrease in the current account balances at the Bank due to the increase in the issuance of JGBs and T-Bills by the government following the implementation of its large-scale economic measures. On the other hand, changes in market operations caused the current account balances at the Bank to increase, resulting in a surplus of funds as a whole compared with previous years, as the Bank supplied ample funds through various market operations including the Special Operations in Response to COVID-19.

In fiscal 2020, exogenous sources of changes in current account balances at the Bank, both changes in banknotes and changes in treasury funds and others, were strongly affected by COVID-19. It continued to be difficult to project the timing and size of annual revenue and expenditure, especially for changes in treasury funds and others, as the budget items of the government's three supplementary budgets for fiscal 2020 included ones for which implementation progress would depend on the spread of COVID-19 and private sectors' demand for the funds.

Moreover, the outlook for market operations is relatively easy to project, since, basically, the Bank itself determines the size of market operations. Throughout fiscal 2020, however, it was more difficult to make projections than in previous years due to the increased use of the Special Operations in Response to COVID-19, for which counterparty financial institutions themselves decide the total amount they use, and the Securities Lending to Provide JGSs as Collateral for the U.S. Dollar Funds-Supplying Operations, for which the use has increased in tandem with that of the U.S. Dollar Funds-Supplying Operations. It can be confirmed that, in comparison with the United States, significant factors for the increase and decrease in the current accounts can be attributed to, with fluctuations, exogenous sources such as changes in treasury funds and others and the Special Operations in Response to COVID-19 in Japan (Box Chart 1-1).

In fiscal 2020, the Bank reviewed the Benchmark Ratio, which was previously to be "reviewed and announced, in principle, every three reserve maintenance periods," every reserve maintenance period starting from May 2020, owing partly to the reasons described above.

Box Chart 1-1: Comparison of the Changes in Current Account Balances with Past Fiscal Years



Notes: 1. Figures for the U.S. are the differences between the amounts outstanding on Wednesday of the final week of the previous month and the amounts outstanding on Wednesday of the final week of the present month.
2. Figures are those after the repayment adjustment.

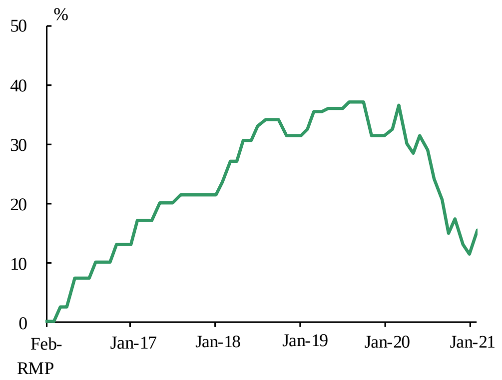
B. Benchmark Ratio

Current account balances at the Bank fluctuate monthly, mainly due to seasonal changes in banknotes and in treasury funds and others, as well as amounts outstanding of various operations conducted by the Bank. Under these circumstances, the Bank set the Benchmark Ratio so that the "hypothetical policy-rate balance" stayed at "about 5 trillion yen" while carefully ascertaining developments in the issuance and repayments of JGBs and T-Bills and in fiscal expenditures, as well as the effects of various operations.

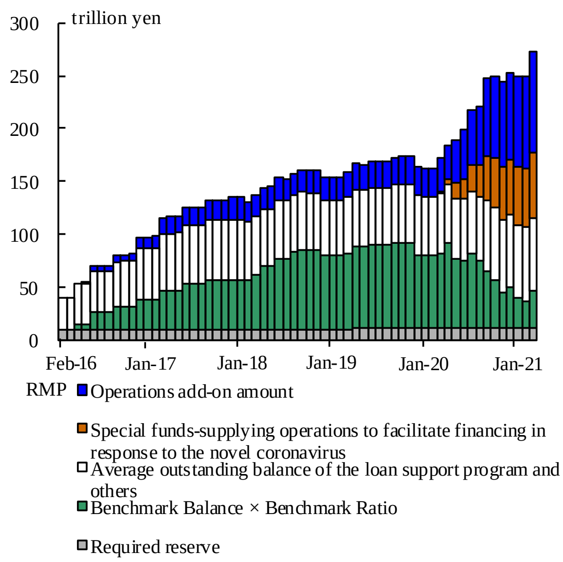
Looking back at fiscal 2020, the Benchmark Ratio declined significantly throughout the year. Specifically, the Benchmark Ratio was at 15.5 percent at the end of fiscal 2020, in the March 2021 reserve maintenance period, whereas it had started at 36.5 percent at the beginning of the fiscal year, in the April 2020 reserve maintenance period (Box Chart 1-2).

In fiscal 2020, many financial institutions actively used the Special Operations in Response to COVID-19 and the Fund-Provisioning Measure to Stimulate Bank Lending. In particular, the amounts outstanding of the Special Operations in Response to COVID-19 increased notably, due partly to strengthening measures for those operations -- to expand the range of eligible collateral and to apply a positive interest rate of 0.1 percent to the outstanding balances of current accounts held by financial institutions at the Bank corresponding to the amounts outstanding of loans provided through this measure -- which were introduced in fiscal 2020 (for details, see III.H.[1]). Under the three-tier system, the increase in the amounts outstanding for these operations and the associated measures to add macro add-on balances significantly functioned to push up the upper bound on their macro add-on balances. The Bank thus lowered the Benchmark Ratio to curb these sources of changes excessively pushing down the "hypothetical policy-rate balance" and maintain the level of the balance at about 5 trillion yen (Box Chart 1-3).

Box Chart 1-2: Benchmark Ratio



Box Chart 1-3: Change of Upper Bound on Macro Add-on Balances



Notes: 1. "loan support program and others" includes the Stimulating Bank Lending Facility, the Growth-Supporting Funding Facility, the Funds-Supplying Operation to Support Financial Institutions in Disaster Areas (includes the Funds-Supplying Operation to Support Financial Institutions in Disaster Areas of the 2016 Kumamoto Earthquake) and the amount based on the special rules for MRFs.
2. Figures for the February 2021 reserve maintenance period (from February 16 to March 15) and the March 2021 reserve maintenance period (March 16 to April 15) are preliminary.

III. Developments in Markets and the Conduct of Individual Measures in Market Operations

A. Three-Tier System of Current Accounts at the Bank and Money Markets

1. Three-Tier System of the Current Accounts

The Bank, under QQE with Yield Curve Control, adopted a three-tier system in which the outstanding balance of each financial institution's current account at the Bank was divided into three tiers. Under this system, a positive interest rate (0.1 percent) was applied to basic balances, a zero interest rate was applied to macro add-on balances, and a negative interest rate (minus 0.1 percent) was applied to policy-rate balances (Chart 3-1).[8]

Chart 3-1: Three-Tier System of the Current Accounts

Tier	Subject to Calculation	Applied interest rate
(1) Basic Balance	Benchmark Balance (average outstanding balance for 2015) – Required reserves	+0.1%
(2) Macro Add-on Balance	Benchmark Balance × Benchmark Ratio[9]	0.0%
	Balances associated with the Bank's various fund-provisioning measures[10] (Loan Balance 1)[11]	
	Increase in balances associated with the Bank's various fund-provisioning measures compared with at end-March 2016 (Loan Balance 2)	
	Amount based on the special rules for money reserve	

[8] Establishing the Interest Scheme to Promote Lending and modifying the method for calculating Macro Add-on Balances under the Complementary Deposit Facility were decided at the MPM held on March 18 and 19, 2021. For details, see IV.B.

[9] Ratio equally applied to all financial institutions.

[10] The Bank's measures include the Stimulating Bank Lending Facility, Growth-Supporting Funding Facility, Funds-Supplying Operation to Support Financial Institutions in Disaster Areas (including the Funds-Supplying Operation to Support Financial Institutions in Disaster Areas of the 2016 Kumamoto Earthquake), and the Special Operations in Response to COVID-19.

[11] With a view to providing incentives to use various fund-provisioning measures, balances of those measures (Loan Balances 1) as well as the increase in balances compared with at the end of March 2016 (Loan Balances 2) are included in the calculation of the Macro Add-on Balance limit.

	funds[12] and those for new institutions[13] Required reserves	
(3) Policy-Rate Balance	Amount obtained by subtracting (1) and (2) from current account balances	-0.1%

Some financial institutions may have "unused allowances" in their basic balances and/or macro add-on balances because the amount of their current account balances at the Bank falls below the upper bound on their basic balances and macro add-on balances. Other financial institutions may have policy-rate balances generated because the amount of their current account balances at the Bank exceeds the upper bound on their basic balances and macro add-on balances. Unused allowances or policy-rate balances constitute one of the factors that induces arbitrage trading by financial institutions which is carried out by borrowing (lending) cash at interest rates that are lower (higher) than those applied according to their current account balances at the Bank and depositing funds in (supplying funds from) their current accounts at the Bank. Assuming that financial institutions with unused allowances in their basic balances and/or macro add-on balances utilize all of their unused allowances to borrow cash from financial institutions with policy-rate balances through such arbitrage trading, the policy-rate balance left is referred to as the "hypothetical policy-rate balance after arbitrage transactions have taken place in full" (the "hypothetical policy-rate balance").

During fiscal 2020, the Bank reviewed the Benchmark Ratio so that the "hypothetical policy-rate balance" stayed at about 5 trillion yen. This was done in line with the policy to "reduce [this balance] from the current level of about 10 trillion yen on average" "…under the condition that yield curve control can be conducted appropriately" that was set forth at the MPM held on July 30 and 31, 2018. The Bank reviewed and announced the Benchmark Ratio every reserve maintenance period starting from May 2020, which was previously to be "reviewed and announced, in principle, every three reserve maintenance periods," due to considerable uncertainties about changes in treasury funds and others and the use of the operations by financial institutions that persisted in fiscal 2020 (see Box 1).

[12] The smaller of the average amount outstanding of MRFs entrusted to an institution during the reserve maintenance periods from January to December 2015 (on a net asset basis; including the amount that was not deposited in the current accounts at the Bank as a result of investment) and that entrusted to an institution during the designated reserve maintenance period (on a net asset basis; excluding the amount that was not deposited in the current accounts as a result of investment).

[13] The balance obtained by multiplying the benchmark ratio by the Deemed Benchmark Balance based on the "Special Rules regarding Calculation of Interest of Complementary Deposit Facility for New Institutions."

Several times during fiscal 2020, the "hypothetical policy-rate balance" was somewhat extensively either above or below the level initially expected at the time the Benchmark Ratio was set ("about 5 trillion yen") amid the considerable uncertainties about changes in treasury funds and others and the use of the operations by financial institutions that persisted in fiscal 2020. Specifically, in the April and May reserve maintenance periods, the balance decreased significantly, as it was pushed down by the active use of the Securities Lending to Provide JGSs as Collateral for the U.S. Dollar Funds-Supplying Operations and of the Special Operations in Response to COVID-19. On the other hand, in the June, January, and February reserve maintenance periods, the balance reached as high as around 9 trillion yen, due partly to smaller amounts of use of the above operations compared with initial expectations at the time the Benchmark Ratio was set and partly to fluctuations in changes in treasury funds and others (Chart 3-2).

In fiscal 2020, "unused allowances" reached their largest amount in the September reserve maintenance period and policy-rate balances reached their largest amount in the January reserve maintenance period, both after the adoption of the three-tier system (Chart 3-3). The following factors were the main ones attributed to the impediment to arbitrage transactions: (1) Not all financial institutions took full advantage of the arbitrage opportunity, in consideration of the transaction costs. (2) Credit line and availability in collateral constrained transactions in the uncollateralized call market and the repo market, respectively.

Developments in the three-tier system described above are presented in Chart 3-4 by sector.

Chart 3-2: Upper Bound on the Basic Balance and Macro Add-on Balance and the Hypothetical Policy-Rate Balance

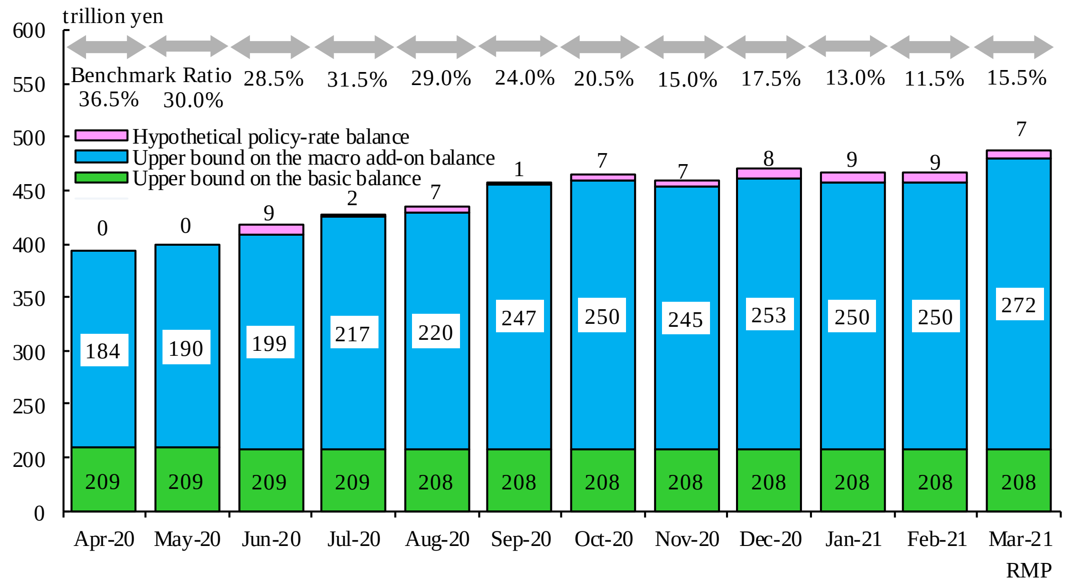


Chart 3-3: Unused Allowances in Tiers and the Policy-Rate Balance

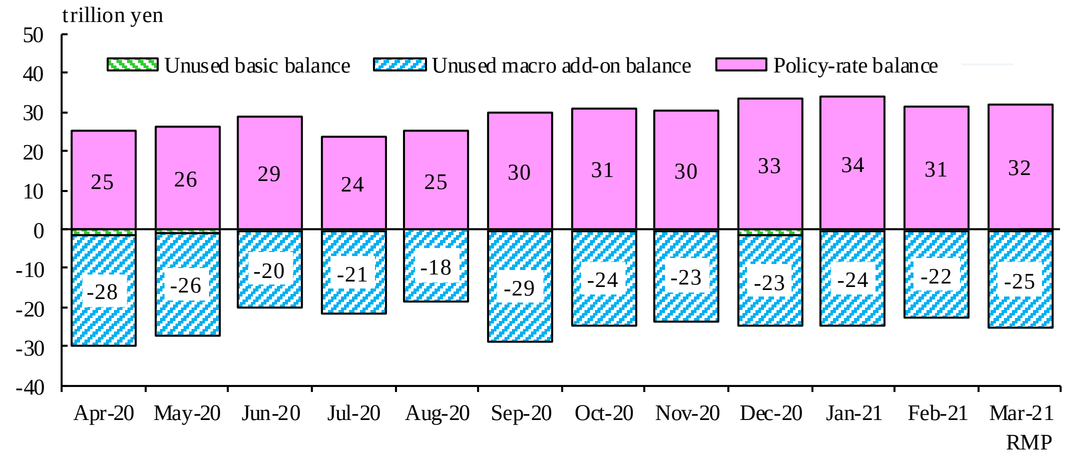
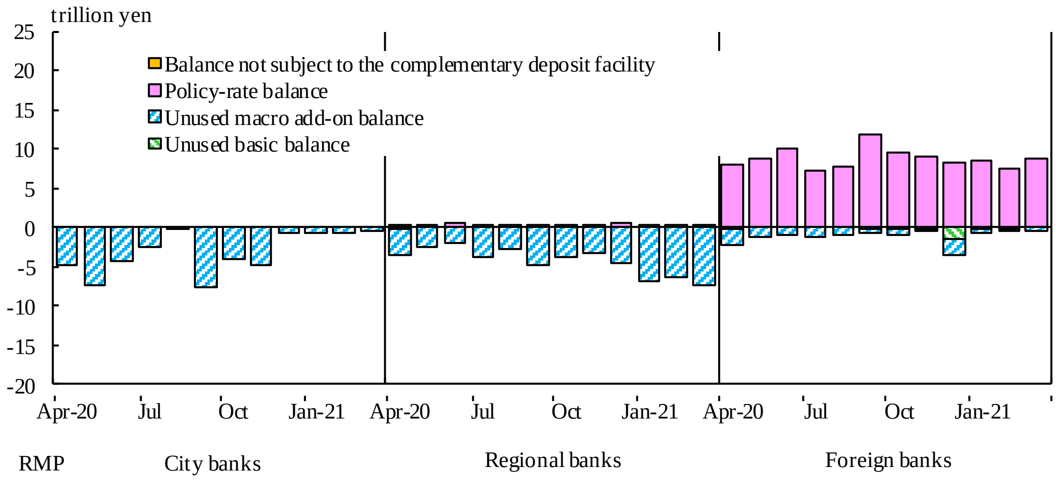
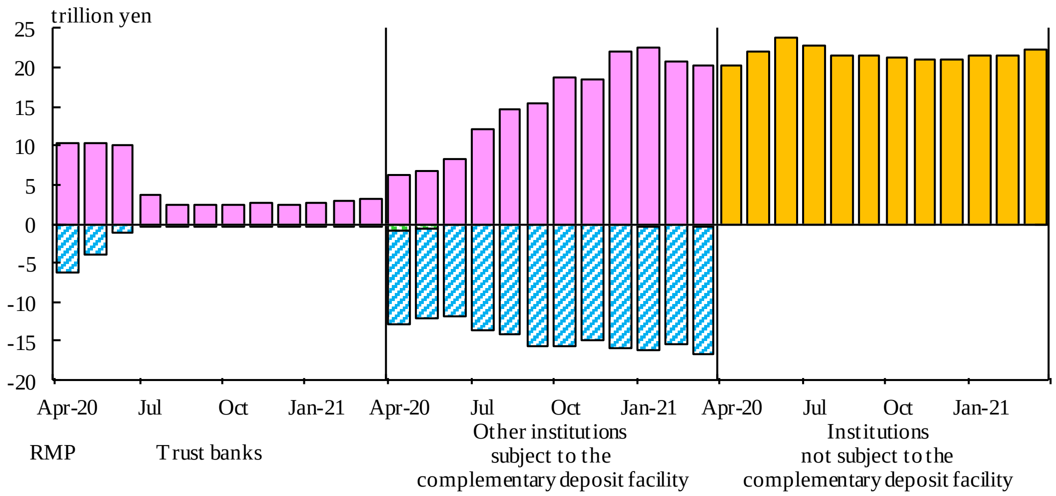


Chart 3-4: Three-Tier System of the Current Accounts by Sector





Notes: 1. "Other institutions subject to the complementary deposit facility" are other institutions subject to the reserve requirement and institutions not subject to the reserve requirement.
2. Other institutions subject to the reserve requirement include the following: Shinkin Banks (with deposits of more than 160 billion yen); PayPay Bank; Seven Bank; Sony Bank; Rakuten Bank; SBI Sumishin Net Bank; au Jibun Bank; AEON Bank; Daiwa Next Bank; ORIX Bank; Custody Bank of Japan; Shinsei Bank; Aozora Bank; Shinhan Bank Japan; The Resolution and Collection Corporation; The Norinchukin Bank; Japan Post Bank; Lawson Bank; GMO Aozora Net Bank; Minna Bank.
3. Institutions not subject to the reserve requirement include the following: securities companies; tanshi companies (money market brokers); securities finance companies; Shinkin Central Bank; Shinkin Banks (with deposits of 160 billion yen or less); The Shoko Chukin Bank; The Shinkumi Federation Bank; and The Rokinren Bank.
4. "Institutions not subject to the complementary deposit facility" include the following: Japanese Bankers Association; Japanese Banks' Payment Clearing Network; Tokyo Financial Exchange; Japan Securities Clearing Corporation; JASDEC DVP Clearing Corporation; CLS BANK International; Development Bank of Japan; Japan Finance Corporation; Japan Bank for International Cooperation; and Deposit Insurance Corporation of Japan.

2. GC Repo Market

The GC repo rate was stable in the range of around minus 0.10 percent to minus 0.05 percent during most of fiscal 2020, slightly exceeding the short-term policy interest rate (of minus 0.1 percent, Chart 3-5).

On the cash borrowing (securities lending) side, the demand from securities companies for cash borrowing (securities lending) for the purpose of inventory financing was at a high level against a backdrop of the sizable additional issuance of JGBs, mainly T-Bills (Chart 3-6).[14] Meanwhile, on the cash lending (securities borrowing) side, some financial institutions were more active in cash lending (securities borrowing) with an aim of reducing their policy-rate balances in a situation where the Benchmark Ratio was being lowered (Chart 3-7). In addition, the Bank flexibly adjusted auction amounts in outright purchases of T-Bills, taking into consideration developments in money markets as a whole, including the GC repo market. Accordingly, the GC repo rate remained stable at a low level despite the large-scale additional issuance of JGBs.

The amount outstanding in the repo market remained at a high level, as a wide range of financial institutions actively engaged in arbitrage trading that took advantage of the three-tier system applied to their current accounts at the Bank (Chart 3-8).

[14] The amounts of cash borrowing by banks increased only slightly compared with fiscal 2019 due to constraints on collateral, although their financing capacity had increased following the use of the Special Operations in Response to COVID-19.

Chart 3-5: GC Repo Rate (O/N)

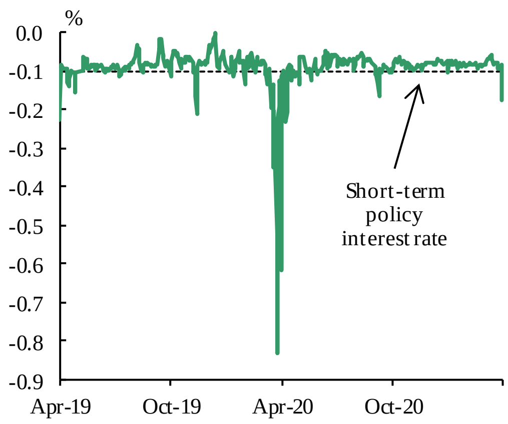
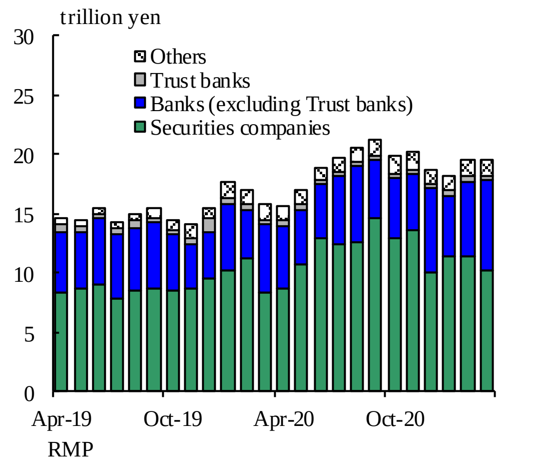
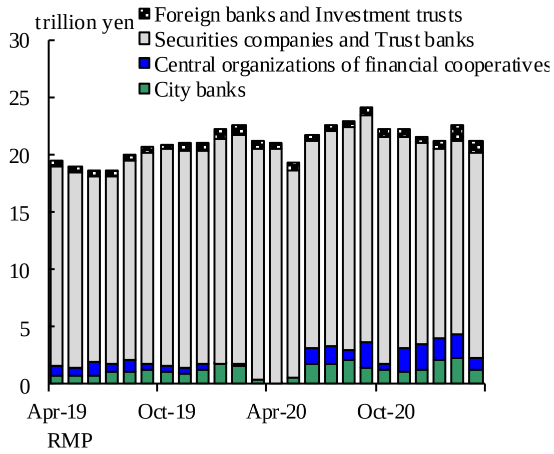


Chart 3-6: Cash Borrowing (Securities Lending) Side



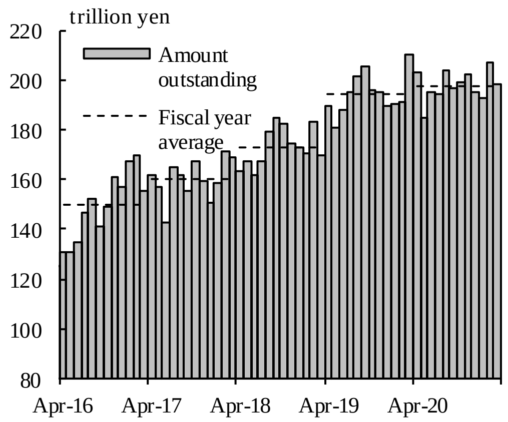
Note: The amount of the O/N cash borrowing (only the repo transactions) is aggregated, out of the daily flow data of the Statistics on Securities Financing Transactions in Japan.

Chart 3-7: Cash Lending (Securities Borrowing) Side



Note: The amount of the O/N cash lending (only the repo transactions) is aggregated, out of the daily flow data of the Statistics on Securities Financing Transactions in Japan.

Chart 3-8: Amounts Outstanding in the Repo Market



Note: Figures are the sum of securities lending with cash collateral and securities sales with repurchase agreements.

3. Uncollateralized Call Market

During fiscal 2020, the call rate remained in the range of about minus 0.07 to about minus 0.01 percent (Chart 3-9). From the middle to the latter half of the fiscal year, an increasing number of entities accelerated their cash borrowing in the call market, as their financing capacity[15] increased

[15] The definition of financing capacity specifies that it is "calculated by deducting the balances of

against the backdrop of their increased use of the Loan Support Program and the Special Operations in Response to COVID-19. As a result, the level of the call rate rose compared with the first half of the fiscal year, and the call rate occasionally surpassed minus 0.01 percent, especially toward the ends of the reserve maintenance periods.

On the cash borrowing side, an increasing number of entities were engaged in more active borrowing, mainly among regional banks I and II (hereinafter referred to as the "regional banks"). Financing capacity of the regional banks expanded, as the upper bound on their macro add-on balances was raised due to the active use of the Special Operations in Response to COVID-19. Meanwhile, as part of moves to seek profit opportunities, regional banks expanded arbitrage trading. They obtained funds at a negative interest rate in the call market and kept these within their macro add-on balances to which a 0 percent interest rate is applied. Indeed, the regional banks' amount outstanding in the uncollateralized call market followed an uptrend throughout the fiscal year. In addition, city banks and some trust banks were also active in cash borrowing in the call market, especially toward the ends of the reserve maintenance periods, contributing to the rise in the call rate (Charts 3-10 through 3-12).

On the cash lending side, investment trusts, who are the major suppliers of funds in the call market, were engaged in cash lending while raising their preferred level of rates, with an eye on the active borrowing stance of the cash borrowing side. Some entities including city banks were engaged in arbitrage trading in which these banks obtained funds at a lower rate in the GC repo market and invested the funds in the uncollateralized call market when the difference between the GC repo rate and the call rate increased.

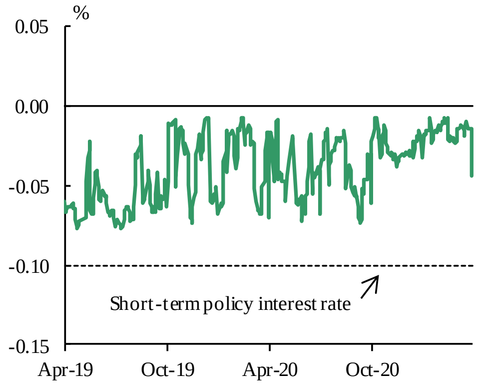
The amount outstanding in the uncollateralized call market increased in fiscal 2020 to the range of about 9-12 trillion yen from the level seen the previous fiscal year, which was in the range of about 7-10 trillion yen. This was reflecting some financial institutions' further active arbitrage trading that took advantage of the three-tier system of their current accounts at the Bank (Chart 3-12). In March 2021, it reached its highest amount since the introduction of the negative interest rate policy.[16]

current accounts before trade in the uncollateralized call market from the upper bound on their basic balances and macro add-on balances." For details on the relationship between the financing capacity of regional banks and the uncollateralized call rate, see Box 3 in Market Operations in Fiscal 2017.

[16] Although there were concerns over a decrease in the amount of cash lending by entities including investment trusts prior to the revisions to the regulations on large exposure in April 2020, the actual

The functioning of money markets, including the uncollateralized call market, deteriorated temporarily due in part to the declaration of a state of emergency by the government in April and May of 2020. There were also moves to curb trading in the call market due partly to a reduction in the number of people working in their offices.[17] Thereafter, the functioning of money markets improved mainly through the establishment of new business operation systems and there were very few who expressed opinions that there was a worsening of money market functioning when the state of emergency was reinstated from January to March 2021.

Chart 3-9: Uncollateralized Overnight Call Rate



Note: Weighted average.

Chart 3-10: Illustration of Financing Capacity

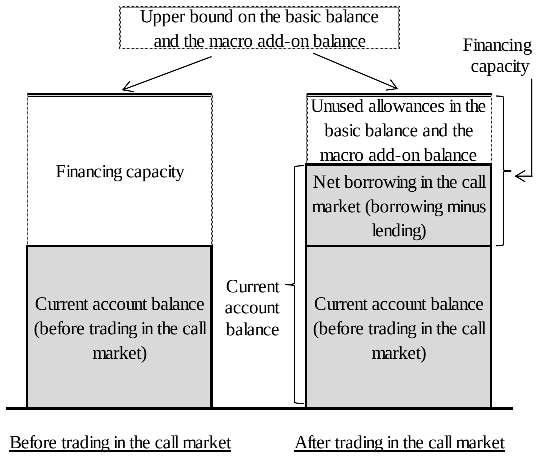
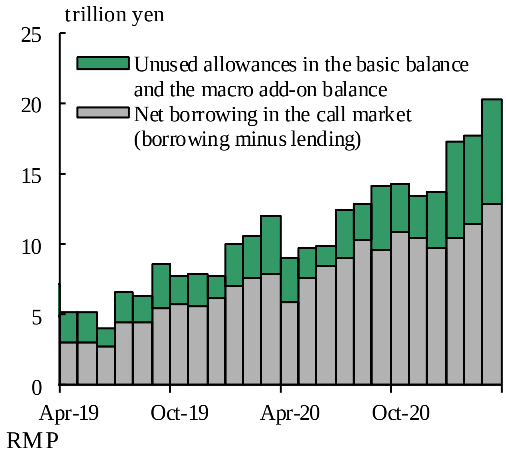


Chart 3-11: Financing Capacity of Regional Banks

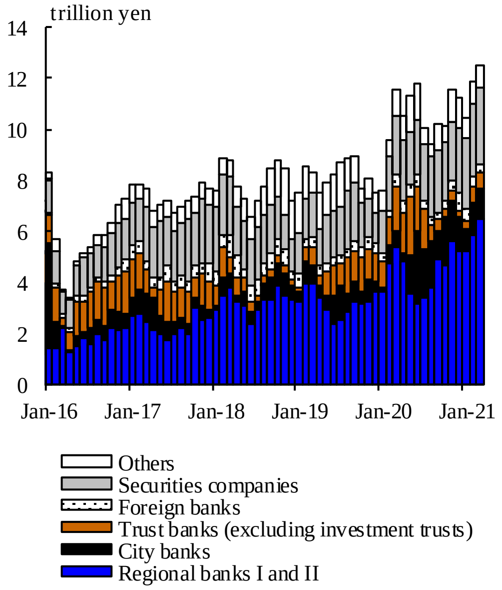


impact of revisions was limited. No significant decrease was observed in the amount of lending by investment trusts in the call market due partly to more active arbitrage trading (Chart 3-12).

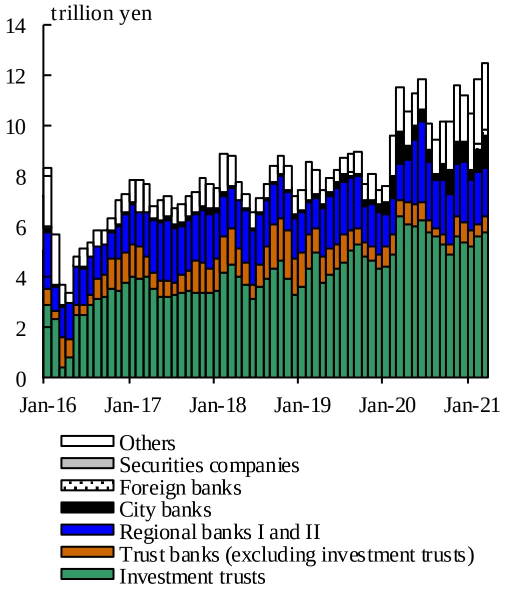
17 See "Trends in the Money Market in Japan - Results of the Tokyo Money Market Survey (August 2020)."

Chart 3-12: Amounts Outstanding in the Uncollateralized Call Market by Sector

(Cash Borrowing Side)



(Cash Lending Side)



Note: Monthly average.

Box 2: Effects of the Special Operations in Response to COVID-19 and Their Impact on Markets

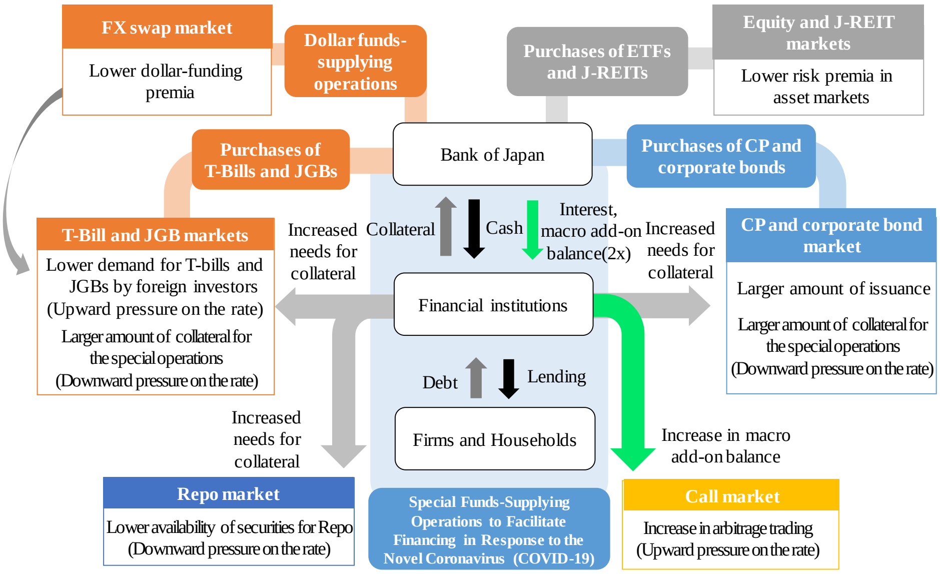
In March 2020, the Bank introduced the Special Funds-Supplying Operations to Facilitate Corporate Financing regarding the Novel Coronavirus (COVID-19). Subsequently, the name of the operations was changed to the "Special Funds-Supplying Operations to Facilitate Financing in Response to the Novel Coronavirus (COVID-19)," and they were enhanced. These operations are characterized by (1) the maximum amount of loans for each counterparty being the sum of the amount equivalent to the value of corporate debt pledged as the standing pool of eligible collateral and the balances of loans each counterparty provides small and medium-sized firms with as part of countermeasures against COVID-19; (2) adding twice as much as the amount outstanding of financial institutions' borrowing through the Special Operations to their Macro Add-on Balances; and (3) applying a positive interest rate of 0.1 percent to the outstanding balances of current accounts held by financial institutions at the Bank that correspond to the amounts outstanding of loans provided through these operations.

The operations were actively used by a wide range of financial institutions (the amount outstanding as of the end of March 2021 stood at 64.8 trillion yen) and contributed to financing support for firms and households by these financial institutions amid the COVID-19 pandemic, owing partly to benefits for financial institutions ([2] and [3] above). In addition, the increased use of these operations magnified the effects of the Bank's various asset purchases through an increase in financial institutions' demand for collateral (Box Chart 2-1). Looking at collateral received by the Bank, T-Bills and JGBs have been increasing, in addition to a wide range of private debts (beneficial interests of a trust in housing loans, CP, and corporate bonds, see Box Chart 2-2 for details).

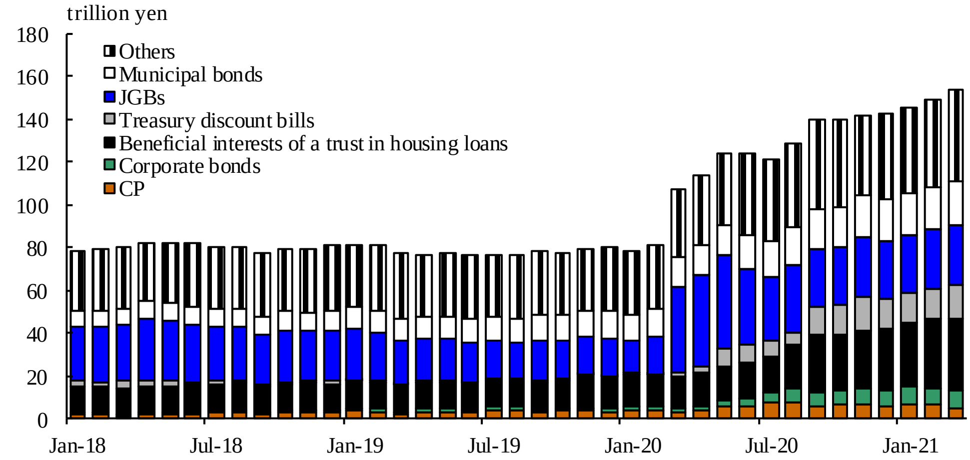
In the T-Bill and JGB markets, an increase in demand from financial institutions for collateral through these operations, in addition to an increase in purchases by the Bank, contributed to stabilizing T-Bill and JGB yields, amid the large-scale additional issuance by the government. In the CP and corporate bond markets, an increase in demand from financial institutions -- aiming to raise the maximum amount of loans and securing collateral through these operations -- in addition to an increase in purchases by the Bank, exerted additional downward pressure on the CP issuance rate and corporate bond yields. This encouraged an improvement in issuing conditions (for the share of the Bank's purchases and collateral pledged to the Bank in the overall amounts outstanding of the issuance of T-Bills, CP, and corporate bonds, see Box Chart 2-3). As described above, these operations enhanced synergistic effects in stabilizing financial markets, together with effects of other operations carried out by the Bank during the COVID-19 pandemic.

Meanwhile, these operations resulted in the increased gap between the call rate and the repo rate in money markets. Latent cash borrowing needs in the money markets increased among cash borrowing entities that actively used the operations as their macro add-on balances increased through the Bank's measure to add twice as much as the amount outstanding of financial institutions' borrowing through these operations to their macro add-on balances. On the other hand, latent cash lending needs increased among those entities that did not use these operations as much, since the Benchmark Ratio was lowered to adjust the increase in macro add-on balances of entities that use the Complementary Deposit Facility as a whole. Through these changes, arbitrage trading intensified in the uncollateralized call market, pushing up the call rate (for the impact of more uneven distribution of funds on the call market, see Box 3). In contrast to this, there were constraints on the use of T-Bills and JGBs for repo transactions since financial institutions including city banks and regional banks pledged them as collateral for these operations, and securities companies' needs for inventory financing in the repo market were reduced even amid the large-scale additional issuance of T-Bills and JGBs, as those financial institutions increased purchases of T-Bills and JGBs. This has, therefore, partly contributed to stabilizing the repo rate at a low level.

Box Chart 2-1: The Bank's Measures in Response to COVID-19 and Their Effects on Markets

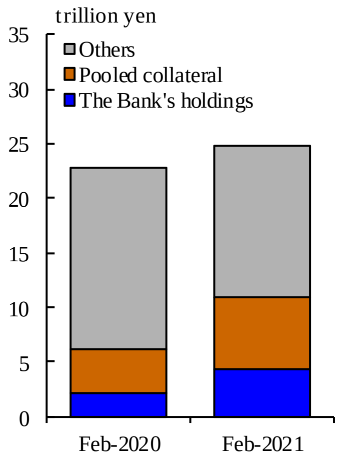


Box Chart 2-2: Changes in Pooled Collateral

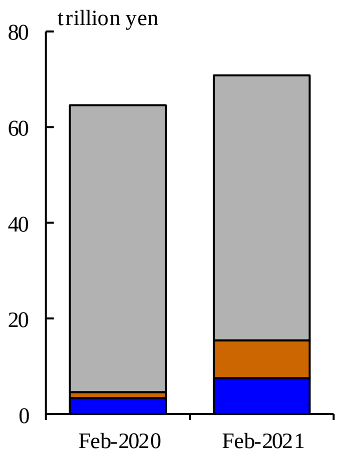


Box Chart 2-3: Breakdown of Each Asset by Holder or Usage

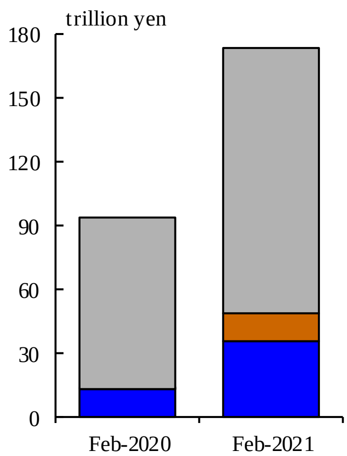
CP Market



Corporate Bond Market



T-Bill Market



Box 3: Developments in the Call Rate throughout Fiscal 2020 and Difference between the Call and the Repo Markets

The uncollateralized overnight call rate remained in negative territory throughout fiscal 2020. From October onward, the level rose slightly within the range of minus 0.1 to 0.0 percent. Moves to borrow cash intensified, especially from the beginning of 2021, mainly among regional banks. They raised their preferred levels of the call rate, and the weighted average rate temporarily came close to 0 percent. Such developments were due to the impact of a tightening of supply and demand caused by factors unique to the call market.

Counterparties of the Bank's Complementary Deposit Facility include cash borrowing entities that are active in arbitrage trading in the call market and those that are not, partly due to the constraints on the credit line. This difference in stances on arbitrage trading in the call market is affected by changes in their macro add-on balances depending on how much the entities use the Special Operations in Response to COVID-19. Looking at changes in the upper bound on macro add-on balances during fiscal 2020 by sector, city banks and regional banks actively used the Special Operations in Response to COVID-19 and increased their financing capacity, and thus were active in arbitrage trading in the call market. On the other hand, foreign banks and other institutions subject to the Complementary Deposit Facility used only a limited amount of the operations, and the upper bound on their macro add-on balances declined due to the lowered Benchmark Ratio. Consequently, these institutions increased their funds-supplying capacity because a negative interest rate would be applied, due to the policy-rate balances generated unless they lend cash (Box Chart 3-1).

In order to examine the background for the rise in the call rate, by focusing on the entities that are active in the call market, a macro "gap in fund supply and demand" --an estimated figure that is calculated by netting out the financing capacity of cash borrowing entities that actively trade in the call market and the amounts of cash supplied by cash lending entities with surplus funds[18] --

---

[18] With respect to the cash borrowing side, some anecdotal information is taken into account. Some financing capacity of the cash borrowing entities -- that could not sufficiently participate in the call market due to the spread of COVID-19 and left significant "unused allowances" in their macro add-on balances -- are deducted from the overall financing capacity of city banks, regional banks and trust banks.

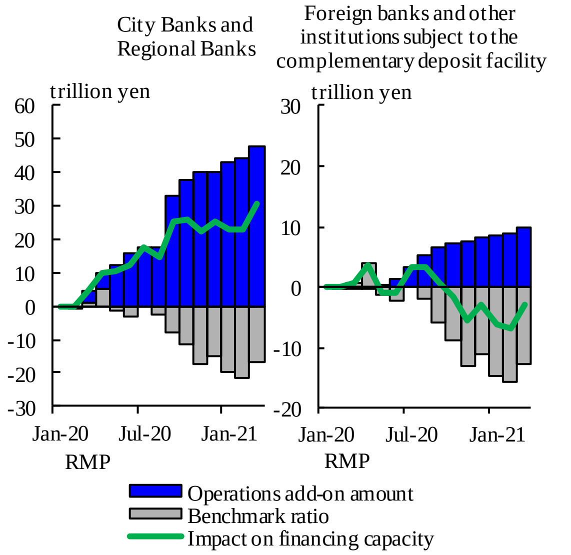
There are many investment trusts on the cash lending side that are not counterparties of the Bank's could be used. In the estimate, a moderate correlation was observed in which the wider the gap in the supply and demand for such funds became, the higher the call rate tended to be. The results of the estimate suggest a possibility that an increase in the gap between the supply and demand of funds through uneven distribution of funds between financial institutions pushes up the call rate (Box Charts 3-2 and 3-3).

On the other hand, the repo rate -- for which arbitrage behavior by financial institutions is considered to have a significant impact on the rate formation as with the case of the call rate -- was generally stable, close to the short-term policy interest rate (minus 0.1 percent), during fiscal 2020. The differences in the developments of the two rates are considered to have been affected by the difference in the balance between supply and demand of funds in each market, reflecting the differences in market participants and the nature of trading (to be carried out with or without collateral). In other words, on the cash borrowing side of the repo market, city banks and regional banks submitted T-Bills and JGBs as collateral for the Special Operations in Response to COVID-19, and T-Bills and JGBs available for use as collateral for the repo trading decreased accordingly, curbing the cash borrowing. On the other hand, on the cash lending side of the repo market, foreign banks and other institutions subject to the Bank's Complementary Deposit Facility (such as financial institutions of central organizations of financial cooperatives) were active in cash lending in the repo market where collateralized transactions take place, as they were unable to engage in uncollateralized cash lending in the call market due to credit line constraints or other reasons (Box Chart 3-4).

The Bank will continue to monitor developments in the money markets, while taking account of the points described in this box.

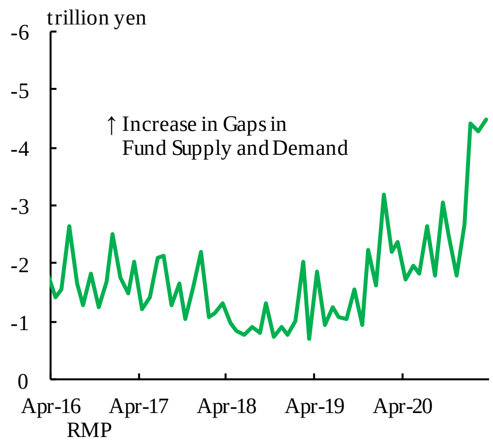
Complementary Deposit Facility, and it is not easy to calculate their latent funds-supplying "capacity" due to data constraints. However, in this paper, it is assumed that their funds-supplying capacity and the amounts of cash supplied by them are the same, since the period in which those two seemed to have diverged in the past, as the call rate fell below the lowest preferred level for these cash lending entities (existence of so-called surplus funds) was limited compared with the sample period.

Box Chart 3-1: Changes in the Upper Limit of Macro Add-on Balances by Sector

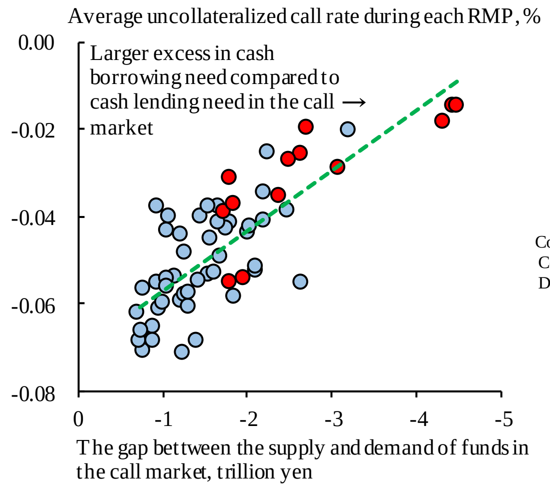


Note: "Operations add-on amount" is the amount added to each financial institution's macro add-on balance as the increases in Stimulating Bank Lending Facility, Growth-Supporting Funding Facility, Funds-Supplying Operation to Support Financial Institutions in Disaster Areas (including the Funds-Supplying Operation to Support Financial Institutions in Disaster Areas of the 2016 Kumamoto Earthquake), and the Special Funds-Supplying Operations to Facilitate Financing in Response to the Novel Coronavirus (COVID-19) from end-March 2016.

Box Chart 3-2: Gaps in Supply and Demand of Funds

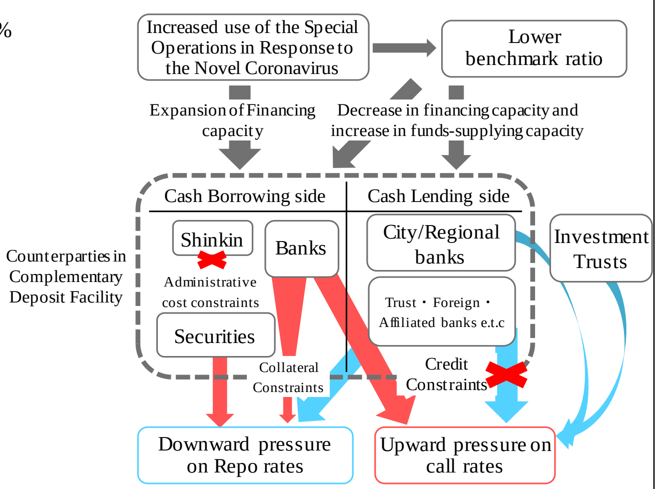


Box Chart 3-3: Correlation between Gaps in Fund Supply and Demand and the Call Rate



Note: Red dots indicate the RMPs since March 2020.

Box Chart 3-4: Differences in Market Participants in the Call and Repo Markets



Note: Red arrows indicate cash borrowing and blue arrows indicate cash lending.

B. Developments in the T-Bill Market and Outright Purchases of T-Bills

1. T-Bill Market

During fiscal 2020, yields on T-Bills (3-month) remained more or less in the range of minus 0.2 to minus 0.1 percent (Chart 3-13). Starting in May 2020, due to the large-scale increase in the issuance of 3-month T-Bills, yields rose, reaching minus 0.061 percent in August, the highest level since April 2016. Meanwhile, yields on 6-month and 1-year T-Bills actually fell due to moves by some securities companies to actively bid for them with the aim of selling them through the Bank's operations, while the Bank was actively purchasing T-Bills corresponding to their large-scale additional issuance, amid circumstances where the number of additional issuances of 6-month and 1-year T-Bills was limited compared with 3-month T-Bills. Subsequently, yield spreads by maturity period widened. Thereafter, the yield spreads by maturity period narrowed due mainly to (1) differences in the amounts outstanding by maturity period that narrowed (Chart 3-14) and (2) the Bank's measure to exclude some issues of T-Bills from those eligible for its outright purchases (described later). Toward the latter half of the fiscal year, the yields of T-Bills for all maturity periods were stable at a level generally close to the short-term policy interest rate, given that Japanese investors significantly increased their holdings of T-Bills, primarily influenced by the demand for collateral for the Special Operations in Response to COVID-19 (Chart 3-15), increased demand from foreign investors (see Box 4), and a gradual decrease in the amounts of issuance, mainly in 3-month T-Bills.

Chart 3-13: Yields on T-Bills

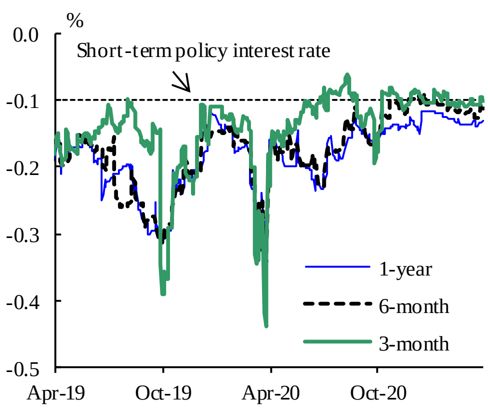


Chart 3-14: Amount Outstanding of T-Bills by Maturity Period

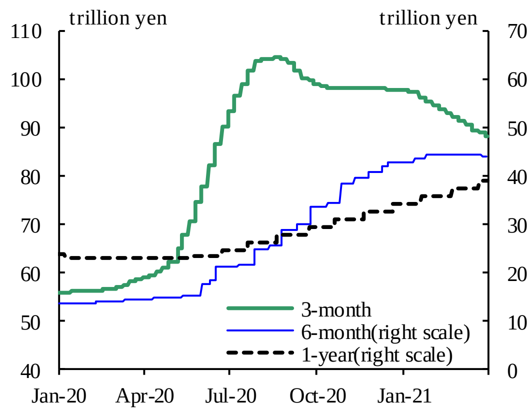
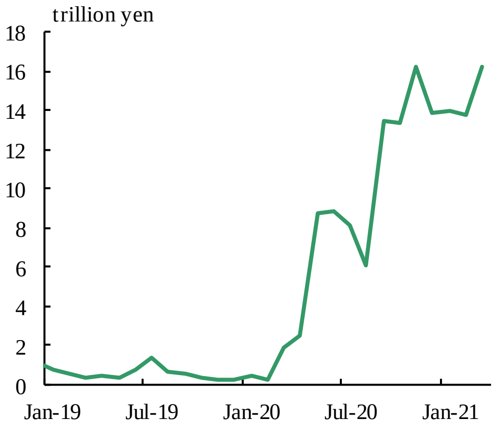


Chart 3-15: Amount Outstanding of T-Bills for Collateral Pledged to the Bank of Japan



2. Outright Purchases of T-Bills

During fiscal 2020, the Bank flexibly and actively conducted outright purchases of T-Bills as needed, taking into consideration developments in supply and demand conditions in the market. Taking into account the possibility that the market might be destabilized due to the heightening of uncertainties over the future course of supply and demand conditions and interest rates induced by the impact of COVID-19, the Bank clearly stated in the "Outline of Outright Purchases of Japanese Government Securities" released on April 27 that, in a situation where large-scale additional issuance of T-Bills by the government is conducted, it would purchase about 500 billion yen to 3.0 trillion yen of T-Bills per auction. Based on this policy, the Bank purchased about 500 billion yen to 3.0 trillion yen of T-Bills per auction, generally once a week, from May onward.[19]

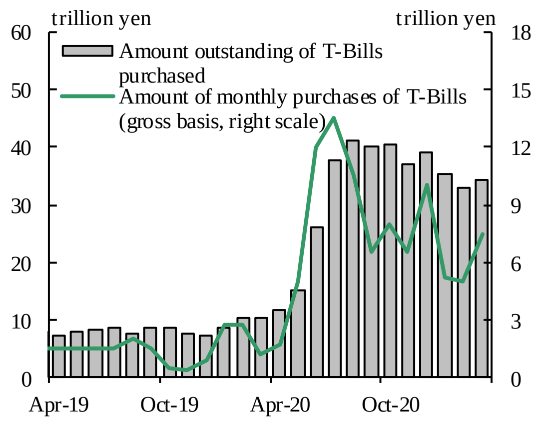
In its conduct of outright purchases of T-Bills, the Bank flexibly managed both the T-Bills eligible for purchase and the schedule of purchases with a view to smoothly conducting short-term market operations. With respect to T-Bills eligible for purchase, the Bank excluded some T-Bills in the case of, for example, a significant decline in the yield of such T-Bills relative to neighboring zones, carefully taking into consideration trends in individual T-Bills and the background thereof. In addition, the Bank only purchased T-Bills with a residual maturity of up to 6 months on December 14, 2020, as it was relatively clear that supply and demand conditions had eased for those with a residual maturity of 6 months or less. With respect to the schedule of purchases, the Bank had been conducting purchases on the second business day following the auction date, in principle,

[19] Prior to the release of the policy, the Bank offered operations of 250 billion yen on both April 7 and 14.

since October 2018; moreover, when there were a large number of auctions within a limited time, the Bank also conducted purchases on the business day following the auction date with a view to ensuring stability in the market by maintaining the supply and demand balance of T-Bills.

From conducting purchases according to the above description, the amount outstanding of T-Bills purchased by the Bank rose significantly toward the end of July 2020. Thereafter, it remained more or less unchanged and reached 34.2 trillion yen (an increase of 24.0 trillion yen year-on-year) at the end of March 2021 (Chart 3-16).

Chart 3-16: Amounts Outstanding of T-Bills Purchased and Amounts of Monthly Purchases of T-Bills



Box 4: Foreign Investor Demand for T-Bills

Looking at T-Bill holdings by entity, the amounts outstanding of T-Bill issuance have increased significantly since May 2020. Meanwhile, T-Bills held by foreign investors have also increased notably, in addition to those held by Japanese investors and the Bank (Box Chart 4-1). Turning to the relationship between the attractiveness of yields based on the FX swap-implied yen rate from the U.S. dollar (calculated by adding up the U.S. dollar TED spreads and U.S. dollar funding premiums,"[20] hereinafter referred to as the "attractiveness of yields") and net purchase amounts of foreign investors, (1) the sensitivity of net purchase amounts to changes in the attractiveness of yields has increased and (2) the average level of net purchase amounts has also been elevated compared with past trends (Box Chart 4-2).

With respect to (1) above, it was considered that the increase in the sensitivity was due to the moves by investors with U.S. dollar funds to invest their funds in U.S. dollar assets with yields that were more attractive, even to a small extent, under circumstances where the U.S. Federal Reserve System (Fed) was undertaking sizable policy rate cuts and providing ample U.S. dollar liquidity. Looking at the attractiveness of yields of short-term government bonds of major countries, while the attractiveness of yields on short-term government bonds was declining in these countries, the attractiveness of yields of Japanese T-Bills was higher than that of short-term government bonds in Germany, the United Kingdom, or the United States, from the perspective of investors holding U.S. dollar funds (Box Chart 4-3). It was considered that foreign investors strengthened their positions to flexibly adjust their investments in Japanese T-Bills depending on the level of the attractiveness of yields relative to short-term government bonds in other countries, amid circumstances where yields of financial assets declined on a global scale.

With respect to (2) above, it was considered that the rise in the average level of net purchases amounts was due to increased purchases by entities that had been steadily purchasing T-Bills to maintain a diverse currency composition in their portfolios, regardless of the attractiveness of yields, under circumstances where the absolute level of the yields on T-Bills was elevated.[21]

[20] For the demand mechanism of foreign investors, see Box 4 in Market Operations in Fiscal 2017.

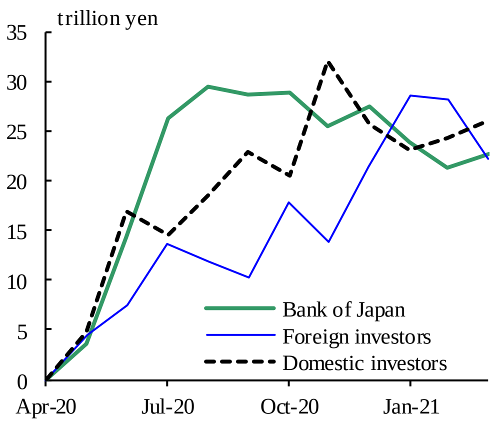
[21] Entities that may adopt such investment behavior include foreign central banks. Up to a certain amount of funds deposited by foreign central banks, interest rates calculated by deducting 0.05 percent from the yields specified by the Bank, taking into consideration the prevailing market rates for the repo transactions are applied (but in cases where such a rate is lower than 0 percent, 0 percent is applied). In the case of deposits exceeding that amount, interest rates calculated by deducting 0.05 percent from the prevailing market rates are applied to the excess amount.

Those entities seem to have increased the amount of their purchases with a view to conducting arbitrage trading, utilizing the difference in yield levels of other assets to manage their yen funds. Looking at the relationship between the absolute level of yields on T-Bills and the amount of net purchases made by foreign investors, amounts purchased by foreign investors increased sharply, in an unusual manner, when the yields on T-Bills rose to around minus 0.1 percent, although no clear correlation was observed when rates remained at a level fairly lower than minus 0.1 percent in the past (Box Chart 4-4).

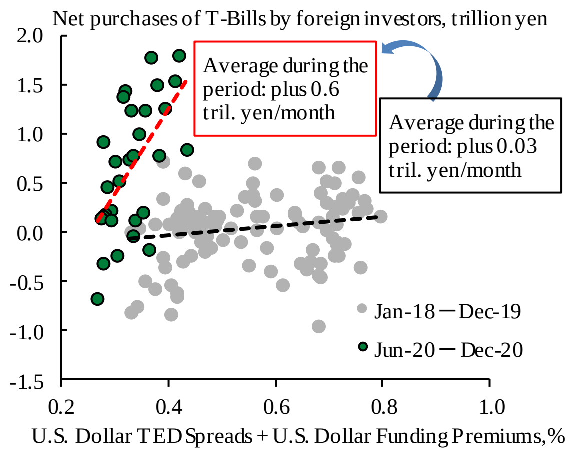
The degree of impact from such behavior of foreign investors on the overall supply and demand of T-Bills decreased throughout fiscal 2020 (Box Chart 4-5). The share of foreign investors in the T-Bill trading declined notably against the backdrop of active purchases by the Bank and increased demand from Japanese investors for collateral since the first half of 2020, when there was a large-scale additional issuance of T-Bills by the government (Box Chart 4-6).

As described above, the behavior of foreign investors and the degree of its impact on the supply and demand of T-Bills may change depending on the attractiveness of yields compared with assets similar in nature and the absolute level of the yields on T-Bills. Therefore, the Bank considers it to be important to continue monitoring the impact of foreign investors on the T-Bill market, taking into consideration the aforementioned points.

Box Chart 4-1: Cumulative Changes in Amounts Outstanding of T-Bills by Type of Participant

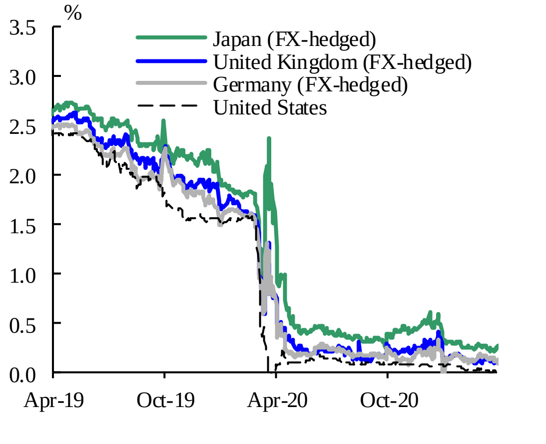


Box Chart 4-2: "U.S. Dollar TED Spreads + U.S. Dollar Funding Premiums" and Net Purchases of T-Bills by Foreign Investors



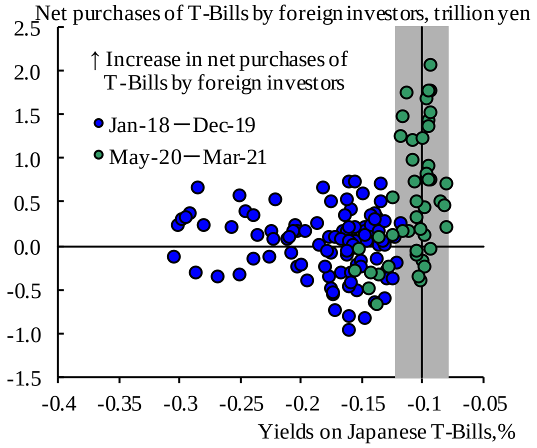
Note: The dashed line for each period indicates the regression line using the least-squares method

Box Chart 4-3: Yields on T-Bills (3-Month) of Major Economies for Foreign Investors with U.S. Dollar Funds

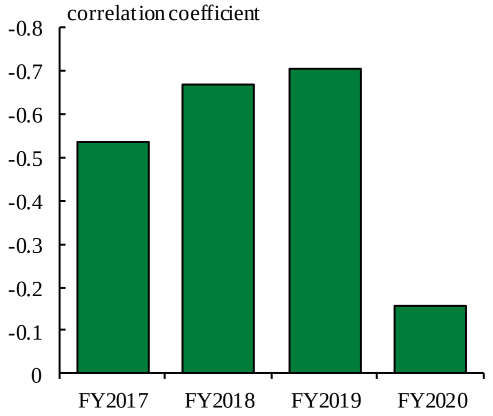


Note: Yields on investment in discount T-Bills (3-month) in each economy funded with local currency funds obtained through FX swaps that supply U.S. dollars.

Box Chart 4-4: Yields on Japanese T-Bills and Net Purchases of T-Bills by Foreign Investors

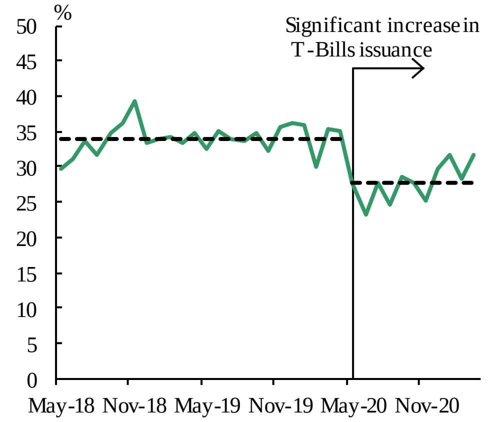


Box Chart 4-5: "U.S. Dollar TED Spreads + U.S. Dollar Funding Premiums" and Yields on Japanese T-Bills



Note: Due to the significant impact of COVID-19 on the FX swap market, figures for April 2020 are excluded. Accordingly, the sample period for each fiscal year is from May to March of the following year.

Box Chart 4-6: The Share of Foreign Investors in the Trading Volume of T-Bills



Note: The dashed line for each period indicates the average during that period.

C. Developments in the JGB Market and Outright Purchases of JGBs

1. Developments in the JGB Market

Japanese long-term interest rates (10-year JGB yields) remained at around 0 percent throughout fiscal 2020 with the target level of long-term interest rates having been maintained at around 0 percent under QQE with Yield Curve Control. The long-term interest rates fluctuated in response to economic and price conditions, as well as trends in overseas interest rates.

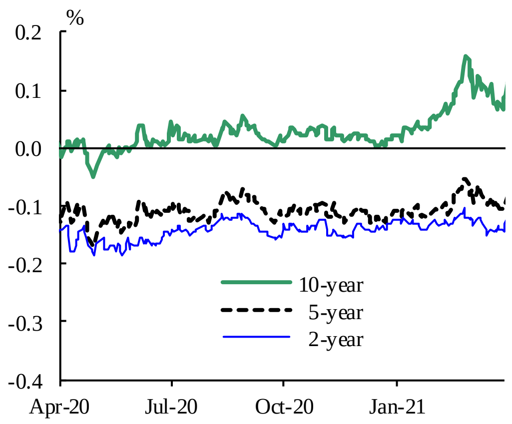
The long-term interest rates fluctuated significantly once in the middle of March 2020 when financial and capital markets were destabilized, and subsequently continued to move within a narrow range until the beginning of 2021 due partly to active purchases by the Bank. Looking at developments in detail, the rate rose temporarily in the middle of March 2020, but then fell toward the end of March 2020 due partly to active purchases of JGBs by the Bank. Fluctuations continued to be seen even after the beginning of fiscal 2020 reflecting concerns over an additional issuance of JGBs by the government as well as overseas interest rates; however, long-term interest rates remained more or less unchanged even after July 2020, when JGBs were actually issued additionally on a large scale, partly owing to the Bank's decision at the MPM held on April 27, 2020, to further actively purchase JGBs and T-Bills as part of the enhancement of monetary easing. Rates also fluctuated from January 2021 onward due to a rise in overseas interest rates and varied market speculation about the "assessment" by the Bank (Chart 3-17). Rates rose to 0.160 percent at the end of February 2021 (at the close of the market; 0.175 percent intraday), the highest yield during the fiscal year. Thereafter, they started to decline and fell to below 0.10 percent, remaining there through the end of the fiscal year (at the close of the market at the end of March 2021, at 0.09 percent) after the results of the "assessment" were published on March 19, due partly to purchases by investors with an aim of rebalancing their portfolios.

Looking at yields on short- and medium-term JGBs, 2-year and 5-year JGBs, for example, remained at around minus 0.19 to minus 0.07 percent due partly to active purchases of JGBs by the Bank and robust demand for collateral from Japanese investors (Chart 3-17).

Yields on super-long-term JGBs gradually rose throughout the fiscal year amid the impact of developments in overseas interest rates and the additional issuance of JGBs by the government; the yield spreads for each zone widened (against 10-year JGB yields) (Charts 3-17 and 3-18). Among those rates, the increase of yields on 20-year JGBs was limited until the end of 2020 due to persistent demand from Japanese investors for JGBs with a positive yield; however, yields rose from January 2021 in a manner similar to those for 30-year and 40-year JGBs.

Meanwhile, looking at the break-even inflation rate (BEI) for inflation-indexed JGBs, which is calculated as the difference between yields on them and nominal bonds over the same maturity, it remained in negative territory through October 2020 and then turned slightly positive in November 2020 and remained positive amid a rise in overseas BEIs due partly to the improvement of supply and demand balance derived from the past decreases in the amounts of issuance and the buy-back program conducted by the government, as well as the purchases by the Bank (Chart 3-19).

Chart 3-17: Yields on JGBs



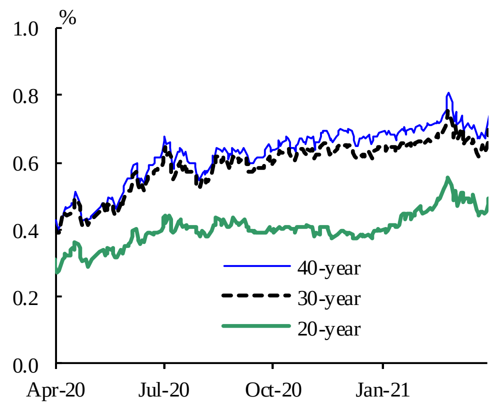


Chart 3-18: Yield Spreads between 10-Year JGBs and JGBs in Other Maturity Zones

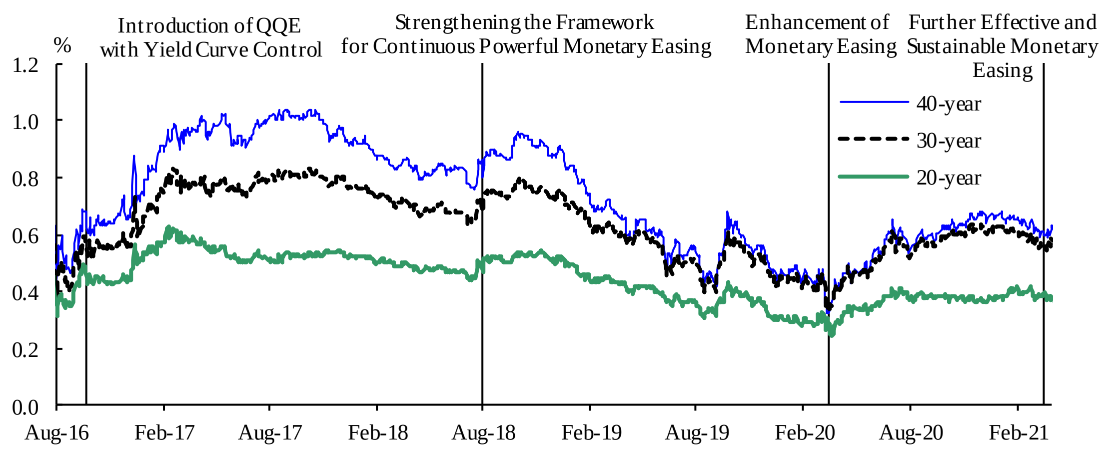
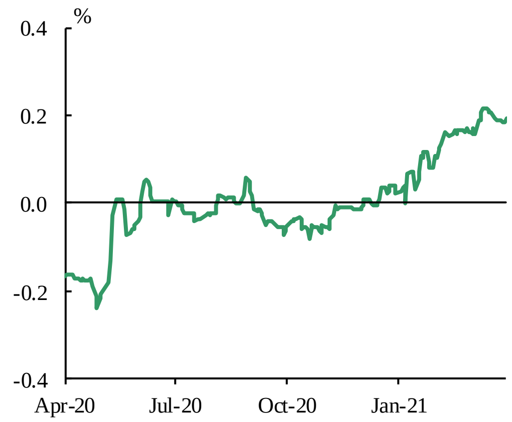


Chart 3-19: Break-Even Inflation Rate



2. Outright Purchases of JGBs

During fiscal 2020, the Bank purchased JGBs so that 10-year JGB yields would remain at around 0 percent under QQE with Yield Curve Control. At the MPM held on April 27, 2020, the Bank decided to purchase the necessary amount of JGBs without setting an upper limit. Based on the above, the Bank flexibly conducted purchases of long-term JGBs and was successful in realizing a yield curve consistent with the guideline for market operations.[22]

In order to ensure the transparency of its conduct of market operations, the Bank has been releasing its "Outline of Outright Purchases of Japanese Government Securities" in advance. With regard to outright purchases of JGBs with the competitive auction method, the Bank has provided a range for the purchase size per auction for the following month and announced the dates of auctions for that month for the five maturity zones (more than 1 year and up to 3 years, more than 3 years and up to 5 years, more than 5 years and up to 10 years, more than 10 years and up to 25 years, and more than 25 years) (Chart 3-20).[23]

---

[22] At the MPM held on March 18 and 19, 2021, with regard to yield curve control, the Bank clarified that the range of fluctuations in long-term interest rates under yield curve control would be "between around plus and minus 0.25 percent from the target level." At the same time, the Bank introduced "fixed-rate purchase operations for consecutive days" as a powerful tool to set an upper limit on interest rates when necessary.

[23] Previously, the zones of "more than 1 year and up to 5 years" and "more than 10 years" were categorized into the pairs of zones "more than 1 year and up to 3 years" and "more than 3 years and up to 5 years," and "more than 10 years and up to 25 years" and "more than 25 years," respectively, and auctions for all these four zones were conducted based on a same schedule. However, starting

The Bank adjusted the purchase size per auction and the purchase frequency per month in a flexible manner, mainly based on the supply and demand conditions of JGBs in each zone and auction dates. First, with respect to the monthly purchase size, the Bank significantly increased the amounts for maturity zones with residual maturities of up to 10 years in April, with a view to providing a further ample supply of yen funds. The Bank subsequently increased the purchase amounts for the same zones again in May, in response to the decision made at its MPM held on April 27, 2020. Thereafter, the Bank further increased its purchase amounts both in June and July, with a view to maintaining stability in the bond market and stabilizing the entire yield curve at a low level, considering the government's decision to increase its issuance of JGBs as part of its emergency economic measures. In addition, with respect to the purchase frequency per month, the Bank added one or two more purchases per month, from April, to those already conducted through March, for each maturity zone with a residual maturity of up to 10 years. The Bank then conducted the actual purchases taking into consideration the decrease in market liquidity amid the COVID-19 pandemic and the aforementioned increases in purchase amounts.

Subsequently, considering liquidity and functioning of the market, which had started to improve gradually, the Bank decreased the purchase frequency per month for each of the zones with a residual maturity of 5 years or less, while generally keeping the monthly purchase amounts for the same zones unchanged, from November 2020 onward. From January 2021 onward, supply and demand balance of the short- and medium-term JGBs with residual maturities of up to 5 years has been tightening, mainly under the influence of active purchases by the Bank and robust demand from financial institutions for collateral. Indeed, declines were observed in the core bid-to-cover ratio[24] in the Bank's purchases of JGBs and in the special collateral (SC) repo rates in a wide range of JGBs; accordingly, the Bank decreased its purchase amounts (Charts 3-22 and 3-23).

Meanwhile, the Bank maintained the monthly purchase amounts and purchase frequency

---

from April 2020, operations were changed so that these four zones' auctions might be conducted based on separate schedules for each maturity zone.

[24] The core bid-to-cover ratio is calculated by extracting the bidding amount for JGB purchases with yields which are equivalent to or higher than the offer rate put forward by sellers of JGBs (prices which are equivalent to or lower than the offer prices by sellers of JGBs) in the secondary market immediately before the deadline for submitting bids, and dividing the total of that amount by the offered amount. For details on the thinking on the core bid-to-cover ratio, see Box 8 in Market Operations in Fiscal 2016.

unchanged throughout the fiscal year for the super-long-term JGBs with residual maturities of more than 10 years. This reflects the relatively favorable supply and demand conditions of those JGBs as well as the existence of a stable investor base.

With respect to issues eligible for purchase, the Bank continued to exclude on-the-run issues of 20-year, 30-year, and 40-year JGBs. Moreover, it decided to exclude issues of JGBs in a wide range of zones from its outright purchases in the summer of 2020, mainly taking into consideration the developments in financial markets including the supply and demand conditions of individual JGB issues.[25]

As for the floating-rate JGBs, the Bank decreased the amounts of bi-monthly purchases from 100 billion yen to 50 billion yen for its purchases in October 2020, taking into consideration a decrease in the amounts outstanding in the market and a decline in the bid-to-cover ratio in the Bank's purchases.

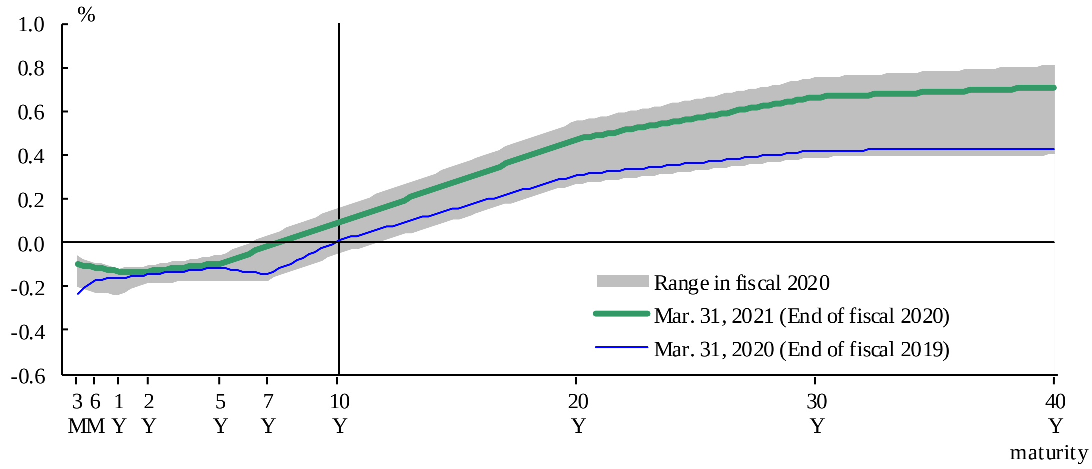
[25] For the selection of JGBs eligible for purchase, see Box 6.

Chart 3-20: Changes of Monthly Schedule of Outright Purchases of JGBs

Residual maturity	Apr-20	May-20	Jun-20	Jul~Sep-20	Oct-20	Nov~Dec-20	Jan-21	Feb~Mar-21
-1Y	500-1,000	500-1,000	500-1,000	500-1,500	500-1,500	1,000-2,000	1,000-2,000	500-1,500
	800	800	800	1,000	1,000	1,500	1,500	1,000
	3	3	3	3	3	2	2	2
1-3Y	2,000-4,500	2,000-5,000	2,000-5,000	2,500-6,000	2,500-6,000	3,500-6,500	3,000-6,000	2,500-5,500
	3,200	3,400	3,400	4,200	4,200	5,000	4,500	4,000
	6	6	6	6	6	5	5	5
3-5Y	1,500-4,000	2,000-5,000	2,000-4,500	2,000-5,000	2,000-5,000	2,500-6,000	2,500-6,000	2,000-5,500
	2,800	3,500	3,200	3,500	3,500	4,200	4,200	3,700
	6	5	6	6	6	5	5	5
5-10Y	2,000-5,000	2,000-5,500	2,500-5,500	2,500-6,000	2,500-6,000	2,500-6,000	2,500-6,000	2,500-6,000
	3,500	3,700	4,000	4,200	4,200	4,200	4,200	4,200
	5	5	5	5	5	5	5	5
10-25Y	500-2,000	500-2,000	500-2,000	500-2,000	500-2,000	500-2,000	500-2,000	500-2,000
	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
	2	2	2	2	2	2	2	2
25Y-	0-500	0-500	0-500	0-500	0-500	0-500	0-500	0-500
	300	300	300	300	300	300	300	300
	2	2	2	2	2	2	2	2
Inflation-indexed bonds	300	300	300	300	300	300	300	300
	300	300	300	300	300	300	300	300
	2	2	2	2	2	2	2	2
Floating-rate bonds	1,000	1,000	1,000	1,000	500	500	500	500
	1,000	1,000	1,000	1,000	500	500	500	500
	Once every two months	Once every two months	Once every two months	Once every two months	Once every two months	Once every two months	Once every two months	Once every two months

Notes: 1. From top to bottom, figures are the offered amount per auction (100 million yen), the offered amount in the first round of auctions (100 million yen), and the frequency of auctions.
2. Shaded areas indicate increases or decreases in the amounts of purchases.
3. Purchase sizes of these auctions listed above are approximate.

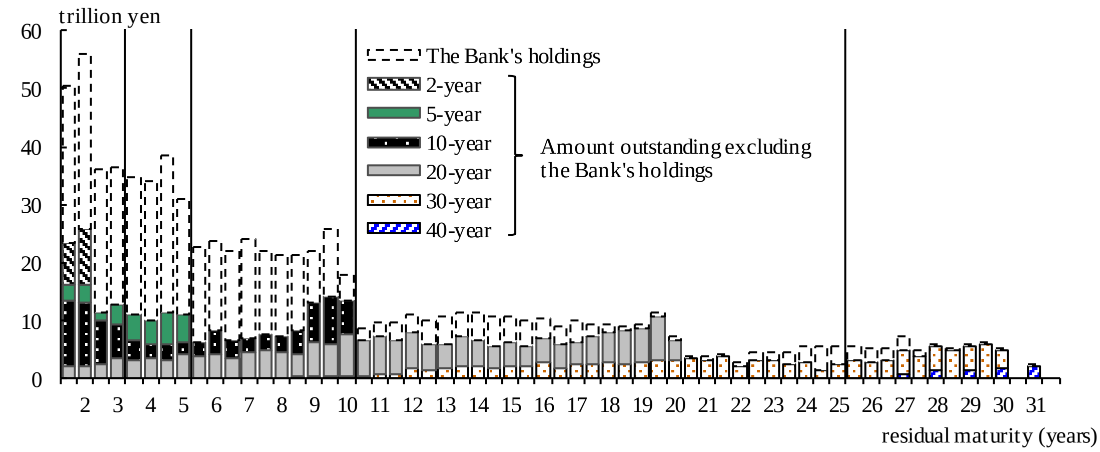
Chart 3-21: Changes in the JGB Yield Curve



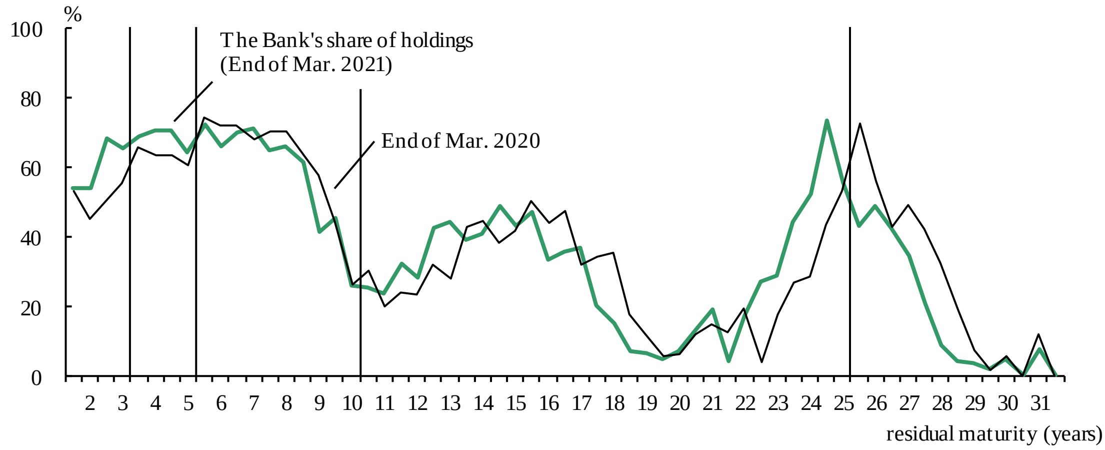
Note: Figures for residual maturity of 7 years are yields on CTDs (JGB futures).

Chart 3-22: Amounts Outstanding and the Bank's Share of JGB Holdings by Residual and Original Maturity

(Amounts Outstanding)

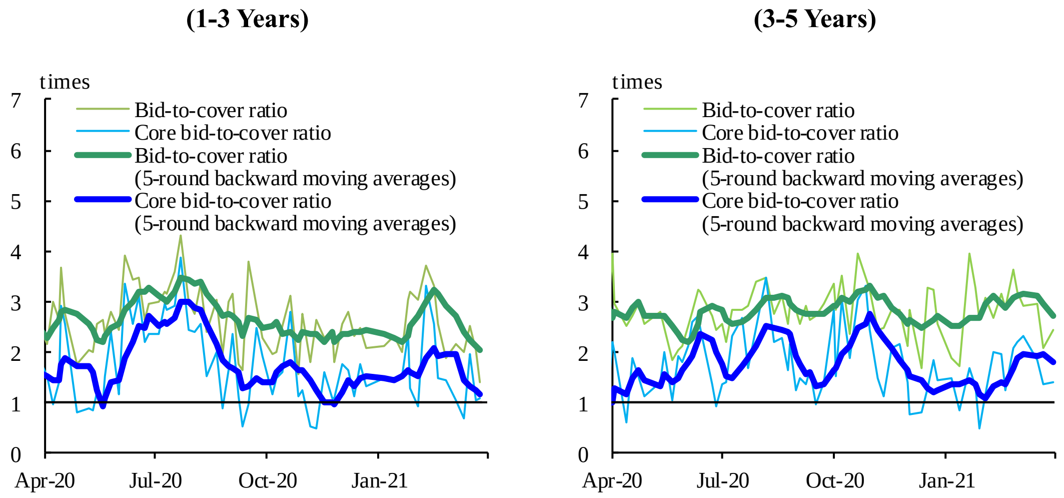


(the Bank's Share of JGB Holdings)



Notes: 1. 2-year, 5-year, 10-year, 20-year, 30-year, and 40-year JGBs are classified by residual maturity in 6-month intervals.
2. Figures for the amounts outstanding are as of the end of March 2021.

Chart 3-23: Core Bid-to-Cover Ratio



Box 5: Functioning of the JGB Market after the Introduction of YCC

The Bank has been conducting yield curve control (hereinafter referred to as "YCC") since the introduction of the "QQE with Yield Curve Control" framework in September 2016.

At the Bond Market Group Meeting held immediately after the introduction of YCC,[26] concerns were raised by a number of market participants over the lowering of the functioning of the JGB market as the JGB market volatility declines further due to the introduction of YCC under circumstances where the entire yield curve had already declined significantly under "QQE with a Negative Interest Rate" introduced in January 2016. Looking at the diffusion index (DI) for bond markets (considering the functioning of the secondary market for JGBs; hereinafter referred to as the "bond market functioning DI") in the Bond Market Survey, while the DI slightly improved temporarily after the introduction of YCC, it subsequently returned to a downtrend (Box Chart 5-1). Meanwhile, the decreasing trend continued for the inter-dealer transaction volume of cash JGBs (Box Chart 5-2).

Thereafter, the Bank decided on "strengthening the framework for continuous powerful monetary easing" (hereinafter referred to as the "strengthening of the framework") at the MPM held in July 2018, and took various measures that would contribute to improving market functioning (specifically, measures such as revisions to the frequency of outright purchases of JGBs, allowing flexible scheduling, and excluding more JGBs from those eligible for purchase. For details, see Box Chart 5-7). After the strengthening of the framework, the DI started to improve, although remaining at a low level, and the inter-dealer transaction volume also started to increase. Moreover, there were opinions at the Bond Market Group meetings that the functioning of the JGB market had improved, and domestic interest rates had started to fluctuate more frequently in tandem with overseas interest rates (Box Chart 5-3).

In March 2020, the functioning of the JGB market deteriorated temporarily to a significant extent when financial markets were destabilized due to the spread of COVID-19. Toward the end of March, the bid-ask spreads for JGBs temporarily widened in a significant manner (Box Chart 5-4). Many market participants faced operational constraints, as many of them implemented working from home and/or working split shifts measures when a state of emergency came into effect in April, lasting through May; these measures hindered the recovery in market functioning.

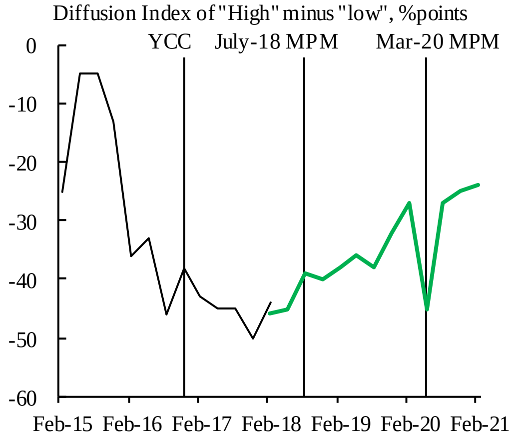
[26] For opinions expressed by market participants at the Bond Market Group meetings, see the minutes of each meeting (https://www.boj.or.jp/en/paym/bond/index.htm/).

Thereafter, the bond market functioning DI recovered to the level seen prior to the spread of COVID-19, due partly to progress made in the establishment of "new" business operation systems in the COVID-19 pandemic among market participants in August 2020. From January to March 2021, the transaction volume was larger compared with the past, due partly to a rise in overseas interest rates and speculation over the Bank's conduct of monetary policy.

Meanwhile, the Bank flexibly adjusted amounts of JGB purchases in accordance with developments in the financial markets at the time and the supply and demand conditions in each maturity zone (Box Chart 5-5). While the Bank's share of JGB holdings had been following an increasing trend, this has recently come to a halt, mainly caused by changes in the share of super-long-term JGBs (Box Chart 5-6). Moreover, the transaction volume of JGBs, mainly some off-the-run JGBs, temporarily decreased to an extremely low level amid the Bank's large-scale outright purchase of JGBs under an "enhancement of monetary easing." In response, the Bank conducted more flexible selection of JGBs eligible for purchase than previously from summer 2020 onward (see Box 6 for details).

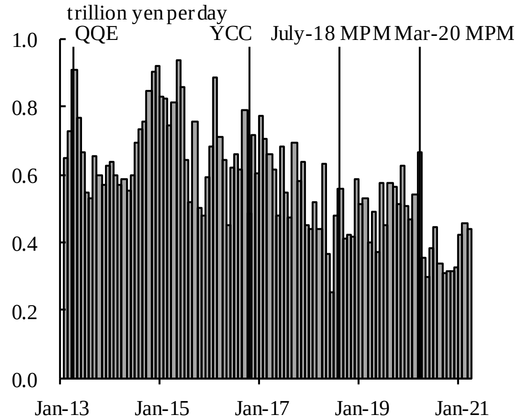
The Bank has been implementing measures that are expected to have contributed to improving market functioning in its conduct of various market operations, including the outright purchases of JGBs (Box Chart 5-7). The Bank will continue to flexibly conduct market operations, including outright purchases of JGBs, while giving due consideration to market functioning.

Box Chart 5-1: Bond Market Functioning DI



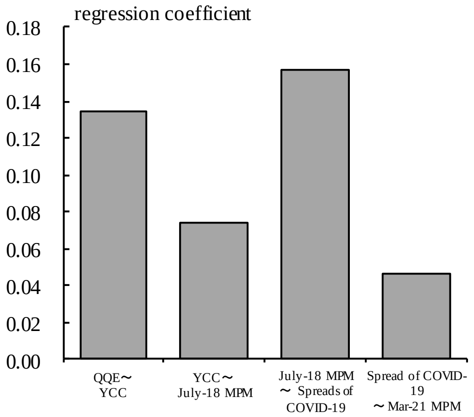
Notes: 1. Diffusion index about the degree of current bond market functioning.
2. The figures from February 2018 onward include responses from additional respondents.

Box Chart 5-2: Inter-Dealer Transaction Volume in the Cash JGB Market



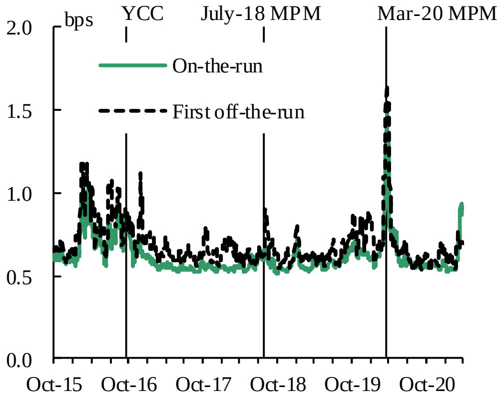
Notes: 1. Total daily transaction volume of 2-year, 5-year, 10-year, 20-year, 30-year, and 40-year JGBs.
2. QQE represents Quantitative and Qualitative Monetary Easing introduced at the April 13 MPM.

Box Chart 5-3: Co-Movement between JGBs and Overseas Interest Rates



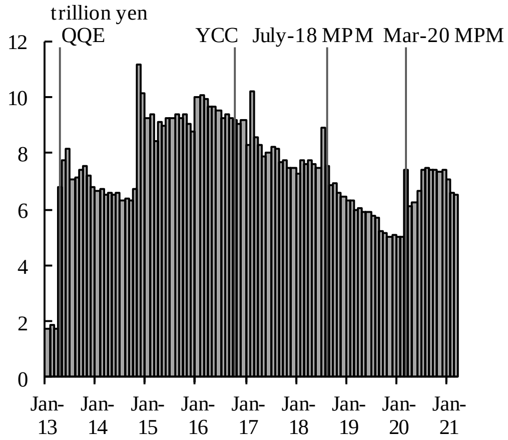
Notes: 1. Linear regression model to regress 10-year JGB yields on 1-day lagged U.S. 10-year yields and intercept.
2. "Spread of COVID-19" indicates late February 2020.

Box Chart 5-4: Bid-Ask Spreads of Inter-Dealer 10-Year JGBs Transactions

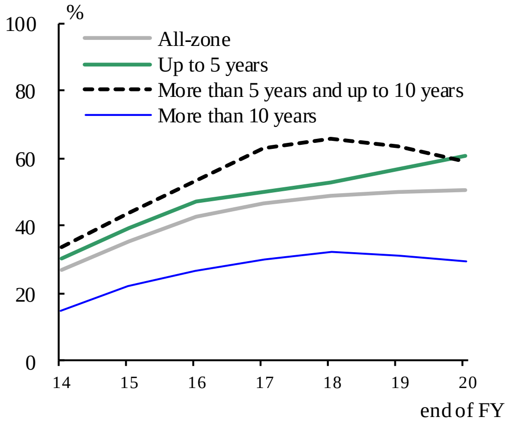


Notes: 1. Figures indicate the average of bid-ask spreads with a 1-second frequency.
2. Bid-ask spreads are calculated only for time periods in which both best-bid and best-ask prices were submitted.
3. 10-day backward moving averages.

Box Chart 5-5: Amounts of Monthly Purchases of JGBs



Box Chart 5-6: The Bank's Share of JGB Holdings



Note: Figures for all-zone are calculated using 2-year, 5-year, 10-year, 20-year, 30-year, 40-year, and inflation-indexed JGBs.

Box Chart 5-7: Operational Measures to Contribute to an Improvement in Market Functioning

	Implementation period	Actual measures
Introduction of YCC - July 2018 MPM	Feb. 2017	Made announcements in advance regarding the specific dates of auctions scheduled for the following month for outright purchases of JGBs across the three main maturity zones (more than 1 year and up to 5 years, more than 5 years and up to 10 years, and more than 10 years)
July 2018 MPM - Spread of COVID-19	Sep. 2018 - Mar. 2019	Reduction in the frequency of purchases of JGBs across the three major maturity zones
	Nov. 2018-	Changes were made to the purchase schedules as below to avoid the business day immediately following the auctions of certain JGB issuance. "more than 1 year and up to 5 years": 2-year and 5-year JGB issuance zones with maturities of more than 10 years : 20-year, 30-year, and 40-year JGB issuance
	Jan. 2019-	Expansion of the scope of issues excluded from purchases of the maturity zones with the residual maturity of more than 5 years and up to 10 years, focusing mainly on future CTDs
	June 2019-	Relaxation of the terms and conditions for the Securities Lending Facility
	June 2019-	Changes in the purchase schedule of the maturity zone of more than 5 years and up to 10 years so that it would not fall on the business day immediately following the issuance auctions for 10-year JGBs
	June 2019 - Feb. 2020	Reduction in the frequency of purchases of JGBs in the maturity zones of more than 10 years
	Oct. 2019-	Exclusion of on-the-run 20-year and 30-year JGBs from issues eligible for purchase
	Jan. 2020-	Exclusion of on-the-run 40-year JGBs from issues eligible for purchase
Spread of COVID-19-	Summer 2020-	Expansion of the scope of off-the run issues excluded from purchases
	Nov. 2020-	Reduction in the frequency of purchases of JGBs in the maturity zones of up to 5 years

Box 6: Selection of JGBs to Be Purchased in Outright Purchases of JGBs

The Bank shall determine JGBs eligible for purchase in its each purchase of JGBs in accordance with the "Principal Terms and Conditions for the Outright Purchase/Sale of Japanese Government Bonds," mainly taking into account developments in financial markets. When selecting JGBs eligible for purchase, the Bank gives due consideration to ensure that its purchases of JGBs do not excessively deteriorate supply and demand conditions of individual JGB issues, considering the possibility that a further tightening of their supply and demand conditions may be induced by a further decrease in the amount outstanding in the market (an increase in short positions in the market). Indeed, the Bank has already been flexible in its response to a certain extent since January 2019, such as by selecting more JGBs to be excluded from those eligible for purchase, mainly some of those that would be the cheapest-to-deliver issues (CTDs) for JGB futures going forward.

When selecting JGBs eligible for purchase, the Bank carefully monitors supply and demand conditions of individual JGBs based on both qualitative and quantitative information. Quantitative indicators that the Bank takes into account include differences in yields compared with adjacent JGBs, the rates and transaction volume in the SC repo market, the acceptance of bids through the Securities Lending Facility, the amount outstanding of each JGB in the market, the Bank's share of holdings, and acceptance of bids in the liquidity enhancement auctions by the government.

The Bank actively purchased JGBs throughout fiscal 2020. The yields on on-the-run JGBs continued to be stable even after the large-scale additional issue of JGBs by the government in July. Nonetheless, the rates on some JGBs remained significantly low in the SC repo market as the supply and demand conditions of off-the-run JGBs tightened, mainly for short- and medium-term JGBs -- of which the Bank was making sizeable purchases (Box Chart 6-1). In this respect, market participants expressed their opinions at such fora as "Bond Market Group" meetings that market making had become difficult due to the deterioration in the supply and demand conditions of individual JGBs, mainly in those of some off-the-run issues. Taking into consideration such circumstances, the Bank has been selecting JGBs eligible for purchase for its outright purchases of JGBs more flexibly than ever, particularly since summer 2020 (Box Chart 6-2).[27] As a result,

[27] Some also voiced concerns that the supply and demand conditions of some JGBs -- especially those of some off-the-run issues for which a certain time had passed since their issuance -- had been tightening at such fora as the Bond Market Group meetings. See the link below regarding the minutes of the 12th round of the meetings.
https://www.boj.or.jp/en/paym/bond/mbond2012.pdf

the tightening of the supply and demand conditions of off-the-run JGBs has eased, and the amount of successful bids for JGBs excluded from those eligible for purchase through the Securities Lending Facility has been on a decreasing trend (Box Charts 6-1 and 6-3).

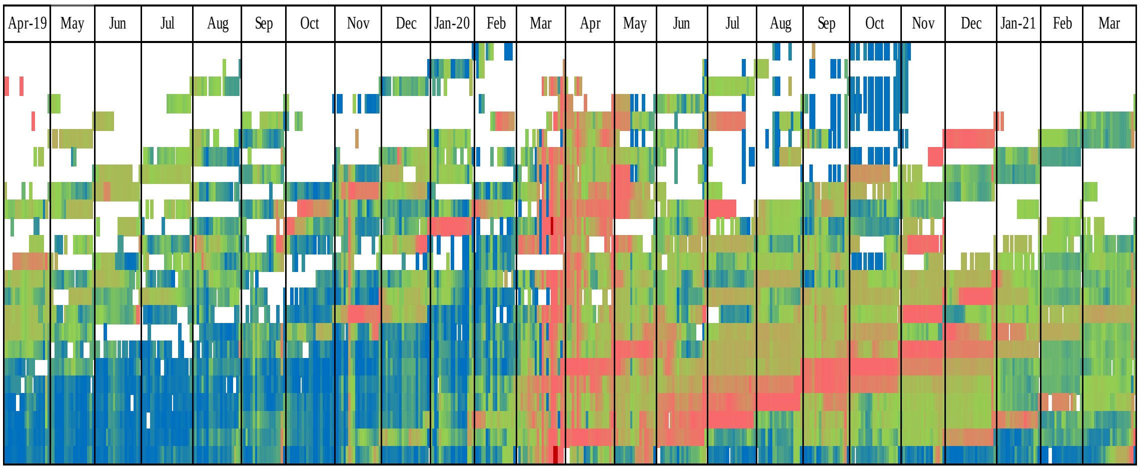
This paragraph discusses examples of 2-year JGBs of issue numbers 411 and 412 that were excluded from those eligible for purchase from September 11, 2020. Looking at reference statistical prices (yields) as of September 11, the yields on these JGBs had significantly declined compared with other JGBs with similar residual maturity periods. The SC repo rates had also declined with a certain amount of turnover, indicating a tightening of supply and demand conditions (Box Charts 6-4 and 6-5). Moreover, financial institutions also pointed out such tightening of supply and demand conditions anecdotally in their daily communication with the Bank. Consequently, the Bank decided to exclude these particular issues of JGBs from those eligible for purchase in the operations it conducted on September 11, partly to reflect this point. Thereafter, trading of these issues increased in the secondary market and yield spreads with adjacent JGB issues narrowed. Issue number 411 was included in the JGBs eligible for purchase again starting with operations conducted on December 16, as the tightening of its supply and demand conditions in the SC repo market eased. On the other hand, issue number 412 continued to be excluded from JGBs eligible for purchase as the tightening of its supply and demand conditions in the SC repo market persisted. Subsequently, it was included in JGBs eligible for purchase again, starting with the operations conducted on February 3, 2021 (Box Charts 6-4 and 6-5).

The above examples present developments in each indicator on a particular day; however, in fact, developments in each indicator are monitored for a certain period of time. Moreover, the Bank determines the eligibility of JGBs for its outright purchases based on the underlying market trading, while also utilizing anecdotal information obtained through its communication with market participants.

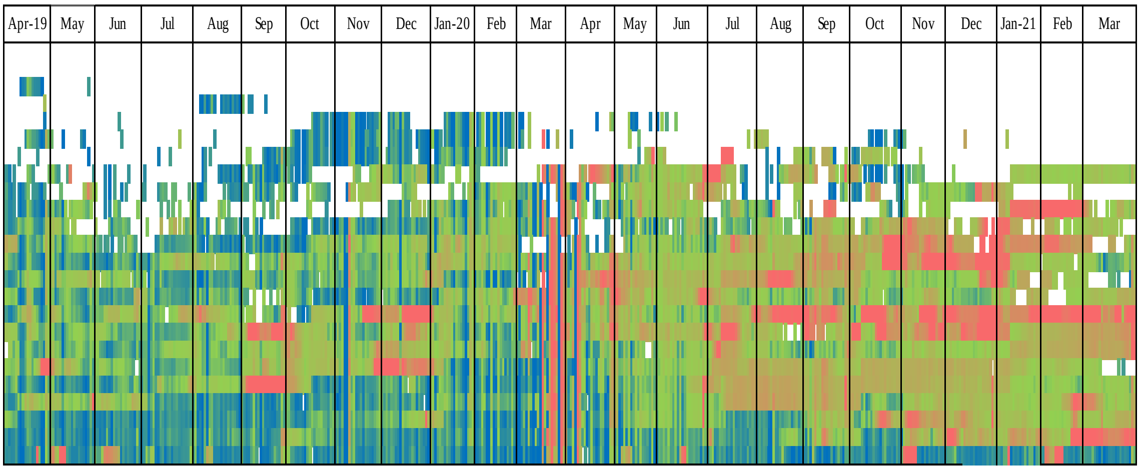
The Bank will continue flexibly selecting JGBs eligible for purchase, taking into account supply and demand conditions of individual JGB issues as part of its consideration for market functioning in its conduct of market operations.

Box Chart 6-1: GC-SC Repo Rate Spreads of 2-Year Bonds and 5-Year Bonds

(2-year JGBs)



(5-year JGBs)

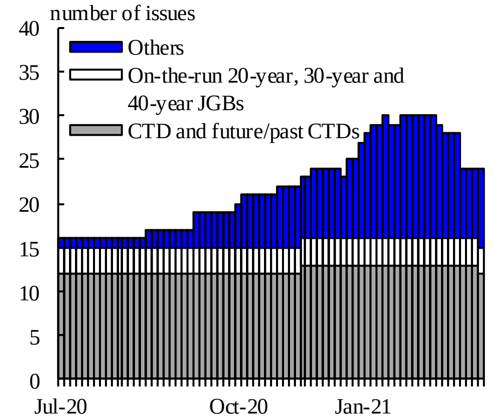


Notes: 1. With regard to 24 on-the-run and off-the-run issues of 2-year and 5-year JGBs (traded on JBOND), the color gradation of individual cells of the chart is as follows: (1) red when the GC-SC repo rate spread is in the upper 5 percentile, (2) blue when the spread is in the lower 5 percentile, (3) green for the values in between these percentiles, and (4) white when the issue was not traded on JBOND, from fiscal 2019 through 2020.

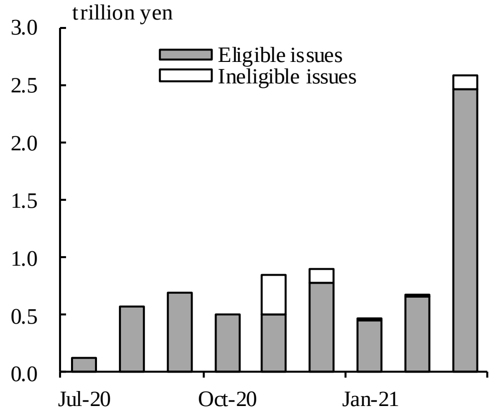
2. The Tokyo repo rate for transactions on the same day as the SC repo (T/N) is used for the GC repo rate.

3. On the vertical axis, on-the-run issues and off-the-run issues are in order of the issuance date from the bottom up.

Box Chart 6-2: Number of Issues to Be Excluded from Those Eligible for Purchase



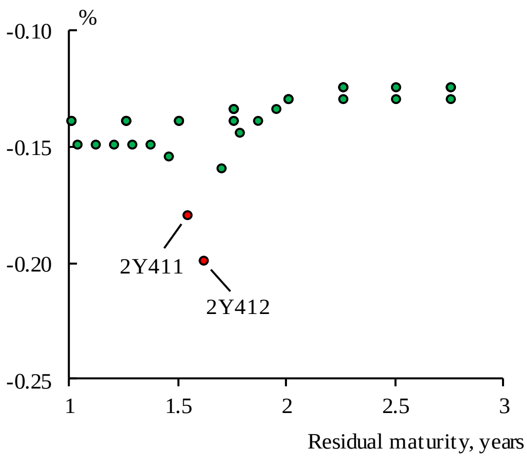
Box Chart 6-3: Acceptance of Bids through the Securities Lending Facility



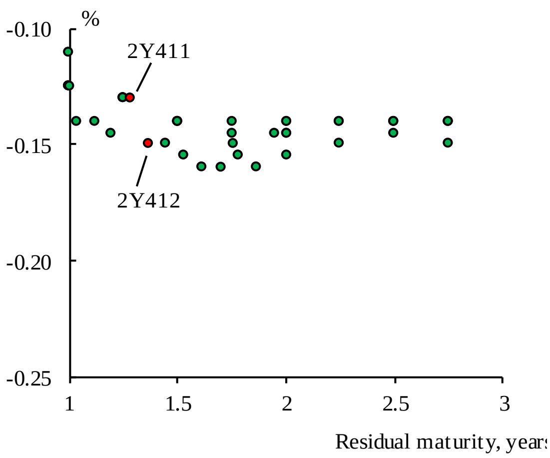
Note: Ineligible issues are those additionally excluded from the Bank's purchases from July 2020 onward.

Box Chart 6-4: Reference Statistical Prices (Yields) for OTC Bond Transactions (Residual Maturity of More Than 1 Year and Up to 3 Years)

(September 11, 2020)



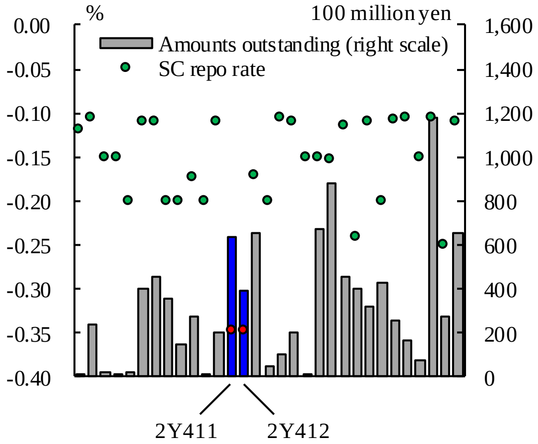
(December 16, 2020)



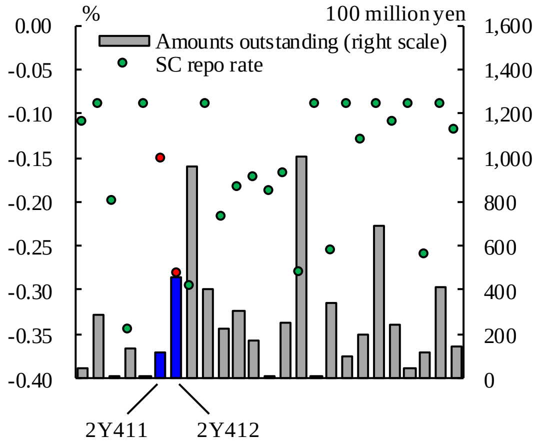
Box Chart 6-5: Developments in the SC Repo Market

(Residual Maturity of More Than 1 Year and Up to 3 Years)

(September 10, 2020)



(December 15, 2020)



Note: Issues traded on JBOND on the business day before the offer date in the ascending order of the residual maturity from left to right.

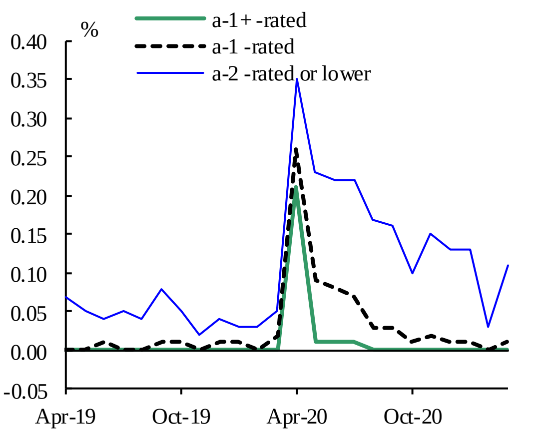
D. Developments in the CP Market and Outright Purchases of CP

1. Developments in the CP Market

During fiscal 2020, CP issuance rates temporarily rose in a significant manner in April 2020. Such developments can be attributed to (1) issuers actively issuing CP with the aim of securing funds on a precautionary basis and (2) investors becoming reluctant to invest due to operational constraints including those resulting from shifting to working from home and an increase in market volatility, amid restrictions on economic activity due to the spread of COVID-19. Subsequently, issuance rates declined to around 0 percent, mainly among issues with high ratings, due partly to increased demand for collateral for the Special Operations in Response to COVID-19, in addition to the Bank's decision on the "enhancement of monetary easing" which specified an increase in the purchase amount of CP. Some of the issues were issued even at a negative rate, and issuance rates for issues other than those with high ratings also declined (Chart 3-24).

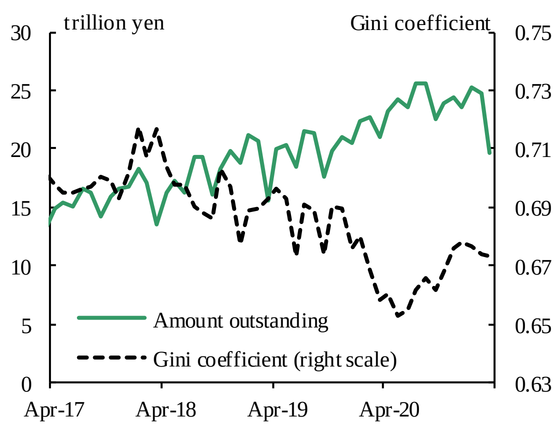
The amount outstanding of CP remained at a high level throughout fiscal 2020. In the first half of the fiscal year, precautionary funding became active and CP was issued by a wide range of issuers. Thereafter, as strains in financial markets have eased, the amount outstanding of CP decreased in the latter half of fiscal 2020, especially toward the end of the fiscal year, as in preceding years, due partly to moves to not roll over CP issued on a precautionary basis in the first half of the fiscal year (Chart 3-25).

Chart 3-24: CP Issuance Rates



Notes: 1. 1-month rates.
2. CP issuance rates of business companies (including electric power and gas companies) and other financial companies (including leasing companies and nonbanks) on a monthly basis.

Chart 3-25: Amount Outstanding of CP



Notes: 1. Figures are as of the month-end.
2. The Gini coefficient is represented as ranging from 0 to 1. The closer the coefficient is to 0, the smaller the extent of distribution among amounts outstanding of CP issued by individual issuers, and the closer it is to 1, the greater the extent.

2. Outright Purchases of CP

At the MPM held on April 27, 2020, the Bank decided to significantly increase the maximum amounts of additional purchases of CP and corporate bonds to ensure smooth financing, such as of financial institutions and firms,[28] and to substantially raise the maximum amounts outstanding of a single issuer's CP and corporate bonds to be purchased. Accordingly, the Bank significantly raised the auction amounts for its outright purchases of CP, and actively purchased them throughout the fiscal year (Chart 3-26). Meanwhile, it flexibly revised the auction amount per auction in accordance with conditions surrounding the issuance of and the yields on CP.[29] In November 2020 and February through March 2021, the Bank decreased its offer amounts from what it had announced in advance, considering the decrease in the pace of issuance of CP and the tightening in their supply and demand due to the demand as collateral to be pledged for the Special Operations in Response to COVID-19 and made purchases of CP. Moreover, in its first purchase of August 2020, when the bidding was sluggish, the Bank did not accept bids that were significantly below the prevailing market rates and bidding rates submitted by other counterparties.

The lowest accepted bid yields for outright purchases of CP reached a slightly higher level in positive territory, between 0.05 and 0.11 percent, in April 2020, against the backdrop of a rise in issuance rates for CP. Subsequently, from May 2020 onward, it decreased to negative territory against the backdrop of a tightening of supply and demand conditions reflecting a significant increase in the Bank's purchase amounts and an increase in demand for collateral for the Special Operations in Response to COVID-19. While the Bank continued with large-scale purchases, the

---

[28] At the MPM held on April 27, the Bank decided to increase the maximum amounts of additional purchases of CP and corporate bonds from 1 trillion yen for each to 7.5 trillion yen for each. Thereafter, at the MPM held on December 17 and 18, it was decided that the maximum amount of additional purchases of CP and corporate bonds would be 15 trillion yen in total, distributed according to the respective market conditions. In addition, at the MPM held on March 18 and 19, 2021, the Bank decided on further effective and sustainable monetary easing; it was stipulated that the Bank would purchase CP and corporate bonds with upper limits of their amounts outstanding of about 20 trillion yen in total by the end of September 2021, and that a certain amount of CP and corporate bonds would continue to be purchased even after the end of these purchases in response to the impact of COVID-19.

[29] The Bank was also flexible about the schedule of purchases in that it shortened the period from trading to settlement (settlement cycle) to T+2, which took effect in July 2020 following the shortening of the settlement cycle for corporate and other bonds. Subsequently, it changed the settlement cycle to T+3, effective from December 2020, considering that operational constraints faced by counterparties continued to be severe as the impact of COVID-19 was prolonged.

lowest accepted bid yield declined to minus 0.064 percent toward the end of fiscal 2020 (Chart 3-27). For May onward, the Bank set the lower limit on bid rates mainly with reference to the short-term policy interest rate and yields on T-Bills, with a view to ensuring smooth financing of firms and to maintaining accommodative issuing conditions through fulfillment of appropriate functioning of the CP market.

Chart 3-26: Offered Amount of Outright Purchases of CP

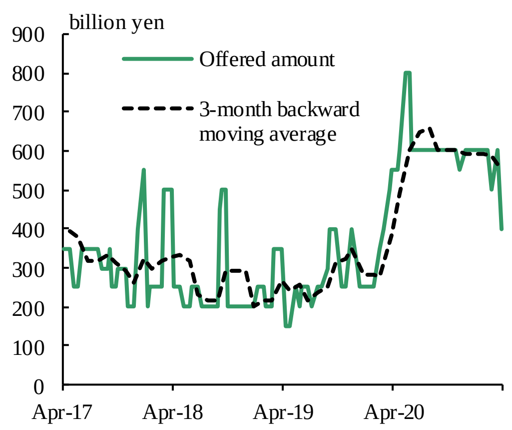
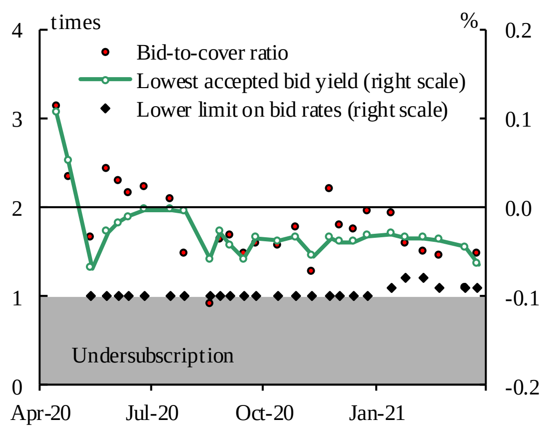


Chart 3-27: Bid-to-Cover Ratios and Lowest Accepted Bid Yield of Outright Purchases of CP



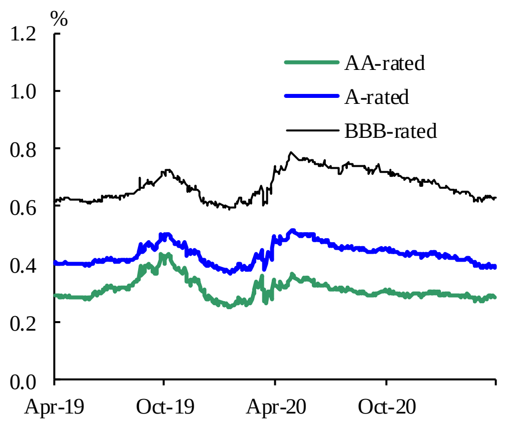
E. Developments in the Corporate Bond Market and Outright Purchases of Corporate Bonds

1. Developments in the Corporate Bond Market

Looking at the yield spreads between corporate bonds and JGBs during fiscal 2020, they widened somewhat in April 2020 amid volatility in financial markets rising against the backdrop of the spread of COVID-19. Subsequently, spreads gradually narrowed due partly to increased demand for collateral for the Special Operations in Response to COVID-19, in addition to the Bank's decision on the enhancement of monetary easing which specified a significant increase in the purchase amounts of corporate bonds (Chart 3-28).

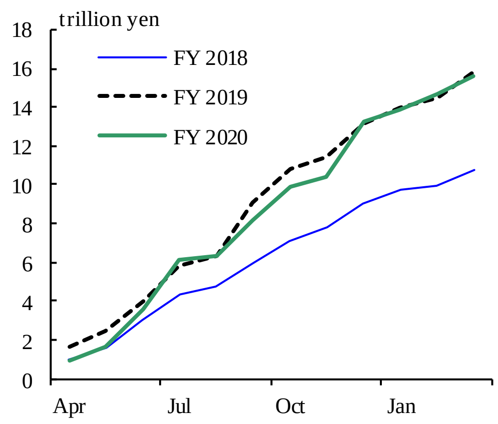
Meanwhile, the amount outstanding of corporate bonds increased at a pace similar to fiscal 2019 under a continued favorable issuance environment on the whole (Chart 3-29). During the first half of the fiscal year, the issuance of bonds with the aim of securing on-hand liquidity was particularly noticeable in maturity periods of up to 5 years, bonds which were eligible for the Bank's purchase. Firms also became more active in the issuance of bonds with longer maturity periods and subordinated bonds, with the aim of securing funds for mergers and acquisitions or strengthening their financial base toward the latter half of the fiscal year.

Chart 3-28: Yield Spreads between Corporate Bonds and JGBs



Notes: 1. Rated by R&I.
2. Corporate bonds with a remaining maturity of 3 years or more and up to 7 years.

Chart 3-29: Cumulative Issuance of Ordinary Corporate Bonds from the Start of the Fiscal Year



Notes: 1. Figures are as of the month-end.
2. On a nominal basis. Privately offered bonds are excluded.

2. Outright Purchases of Corporate Bonds

As described above, the Bank decided to significantly increase the maximum amounts of additional purchases of corporate bonds at its MPM held on April 27, 2020. Moreover, the maximum amounts outstanding of a single issuer's corporate bonds to be purchased were raised substantially, and the remaining maturity of corporate bonds to be purchased was extended from "1 year or more and up to 3 years" to "1 year or more and up to 5 years."[30] Accordingly, the Bank purchased corporate bonds with the remaining maturity of "1 year or more and up to 3 years" and "more than 3 years and up to 5 years" for about 300 billion and about 200 billion yen, respectively, every month from May 2020 onward. Furthermore, the Bank decreased the amounts of purchases of bonds with a remaining maturity of 1 year or more and up to 3 years to 200 billion yen in March 2021, based on the tightening of supply and demand conditions due partly to the seasonal slowdown in the pace of new issuance, while the Bank continued with its sizable purchases. In addition, the Bank also decreased the amounts of purchases of bonds with a remaining maturity of more than 3 years and up to 5 years to 150 billion yen in February 2021, and then to 75 billion yen in March. The amount outstanding of corporate bonds followed an increasing trend throughout the fiscal year and reached 7.5 trillion yen at the end of March 2021 (Chart 3-30).

Looking at the lowest accepted bid yields for outright purchases of corporate bonds, that for corporate bonds with the remaining maturity of 1 year or more and up to 3 years was in positive territory in April 2020 due to investors' heightened need to obtain cash; it has remained in negative territory since May against the backdrop of a significant increase in the Bank's purchase amount and the tightening of supply and demand conditions owing to increased demand for collateral for the Special Operations in Response to COVID-19. For June onward, the Bank set the lower limit on bid rates mainly with reference to yields on JGBs with the same maturity period, with a view to ensuring smooth financing of firms and to maintaining accommodative issuing conditions through fulfillment of appropriate functioning of the corporate bond market. The lowest accepted bid yields for those with a remaining maturity of more than 3 years and up to 5 years were around

---

[30] At the MPM held on May 22, 2020, the Bank extended the duration of these measures to the end of March 2021. Moreover, at the MPM held on December 17 and 18, it extended the duration of these measures to the end of September 2021 (for details of the changes in the framework, see Chapter IV). In addition, at the MPM held on March 18 and 19, 2021, the Bank decided on "further effective and sustainable monetary easing"; it was stipulated that the Bank would purchase CP and corporate bonds with upper limits of their amounts outstanding of about 20 trillion yen in total by the end of September 2021, and that a certain amount of CP and corporate bonds would continue to be purchased even after the end of purchases in response to the impact of COVID-19.

0.15 percent in the first half of the fiscal year, as financial institutions' demand for selling the bonds through the Bank's purchases was strong against the backdrop of active issuance of bonds with the same maturity period. Subsequently, the lowest accepted bid yield gradually declined and it was at 0.008 percent on March 22, 2021, owing to the tightening of supply and demand conditions due to the issuance of bonds having come to a halt and active purchases by the Bank (Chart 3-31).

Chart 3-30: Amounts Outstanding of Corporate Bonds Purchased and Amounts of Monthly Purchases of Corporate Bonds

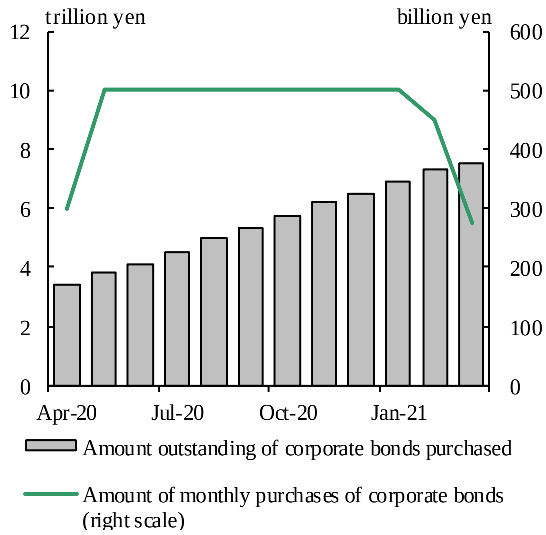
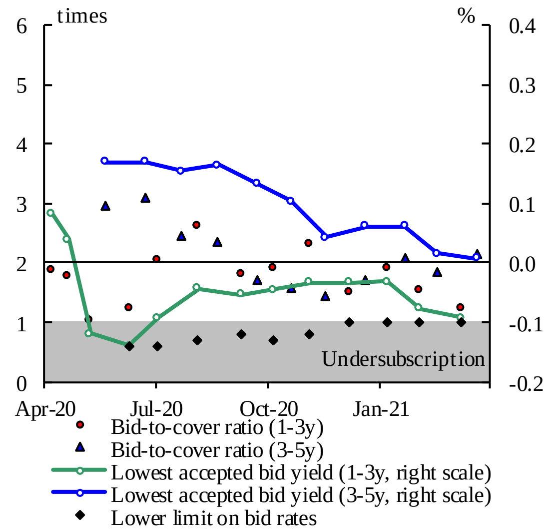


Chart 3-31: Bid-to-Cover Ratios and Lowest Accepted Bid Yield of Outright Purchases of Corporate Bonds



F. Developments in the FX Swap Market and Supply of U.S. Dollar Funds

1. Developments in the FX Swap Market

In the FX swap market, U.S. dollar funding costs (short-term FX swap-implied U.S. dollar rate from the yen) rose substantially toward the end of March 2020. The rise mainly reflected intensified moves by financial institutions to secure ample on-hand liquidity in U.S. dollars as well as those by foreign investors to unwind their trading positions of dollar-to-yen conversion through FX swaps as concerns over COVID-19 grew. Thereafter, the Fed supplied markets with ample U.S. dollar funds and the central bank of each jurisdiction, including the Bank of Japan, coordinated to implement U.S. Dollar Funds-Supplying Operations in an enhanced manner. Due to this coordinated action, U.S. dollar funding costs began to decline toward the beginning of fiscal 2020 and remained stable thereafter under the continued ample supply of U.S. dollar funds by the central bank of each jurisdiction. They temporarily increased again toward the end of 2020 partly due to concerns over the possibility that some foreign banks would reduce U.S. dollar fund supply as in preceding years in consideration of the impact on their global systemically important bank (G-SIB) scores. However, this increase was limited compared with previous years due to the U.S. Dollar Funds-Supplying Operations by the six central banks serving as a backstop (Charts 3-32 and 3-33).

Chart 3-32: U.S. Dollar Funding Costs through Short-Term FX Swaps

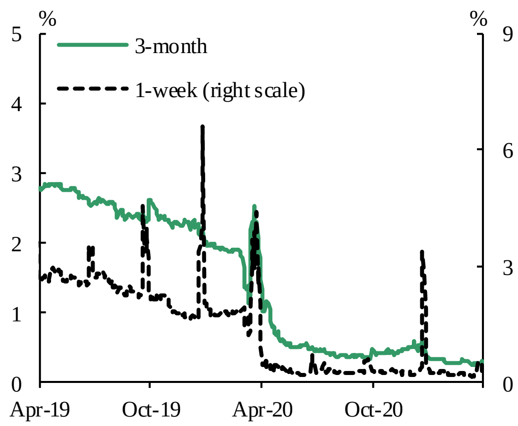
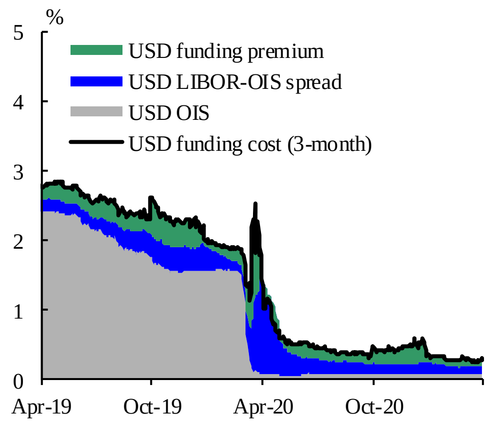


Chart 3-33: Breakdown of U.S. Dollar Funding Costs through Short-Term FX Swaps



Note: The U.S. dollar funding costs through short-term FX swaps are the total funding costs of raising yen at yen LIBOR and converting the proceeds into dollars through FX swap transactions.

2. Supply of U.S. Dollar Funds

As described above, U.S. Dollar Funds-Supplying Operations are to be used as a backstop for such cases as when market participants find difficulty in obtaining U.S. dollars despite adequate efforts to obtain them in the markets due to heightened tensions in U.S. dollar money markets, or when there is a substantial rise in the U.S. dollar funding rate.

During fiscal 2020, the Bank offered the 1-week operations on all business days, in principle, until the end of June 2020. Subsequently, the Bank reduced the frequency in a phased manner, in view of improvements in U.S. dollar funding conditions and the low demand for the 1-week operations.[31] Specifically, the Bank offered the operations three times a week, in principle, from July through August and then on a weekly basis, in principle, from September onward. With respect to 3-month (84-day) operations, the Bank offered the operations on a weekly basis, in principle, throughout the fiscal year.

Turning to the use of U.S. Dollar Funds-Supplying Operations, it increased across a wide range of sectors in the beginning of the fiscal year. The increase was based on (1) U.S. dollar funding costs mainly in the FX swap market that were significantly exceeding the loan rates of U.S. Dollar Funds-Supplying Operations; and (2) the rise in demand for U.S. dollar funds to secure ample on-hand liquidity in view of increased operational constraints induced by, for example, splitting operations across alternative business bases. Thereafter, the use of the operations gradually decreased as the U.S. dollar money markets regained stability and counterparties only used the operations in small sums for training purposes from November 2020 onward.

The framework of the Securities Lending to Provide JGSs as Collateral for the U.S. Dollar Funds-Supplying Operations was used actively in the beginning of fiscal 2020. Subsequently, the use of the lending decreased following the decrease in bidding (Charts 3-34 and 3-35).

[31] When reducing the frequency of auctions, the Bank also made clear in its statement that the relevant central banks "stand ready to re-adjust the provision of U.S. dollar liquidity as warranted by market conditions."

Chart 3-34: Amounts Outstanding of the U.S. Dollar Funds-Supplying Operations

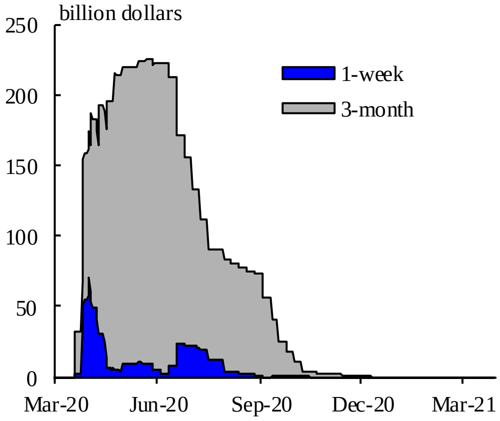
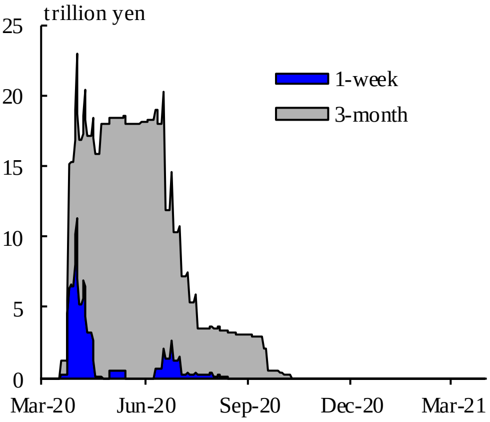


Chart 3-35: Amounts Outstanding of the Securities Lending to Provide JGSs as Collateral for the U.S. Dollar Funds-Supplying Operations



G. Outright Purchases of Other Assets

1. Outright Purchases of ETFs

The Bank actively purchased ETFs so that their amount outstanding would increase at an annual pace with an upper limit of about 12 trillion yen, in accordance with the guidelines for asset purchases decided at the MPMs.[32]

Based on these guidelines, the Bank adjusted the purchase amount each time in a timely manner. Specifically, the Bank conducted purchases of around 200 billion yen per auction from March 19, 2020 through the end of March, and purchases of around 50 to 120 billion yen from the beginning of fiscal 2020, in accordance with market conditions.

The above operations by the Bank amounted to 56 purchases (excluding purchases of ETFs composed of stocks issued by "firms that are proactively investing in physical and human capital" carried out every business day) during fiscal 2020. These resulted in the amount outstanding of ETFs purchased by the Bank at the end of March 2021 standing at 35.9 trillion yen. Furthermore, the amount of monthly purchases of ETFs (based on trade date) ranged from 71.7 to 1,227.2 billion yen during fiscal 2020. In particular, the purchase amount exceeded 1 trillion yen in April 2020 (1,227.2 billion yen), following the results in March 2020(1,548.4 billion yen) (Chart 3-36).

2. Outright Purchases of J-REITs

The Bank actively purchased J-REITs so that their amount outstanding would increase at an annual pace with an upper limit of about 180 billion yen, in accordance with the guidelines for asset purchases decided at the MPMs.[33]

---

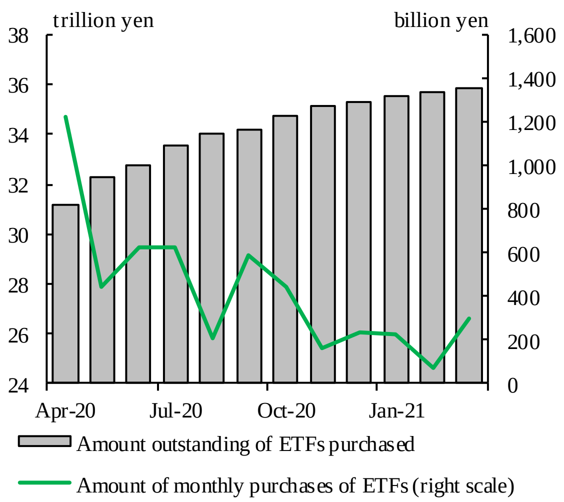
[32] The guideline for purchases of ETFs up until the MPM on March 18 and 19, 2021, in principle, was that the Bank would purchase these assets so that their amounts outstanding would increase at an annual pace of about 6 trillion yen, and that, with a view to lowering risk premia of asset prices in an appropriate manner, the Bank might increase or decrease the amount of purchases depending on market conditions.

[33] The guideline for purchases of J-REITs up until the MPM on March 18 and 19, 2021, in principle, was that the Bank would purchase these assets so that their amounts outstanding would increase at an annual pace of about 90 billion yen, and that, with a view to lowering risk premia of asset prices in an appropriate manner, the Bank might increase or decrease the amount of purchases depending on market conditions.

Similar to the purchases of ETFs described in 1. "Outright Purchases of ETFs" above, the Bank adjusted the purchase amount each time in a timely manner for purchases of J-REITs. Specifically, the Bank conducted purchases of around 4.0 billion yen per auction from March 19, 2020 through the end of March, and purchases of around 0.9 to 2.0 billion yen from the beginning of fiscal 2020, in accordance with market conditions.

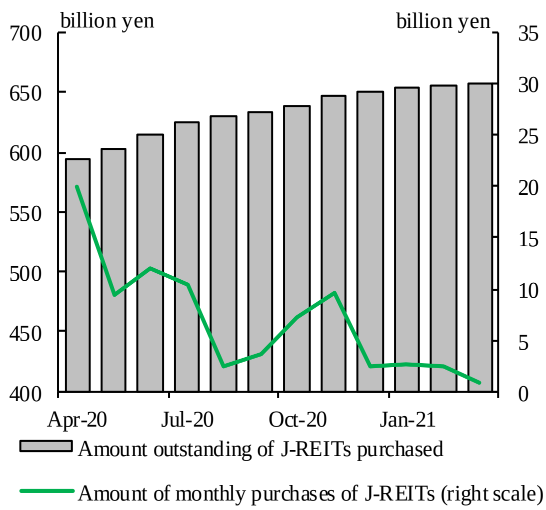
As a result, the Bank conducted 58 purchases during fiscal 2020, and the amount outstanding of J-REITs purchased by the Bank at the end of March 2021 stood at 657.5 billion yen (excluding accrued dividends receivable). The amount of monthly purchases of J-REITs (based on trade date) ranged from 0.9 to 20 billion yen during fiscal 2020 (Chart 3-37).

Chart 3-36: Amounts Outstanding of ETFs Purchased and Amounts of Monthly Purchases of ETFs



Note: "Amount of monthly purchases of ETFs" is based on trade date. The same applies to Chart 3-37.

Chart 3-37: Amounts Outstanding of J-REITs Purchased and Amounts of Monthly Purchases of J-REITs



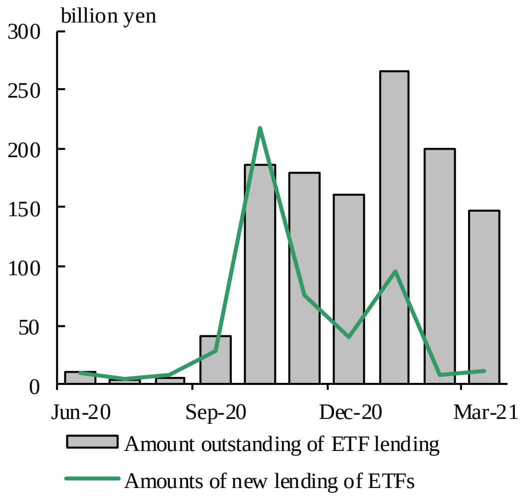
Note: "Amount outstanding of J-REITs purchased" excludes accrued dividends receivable.

3. ETF Lending Facility

The Bank decided to introduce the ETF lending facility, through which it temporarily could lend its ETF holdings to market participants, with a view to further facilitating the Bank's purchases of ETFs and provided this facility from April 1, 2020. Subsequently, running tests on the lending operations were conducted between the trustees, eligible counterparties, and the Bank, and lending on a daily basis commenced on June 12.

The Bank lent 97 times in total during fiscal 2020. As a result, the amount outstanding at the end of March 2021 stood at 147.4 billion yen. Moreover, the amount of new lending made monthly (based on trade date) ranged from 4.3 to 217.7 billion yen during fiscal 2020 (Chart 3-38).

Chart 3-38: Amount Outstanding of ETF Lending and Amounts of Monthly New Lending of ETFs



Note: "Amounts of monthly new lending of ETFs" is based on trade date.

H. Other Operations

1. Special Funds-Supplying Operations to Facilitate Financing in Response to the Novel Coronavirus (COVID-19)

The Bank has been conducting the Special Operations in Response to COVID-19 with a view to doing its utmost to ensure smooth private sector financing and maintain stability in financial markets, given the impact of the spread of COVID-19 on economic activity.

In fiscal 2020, the Bank offered these operations twice a month through August 2020 and once a month from September onward. Moreover, the duration of loans was extended from 3 months to 6 months from June onward.

Looking at the use of the operations in fiscal 2020, the framework was enhanced at the MPM held on April 27, 2020, to (1) expand the range of eligible collateral to private debt in general, including household debt, (2) include a wider range of eligible counterparties by adding, for example, member financial institutions of central organizations of financial cooperatives, and (3) apply a positive interest rate of 0.1 percent to the outstanding balances of current accounts held by financial institutions at the Bank that correspond to the amounts outstanding of loans provided through the operation. Moreover, the number of the counterparties for the operations and the amount outstanding of loans significantly increased, as the Bank's new fund-provisioning measure -- in which the Bank would provide funds to eligible counterparties with the maximum amounts outstanding of eligible loans such as loans based on the government's programs reported by those counterparties -- was offered in an integrated manner together with the operations starting from June 24, 2020. Furthermore, the outstanding balance of loans continued to increase mainly against the backdrop of increases in the amounts outstanding of eligible loans and submission of private debts in the latter half of the fiscal year when the increase in the number of counterparties for the operations peaked. The outstanding balance of loans as of the end of March 2021 was 64.8 trillion yen (Chart 3-39).

At the beginning of the fiscal year, the operations were used mainly by city banks, trust banks, and *tanshi* companies (money market brokers). Thereafter, the use by regional banks and shinkin banks increased as the aforementioned strengthening measures and the new fund-provisioning measure were offered in an integrated manner, and the amounts outstanding increased across a wide range of sectors throughout the fiscal year. The use by regional banks in particular continued to increase in the latter half of the fiscal year as well, against the backdrop of an expansion in the limit of fund-provisioning through the pledge of private debts, mainly beneficial interests of a trust in housing loans (Chart 3-40).

Chart 3-39: Amounts Outstanding of Special Operations in Response to COVID-19 and the Number of Eligible Counterparties

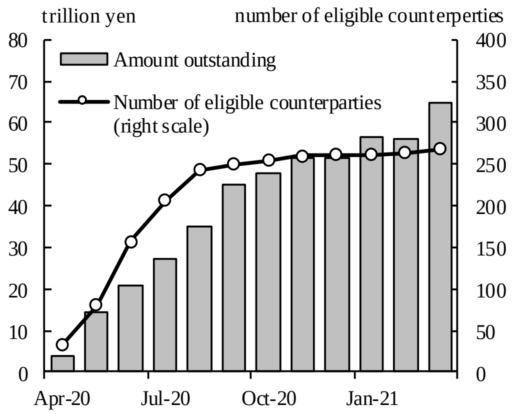
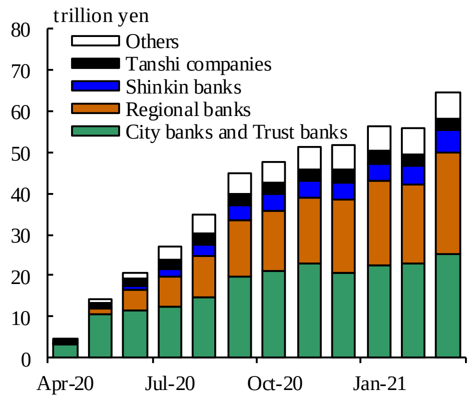


Chart 3-40: Amounts Outstanding of Special Operations in Response to COVID-19 by Sector



2. Funds-Supplying Operations against Pooled Collateral

The Bank continued to offer the Funds-Supplying Operations against Pooled Collateral with a fixed interest rate of 0 percent and 1- to 3-week terms at a pace of roughly once every two weeks in accordance with market conditions at the time. Looking at the use of the operations, the bidding amount temporarily increased in the first half of April 2020, due to precautionary demand for funds amid a high level of continued uncertainty in the market as a whole; thereafter, however, demand declined to a low level.

As a result, the amount outstanding of the operations stood at 0.5 trillion yen at the end of March 2021, a decrease of 0.7 trillion yen from a year earlier (Charts 3-41 and 3-42).

Chart 3-41: Amounts Outstanding and Amounts of Monthly Operations of the Funds-Supplying Operations against Pooled Collateral

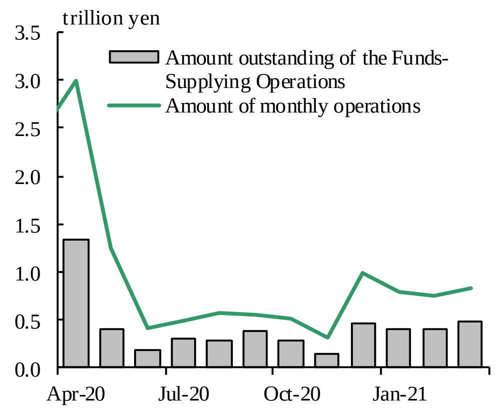
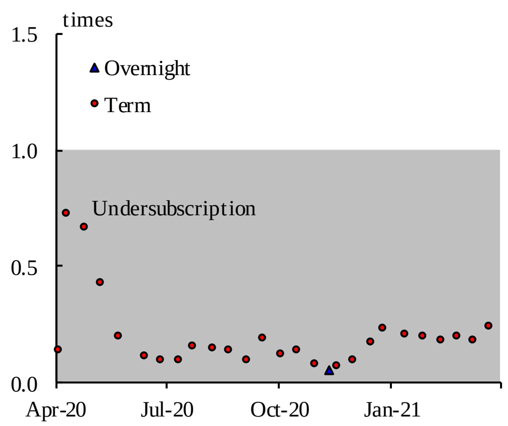


Chart 3-42: Bid-to-Cover Ratios of the Funds-Supplying Operations against Pooled Collateral



3. Growth-Supporting Funding Facility

During fiscal 2020, the Bank disbursed loans once a quarter, four times in total, under the main rules for the Growth-Supporting Funding Facility introduced in June 2010 and revised in October 2019 and under the special rules for the U.S. dollar lending arrangement introduced in April 2012 for investments and loans denominated in foreign currencies (Chart 3-43).

At the end of March 2021, the outstanding balance of loans under the main rules reached 5.7 trillion yen (a decrease of 0.6 trillion yen from a year earlier). The outstanding balance of loans under special rules for the U.S. dollar lending arrangement amounted to 21.8 billion dollars (a decrease of 2.18 billion U.S. dollars from a year earlier) (Chart 3-44).

Chart 3-43: Loan Disbursement under the Growth-Supporting Funding Facility

(Main rules)

100 million yen

40th (May 28, 2020)	41st (Aug. 28)	42nd (Nov. 26)	43rd (Feb. 24, 2021)	Outstanding balance of loans (as of end-Mar. 2021)
1,950	1,804	1,712	6,793	57,420.64 (20,384.87)

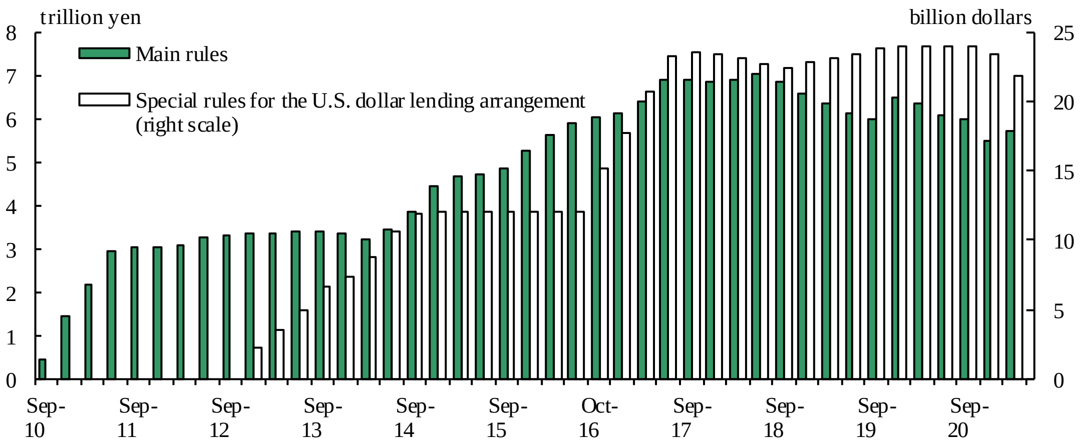
(Special rules for the U.S. dollar lending arrangement)

million U.S. dollars

32nd (May 27, 2020)	33rd (Aug. 27)	34th (Nov. 26)	35th (Feb. 24, 2021)	Outstanding balance of loans (as of end-Mar. 2021)
108	4,000	3,239	2,321	21,821

Notes: 1. The date in parentheses is the offer day, and the value denotes new loans.
2. The outstanding balance of loans under main rules includes the outstanding balance of loans under the special rules for equity investments and asset-based lending (10.900 billion yen) and that of small-lot investments (6.264 billion yen), both of which were expired.
3. The value in parentheses below the outstanding balance of loans under main rules is the outstanding balance of loans to financial institutions that are members of central organizations (financial institutions that do not hold current accounts at the Bank).

Chart 3-44: Amounts Outstanding of the Growth-Supporting Funding Facility



Note: "Main rules" includes the outstanding balance of loans under the special rules for equity investments and asset-based lending and that of small-lot investments, both of which were expired.

4. Stimulating Bank Lending Facility

During fiscal 2020, the Bank disbursed loans once a quarter, four times in total, under the Stimulating Bank Lending Facility (Chart 3-45). The outstanding balance at the end of March 2021 reached 54.3 trillion yen, a significant increase of 11.4 trillion yen from a year earlier (Chart 3-46). This increase was mainly due to a decision to allow counterparties to roll over their loans under certain conditions, starting with loans provided in June 2020, based on the amendment to the Stimulating Bank Lending Facility decided at the MPM held on December 18 and 19, 2019, as well as an increase in financial institutions' lending related to the spread of COVID-19.

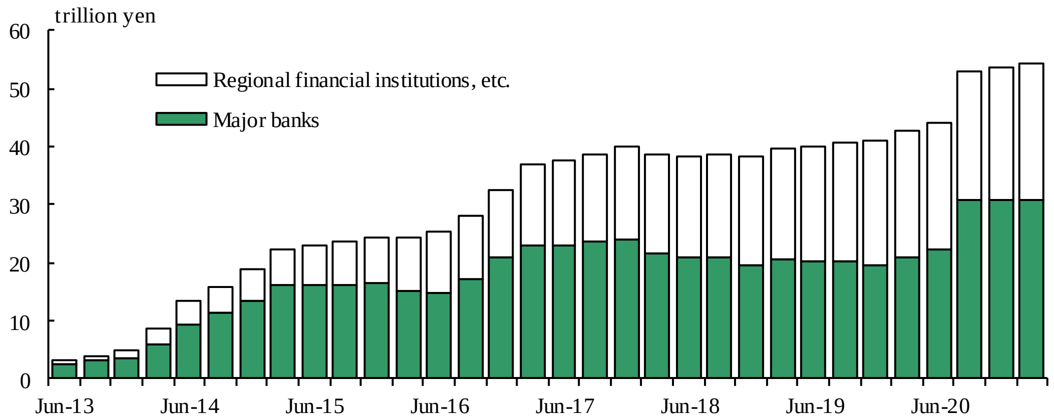
Chart 3-45: Loan Disbursement under the Stimulating Bank Lending Facility

100 million yen

Jun. 2020 (Jun. 17)	Sep. 2020 (Sep. 14)	Dec. 2020 (Dec. 11)	Mar. 2021 (Mar. 15)	Outstanding balance of loans (as of end-Mar. 2021)
63,179	132,310	54,701	64,498	542,543 (28,244)

Notes: 1. The date in parentheses is the offer day, and the value denotes new loans.
2. The value in parentheses below the outstanding balance of loans is the outstanding balance of loans to financial institutions that are members of central organizations (financial institutions that do not hold current accounts at the Bank).

Chart 3-46: Amounts Outstanding of the Stimulating Bank Lending Facility



5. Funds-Supplying Operation to Support Financial Institutions in Disaster Areas

During fiscal 2020, from April to June, the Bank offered the Funds-Supplying Operation to Support Financial Institutions in Disaster Areas and the Funds-Supplying Operation to Support Financial Institutions in Disaster Areas of the 2016 Kumamoto Earthquake once a month, three times in total, for each. All of these loans were offered with a 1-year term.

Thereafter, following an amendment to the Funds-Supplying Operation to Support Financial Institutions in Disaster Areas determined at the MPM held on March 16, 2020, the Bank integrated these operations into the new one, and offered the operations as the new Funds-Supplying Operation to Support Financial Institutions in Disaster Areas from July once a month, nine times in total (Chart 3-47). As a measure amid the shift to the new framework, the duration of loans made was either 2 years, 1 year and 11 months, or 1 year and 10 month for each loan.

The outstanding balance at the end of March 2021 stood at 532.4 billion yen out of the ceiling amount of 1.3 trillion yen (a decrease of 12.1 billion yen from the year-earlier level).

Chart 3-47: Loan Disbursement under the Funds-Supplying Operation to Support Financial Institutions in Disaster Areas

∇ Funds-Supplying Operation to Support Financial Institutions in Disaster Areas (Before Amendment)

100 million yen

108th (Apr. 15, 2020)	109th (May 13)	110th (Jun. 10)
1,068	60	494

∇ Funds-Supplying Operation to Support Financial Institutions in Disaster Areas of the 2016 Kumamoto Earthquake (Before Amendment)

100 million yen

47th (Apr. 15, 2020)	48th (May 13)	49th (Jun. 10)
200	300	42

∇ Funds-Supplying Operation to Support Financial Institutions in Disaster Areas

100 million yen

1st (Jul. 14, 2020)	2nd (Aug. 19)	3rd (Sep. 16)	4th (Oct. 14)	5th (Nov. 18)
61	1,982	783	90	0

6th (Dec. 16)	7th (Jan. 13, 2021)	8th (Feb. 17)	9th (Mar. 17)	Outstanding balance of loans (as of end-Mar. 2021)
41	203	0	0	5,324

Notes: 1. The date in parentheses is the offer day, and the value denotes new loans.
2. The outstanding balance of loans includes the outstanding balance of loans under the Funds-Supplying Operation to Support Financial Institutions in Disaster Areas (162.2 billion yen) and that of the 2016 Kumamoto Earthquake (54.2 billion yen), both of which are before amendment.

I. SC Repo Market and Supply of JGSs

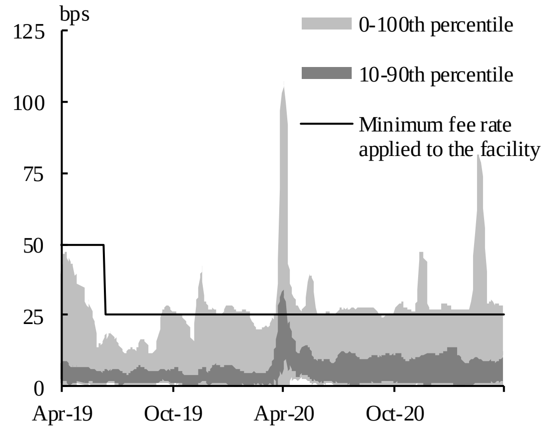
1. Developments in the SC Repo Market

The special collateral (SC) repo rate remained stable throughout fiscal 2020. It had declined (increase in borrowing cost) temporarily in a significant manner in March 2020 due to the deterioration in the functioning of the repo market. Thereafter, the repo market regained stability at the beginning of fiscal 2020 owing to the improvement in the supply and demand of JGSs and the Additional Measures to Maintain Stability of the Repo Market that the Bank has been implementing since March 2020.

Looking in detail at developments during this time, the SC repo rate of on-the-run issues in the super-long-term zones -- which the Bank does not hold and for which the Securities Lending Facility cannot be used -- declined significantly in the fall of 2020, when the yield curve steepening pressure intensified. Moreover, the SC repo rates of some off-the-run issues of short- to medium-term JGBs with small amounts outstanding in the market in particular also declined temporarily, due to a temporary tightening of their supply and demand conditions.

Nevertheless, the decrease in the SC repo rate remained generally limited, partly due to (1) the minimum fee rate for the Securities Lending Facility functioning as the effective minimum SC repo rate and (2) the Bank excluding issues of JGBs from those eligible for purchase as part of its conduct of outright purchases of JGBs when the tightening of supply and demand conditions of such JGBs was noticeable (Chart 3-48; see Box 6 with regard to the Bank's measures against the tightening in the supply and demand of individual JGBs).

Chart 3-48: GC-SC Repo Rate Spreads



Notes: 1. For the GC repo rate, the Tokyo repo rate, for which transactions are carried out on the same day as SC repo (T/N), is used.
2. The GC-SC repo rate spreads are calculated using all individual issues traded on JBOND.
3. Each percentile is calculated using 10-business-day backward moving averages.

2. Securities Lending Facility

With respect to the Securities Lending Facility, the Bank decided to continue throughout fiscal 2020 with measures -- which it originally introduced as temporary, exceptional measures in March 2020 when financial markets were destabilized -- to increase the number of JGS issues offered and raise the upper limit on the number of issues allowed for the submission of bids by a counterparty per auction.[34] As a result, the number of auctions of the Securities Lending Facility that were carried out in fiscal 2020 increased significantly to 490 times in total, from 306 times in fiscal 2019 (Chart 3-49). However, after increasing significantly in March and April 2020, the amounts of successful bids remained at a low level as the markets regained stability and the supply and demand conditions of JGSs improved (Chart 3-50).

[34] The Bank decided that, as temporary measures, requests for issues of JGSs by counterparties in advance would be unnecessary regarding the Securities Lending Facility, and that, in principle, the Bank would offer all available JGSs held by the Bank and raise the upper limit on the number of JGS issues allowed for the submission of bids by a counterparty per auction from 20 issues to 30 issues, starting from March 2020. These temporary measures were adopted to ensure stability in the market by easing excessive tightening in supply and demand of JGSs in the repo market.

Chart 3-49: Number of Securities Lending Facility Auctions

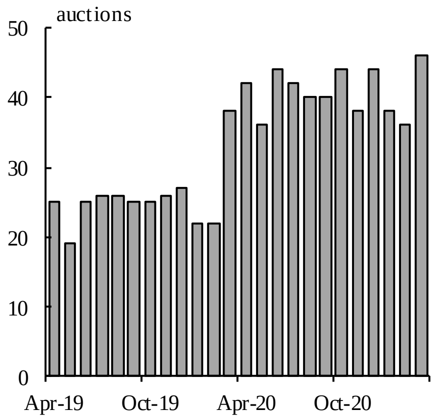
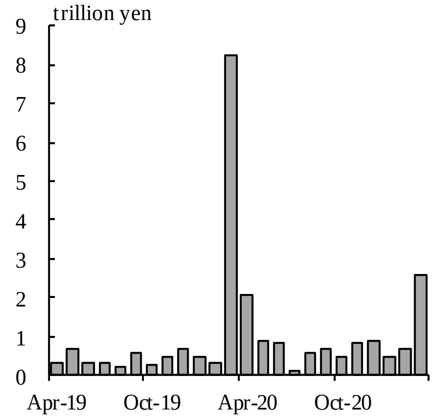


Chart 3-50: Acceptance of Bids through the Securities Lending Facility



J. Complementary Lending Facility

During fiscal 2020, the use of the facility remained at an extremely low level. This reflected the supply of ample funds to financial markets by the Bank under powerful monetary easing, which created strong perceptions of abundant liquidity in money markets.

IV. Changes in the Frameworks Related to Market Operations

A. Response in Light of the Impact of the Spread of the Novel Coronavirus (COVID-19)

1. Decisions at the MPM Held on April 27, 2020

The Bank decided to introduce the following as temporary measures at its MPM held on April 27, 2020, in addition to further active purchases of JGBs and T-Bills, with a view to doing its utmost to ensure smooth financing, such as of financial institutions and firms, and maintaining stability in financial markets.[35] The Bank's decision took account of (1) Japan's economy that had been in an increasingly severe situation due to the impact of the spread of COVID-19 at home and abroad and (2) financial conditions that had been less accommodative in terms of corporate financing, as seen in deterioration in firms' financial positions.

(a) Increase in Purchases of CP and Corporate Bonds

The Bank decided to significantly increase the maximum amount of additional purchases of CP and corporate bonds and conduct purchases with the upper limit of their amounts outstanding of about 20 trillion yen in total.[36] In addition, it decided to raise the maximum amounts outstanding of a single issuer's CP and corporate bonds to be purchased substantially and to extend the maximum remaining maturity of corporate bonds to be purchased to five years.[37]

---

35 The increase in purchases of CP and corporate bonds as well as the Special Funds-Supplying Operations to Facilitate Financing in Response to the Novel Coronavirus (COVID-19) are temporary measures that were to be implemented until September 30, 2020. The end date was extended to March 31, 2021, at the MPM held on May 22, 2020, and then to September 30, 2021, at the MPM held on December 17 and 18, 2020.

36 The Bank decided that the maximum amounts of additional purchases of CP and corporate bonds would be increased from 1 trillion yen to 7.5 trillion yen for each asset. It also decided that, other than the additional purchases, the existing amounts outstanding of CP and corporate bonds would be maintained at about 2 trillion yen and about 3 trillion yen, respectively.

37 The Bank decided that it would increase the maximum amounts outstanding of a single issuer's CP and corporate bonds to be purchased from 100 billion yen to 500 billion yen and 300 billion yen, respectively. In addition, it decided that it would increase the maximum share of the Bank's holdings of CP and corporate bonds within the total amount outstanding of issuance by a single issuer from 25 percent to 50 percent and 30 percent, respectively.

(b) Strengthening of the Special Funds-Supplying Operations to Facilitate Financing in Response to the Novel Coronavirus (COVID-19)

With regard to the operations, which were introduced and became effective in March 2020, the Bank decided to (i) expand the range of eligible collateral to private debt in general, including household debt, (ii) increase the number of eligible counterparties (to mainly include member financial institutions of central organizations of financial cooperatives), and (iii) apply a positive interest rate of 0.1 percent to the outstanding balances of current accounts held by financial institutions at the Bank that correspond to the amounts outstanding of loans provided through these operations.[38] The Bank decided to strengthen these operations with a view to firmly supporting financial institutions to further fulfill the functioning of financial intermediation for a wide range of private sectors, mainly in terms of firms.

2. Decisions at the MPM Held on May 22, 2020

At the unscheduled MPM held on May 22, 2020, the Bank decided to introduce a new fund-provisioning measure through which the Bank would provide funds to eligible counterparties up to the maximum amounts outstanding of eligible loans reported by those counterparties (interest-free and unsecured loans based on the government's emergency economic measures and loans guaranteed by credit guarantee corporations in response to COVID-19, as well as loans equivalent to the foregoing that financial institutions would make on their own) to further support financing mainly of small and medium-sized firms, with a view to addressing the spread of COVID-19. It also decided that this measure and the Special Funds-Supplying Operations to Facilitate Financing in Response to the Novel Coronavirus (COVID-19) would be conducted in an integrated manner.

3. Decisions at the MPM Held on December 17 and 18, 2020

At the MPM held on December 17 and 18, 2020, the Bank decided that 15 trillion yen in total would be the maximum amount of additional purchases of CP and corporate bonds and distributed

[38] The Bank decided that a positive interest rate would be applied from the May 2020 reserve maintenance period (from May 16 to June 15). Moreover, it decided that twice as much as the amounts outstanding of the loans would continue to be included in the Macro Add-on Balances in current accounts held by financial institutions at the Bank.

it between each asset depending on market conditions, with a view to continuing to support financing, mainly of firms, as financing was likely to remain under stress while vigilance against COVID-19 continued. In addition, the Bank decided to make adjustments to the operations in such a way that would remove the upper limit on funds the Bank would provide to each eligible counterparty (i.e., 100 billion yen) against loans that financial institutions would make on their own, which were part of the loans eligible under the Special Funds-Supplying Operations to Facilitate Financing in Response to the Novel Coronavirus (COVID-19).

B. Response in Light of the Assessment for Further Effective and Sustainable Monetary Easing

The Bank made the following decisions at its MPM held on March 18 and 19, 2021, with a view to achieving the price stability target of 2 percent by continuing with monetary easing in a sustainable manner and making nimble and effective responses without hesitation to counter changes in developments in economic activity and prices, as well as in financial conditions.

1. Establishment of the Interest Scheme to Promote Lending

The Bank established the "Interest Scheme to Promote Lending," with a view to enabling the Bank to cut short- and long-term interest rates nimbly while considering the impact on the functioning of financial intermediation. In this scheme, certain interest rates would be applied as an incentive to financial institutions' current account balances, corresponding to the amount outstanding of funds that have been provided through the Bank's various fund-provisioning measures to promote financial institutions' lending. The applied interest rates would be linked to the short-term policy interest rate. Specifically, the eligible fund-provisioning measures would be categorized into three groups by incentive. The applied interest rate for Category II would be the absolute value of the short-term policy interest rate, and a higher rate would be applied for Category I and a lower rate for Category III.

2. Revisions to the Complementary Deposit Facility

With respect to the complementary deposit facility, with more than five years having passed since the introduction of the three-tier system, situations such as the following have been observed: (1) current account balances for some counterparties have increased substantially and net interest payments to the Bank have become a normal situation; and (2) there is a gap between the actual Policy-Rate Balance and the "hypothetical" Policy-Rate Balance. Taking into consideration such circumstances, the Bank decided at its MPM held on March 18 and 19, 2021, that the Bank would make technical adjustments to compress a portion of the Policy-Rate Balances and the unused amounts of Macro Add-on Balances by reviewing some parts of the method to calculate the limit of the Macro Add-on Balances, from the perspective of contributing to the smoother operation of the facility.

3. Introduction of "Fixed-Rate Purchase Operations for Consecutive Days," etc.

In order to conduct yield curve control flexibly during normal times, the Bank decided that it would make clear that the range of 10-year JGB yield fluctuations would be between around plus and minus 0.25 percent from the target level, and at the same time, introduce "fixed-rate purchase operations for consecutive days" as a powerful tool to set an upper limit on interest rates when necessary.

4. Changes to the Guidelines for Asset Purchases for ETFs and J-REITs

The Bank decided that it would purchase ETFs and J-REITs as necessary with upper limits of about 12 trillion yen and about 180 billion yen, respectively, on annual paces of increase in their amounts outstanding. While these upper limits were originally set as a temporary measure in response to the impact of COVID-19, the Bank decided that it would maintain them even after COVID-19 subsided.

5. Changes Concerning the Amount of Each ETF to Be Purchased

With respect to purchases of ETFs, the Bank decided at its MPM held on March 18 and 19, 2021, that it would only purchase ETFs tracking the Tokyo Stock Price Index (TOPIX), which is an index with the largest number of component stocks. Moreover, as for ETFs composed of stocks issued by firms that proactively invest in physical and human capital, the Bank decided that it would only continue to purchase those that would be "managed so that they track the indices the Bank deems eligible in accordance with the eligibility criteria for indices." The Bank decided to implement these changes on April 1.

C. Other Changes in Frameworks

1. Amendment to the Purchasing Method for Each ETF and J-REIT to Be Purchased

The Bank decided at its MPM held on April 27, 2020, to amend the existing purchasing method for ETFs and J-REITs -- through which the share of the amount of each of these assets to be purchased was to be roughly proportionate to that of the total market value of each asset issued -- to one through which the share would roughly be proportionate to that of each asset's amount outstanding in circulation, with a view to facilitating market operations. This change became effective on May 1, 2020.

2. Extension of the Operational Changes to the Securities Lending Facility

On April 27, 2020, the Bank decided that it would extend the implementation period of the two measures regarding the Securities Lending Facility that had been implemented since March 2020 (an increase in the number of JGS issues offered and the relaxation of the upper limit on the number of JGS issues allowed for the submission of bids[39]) as measures to maintain stability of the repo market and continue with these measures for the time being.

3. Extension of the Loan Support Program

At the MPM held on January 20 and 21, 2021, the Bank decided to extend by one year the deadlines for loan disbursements under the Fund-Provisioning Measure to Stimulate Bank Lending and the Fund-Provisioning Measure to Support Strengthening the Foundations for

[39] With respect to the increase in the number of JGS issues offered, the Bank decided that requests for issues of JGSs by counterparties in advance would be unnecessary, and that, in principle, the Bank would offer all available JGSs held by the Bank. With respect to the relaxation of the upper limit on the number of JGS issues allowed for the submission of bids by a counterparty per auction, the Bank decided to temporarily raise the limit from 20 issues to 30 issues. The Bank continued with these measures throughout fiscal 2020.

Economic Growth, with a view to continuing to encourage financial institutions', firms' and households' actions, thereby stimulating bank lending and strengthening the foundations for economic growth.

V. Actions to Enhance Dialogue with Market Participants

Under QQE with Yield Curve Control, the Bank carefully examines the developments and functioning of financial markets, as well as the impact of its operations on financial markets. The Bank also conducts daily market monitoring and various market surveys with a view to further deepening dialogue with market participants.

Furthermore, the Bank's Financial Markets Department undertook various initiatives in fiscal 2020 related to dialogue with market participants as follows. Such dialogue was conducted utilizing online conference and conference call systems in consideration of the spread of COVID-19.

1. Holding of the Meeting on Market Operations

The Meeting on Market Operations, which in principle is held twice a year with eligible counterparties for market operations, was held on October 20, 2020, and February 19, 2021. At these meetings, the Bank explained and exchanged opinions with participants on (1) recent developments in the financial markets and market operations, (2) liquidity in, and functioning of, the JGB markets, and (3) progress in the interest rate benchmark reform in Japan.[40]

2. Holding of the Bond Market Group Meeting

The Bond Market Group Meeting, which in principle is held twice a year with bond market participants, was held on June 5, 2020, and on December 9 and 10. At these meetings, the Bank explained and exchanged views with participants on (1) the results of the Bond Market Survey, (2) liquidity in the JGB market, and (3) recent developments in the financial markets and market operations.[41]

[40] See below for summaries of the Meeting on Market Operations held in fiscal 2020.
The October 2020 meeting (the second round in 2020):
https://www.boj.or.jp/en/announcements/release_2020/rel201021a.pdf
The February 2021 meeting:
https://www.boj.or.jp/en/announcements/release_2021/rel210222a.pdf

[41] For details, see the Bank's website (https://www.boj.or.jp/en/paym/bond/index.htm/).

3. Dialogue with the Study Group for Activation of Short-Term Money Markets

The Bank participated in the Study Group for Activation of Short-Term Money Markets, comprising representatives of businesses that conduct short-term money market transactions, and actively supported the deliberations and initiatives by market participants for the activation of short-term money markets. Moreover, the Bank hosted a working-level meeting, which in principle is held once a year, with the Study Group for Activation of Short-Term Money Markets on November 18, 2020. At this meeting, the Bank exchanged opinions on (1) recent developments in short-term money markets, (2) the progress in initiatives for the interest rate benchmark reform, and (3) the Bank's approach to central bank digital currency.

4. Initiatives by the Cross-Industry Committee on Japanese Yen Interest Rate Benchmarks

The Cross-Industry Committee on Japanese Yen Interest Rate Benchmarks (hereinafter referred to as the Committee), of which the Bank serves as the secretariat, released the "Draft Roadmap to Prepare for the Discontinuation of LIBOR" in August 2020.[42] Moreover, the Committee engaged in its second public consultation from August through September, and released its final report on November 30. In response to the public consultation, opinions were provided from a total of 35 entities across a wide array of sectors, including financial institutions, institutional investors, and non-financial corporates. Most of the entities supported the specific matters to be dealt with concerning alternative reference rates at the time of the discontinuation of LIBOR, which are recommended by the Committee with respect to cash products (loans and bonds) referencing Japanese yen LIBOR, as well as initiatives for enhancing the robustness of Term Reference Rates.

In addition, the Committee made announcements in March 2021 including the time frame for ceasing the initiation of interest rate swaps referencing Japanese yen LIBOR. Furthermore, the Task Force on Term Reference Rates, which was established in cooperation with the Committee, helped the commencement of the calculation and publication of production rates for Term Reference Rates by QUICK Benchmarks Inc. on April 26.[43]

---

[42] This roadmap has since been updated and released as the "Roadmap to Prepare for the Discontinuation of Japanese Yen LIBOR," which is available on the Bank's website (https://www.boj.or.jp/en/index.htm).

[43] The Committee reached a conclusion in February 2020 that QUICK Corp. would be suitable as an entity to calculate and publish prototype rates for Term Reference Rates. QUICK Corp. established QUICK Benchmarks Inc. in January 2021.

Reference: Number of Auctions and Eligible Counterparties for Market Operations

numbers

	Fiscal 2017	Fiscal 2018	Fiscal 2019	Fiscal 2020	Number of eligible counterparties
Outright purchases of JGBs	392	354	280	302	55
Outright purchases of T-Bills	50	50	46	50	55
Outright purchases of CP	36	36	27	27	37
Outright purchases of corporate bonds	12	12	12	24	37
Outright purchases of ETFs	81	76	69	56	—
Outright purchases of J-REITs	75	36	54	58	—
Lending of ETFs	—	—	—	97	12
Funds-Supplying Operations against Pooled Collateral	62	53	45	27	340
Growth-Supporting Funding Facility	62	64	60	38	161
Stimulating Bank Lending Facility	16	16	16	10	213
Funds-Supplying Operations to Support Financial Institutions in Disaster Areas	24	24	24	15	40
Special Funds-Supplying Operations to Facilitate Financing in Response to the Novel Coronavirus (COVID-19)	—	—	1	17	268
Purchases of JGSs with repurchase agreements	0	0	3	0	55
Sales of JGSs with repurchase agreements	0	0	6	0	55
U.S. Dollar Funds-Supplying Operations	50	48	59	161	83
Securities Lending Facility	336	362	306	490	55
Securities Lending to Provide JGSs as Collateral for the U.S. Dollar Funds-Supplying Operations	3	4	13	31	46
Total	1,199	1,135	1,021	1,403	—

Notes: 1. The number of auctions (excluding outright purchases of ETFs and J-REITs and lending of ETFs) is the number of the Bank's notification of auction guidelines (offer) to eligible counterparties.
2. The number of eligible counterparties is as of end-March 2021. The number of eligible counterparties for the Funds-Supplying Operation against Pooled Collateral is that for Funds-Supplying Operations against Pooled Collateral at all offices (of which 42 counterparties are also eligible for funds-supplying operations against pooled collateral at the Head Office).
3. The number of outright purchases of ETFs excludes purchases of ETFs to support firms proactively investing in physical and human capital.
4. The number of "Funds-Supplying Operations to Support Financial Institutions in Disaster Areas" includes the number of Funds-Supplying Operations to Support Financial Institutions in Disaster Areas of the 2016 Kumamoto Earthquake.
5. The number of "Special Funds-Supplying Operations to Facilitate Financing in Response to the Novel Coronavirus (COVID-19)" in fiscal 2019 indicates the number of Special Funds-Supplying Operations to Facilitate Corporate Financing regarding the Novel Coronavirus (COVID-19).

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."
Chart 2-2:	Bank of Japan.
Chart 2-3:	Bank of Japan, "Sources of Changes in Current Account Balances at the Bank of Japan and Market Operations (Updated Every Business Day)."
Chart 2-4:	Bank of Japan, "Sources of Changes in Current Account Balances at the Bank of Japan and Market Operations (Updated Every Business Day)."
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 (Final Figures)."
Chart 2-7:	Ministry of Finance, "Receipts and Payments of Treasury Funds with the Private Sector."
Chart 2-8:	Bank of Japan, "Bank of Japan Accounts (Every Ten Days)."
Chart 3-1:	Bank of Japan.
Chart 3-2:	Bank of Japan, "BOJ Current Account Balances by Sector."
Chart 3-3:	Bank of Japan, "BOJ Current Account Balances by Sector."
Chart 3-4:	Ministry of Finance; Bank of Japan, "BOJ Current Account Balances by Sector."
Chart 3-5:	Japan Securities Dealers Association, "Tokyo Repo Rate."
Chart 3-6:	Bank of Japan, "Statistics on Securities Financing Transactions in Japan."
Chart 3-7:	Bank of Japan, "Statistics on Securities Financing Transactions in Japan."
Chart 3-8:	Japan Securities Dealers Association.
Chart 3-9:	Bank of Japan, "Call Money Market Data (Updated Every Business Day)."
Chart 3-10:	Bank of Japan.
Chart 3-11:	Bank of Japan.
Chart 3-12:	Bank of Japan, "Amounts Outstanding in the Call Money Market."
Chart 3-13:	Japan Bond Trading.
Chart 3-14:	Ministry of Finance.
Chart 3-15:	Bank of Japan, "Collateral Accepted by the Bank of Japan."
Chart 3-16:	Bank of Japan, "Market Operations by the Bank of Japan," "Monetary Base and the Bank of Japan's Transactions."
Chart 3-17:	Japan Bond Trading.

Chart 3-18:	Japan Bond Trading.
Chart 3-19:	QUICK.
Chart 3-20:	Bank of Japan.
Chart 3-21:	Japan Bond Trading.
Chart 3-22:	QUICK.
Chart 3-23:	Bank of Japan.
Chart 3-24:	Japan Securities Depository Center.
Chart 3-25:	Japan Securities Depository Center.
Chart 3-26:	Bank of Japan, "Market Operations by the Bank of Japan."
Chart 3-27:	Bank of Japan, "Market Operations by the Bank of Japan."
Chart 3-28:	Bloomberg; Japan Securities Dealers Association; QUICK.
Chart 3-29:	Japan Securities Depository Center.
Chart 3-30:	Bank of Japan, "Market Operations by the Bank of Japan," "Monetary Base and the Bank of Japan's Transactions."
Chart 3-31:	Bank of Japan, "Market Operations by the Bank of Japan."
Chart 3-32:	Bloomberg.
Chart 3-33:	Bloomberg.
Chart 3-34:	Bank of Japan, "Market Operations by the Bank of Japan."
Chart 3-35:	Bank of Japan, "Market Operations by the Bank of Japan."
Chart 3-36:	Bank of Japan, "Monetary Base and the Bank of Japan's Transactions," "Purchases of ETFs and J-REITs."
Chart 3-37:	Bank of Japan, "Monetary Base and the Bank of Japan's Transactions," "Purchases of ETFs and J-REITs."
Chart 3-38:	Bank of Japan, "New Lending of ETFs," "Outstanding Balance of ETF Lending at Month-End."
Chart 3-39:	Bank of Japan.
Chart 3-40:	Bank of Japan.
Chart 3-41:	Bank of Japan, "Market Operations by the Bank of Japan," "Monetary Base and the Bank of Japan's Transactions."
Chart 3-42:	Bank of Japan, "Market Operations by the Bank of Japan."
Chart 3-43:	Bank of Japan, "Loan Disbursement under the Fund-Provisioning Measure to Support Strengthening the Foundations for Economic Growth."
Chart 3-44:	Bank of Japan, "Loan Disbursement under the Fund-Provisioning Measure to Support Strengthening the Foundations for Economic Growth."
Chart 3-45:	Bank of Japan, "Loan Disbursement under the Fund-Provisioning Measure to

	Stimulate Bank Lending."
Chart 3-46:	Bank of Japan, "Loan Disbursement under the Fund-Provisioning Measure to Stimulate Bank Lending."
Chart 3-47:	Bank of Japan, "Loan Disbursement under the Funds-Supplying Operation to Support Financial Institutions in Disaster Areas."
Chart 3-48:	Japan Securities Dealers Association; JBOND Totan Securities.
Chart 3-49:	Bank of Japan, "Market Operations by the Bank of Japan."
Chart 3-50:	Bank of Japan, "Market Operations by the Bank of Japan."

Box Chart 1-1:	Bank of Japan, "Sources of Changes in Current Account Balances at the Bank of Japan and Market Operations (Final Figures)"; Federal Reserve, "Factors Affecting Reserve Balances."
Box Chart 1-2:	Bank of Japan.
Box Chart 1-3:	Bank of Japan.
Box Chart 2-1:	Bank of Japan.
Box Chart 2-2:	Bank of Japan.
Box Chart 2-3:	Bank of Japan; Japan Securities Depository Center.
Box Chart 3-1:	Bank of Japan.
Box Chart 3-2:	Bank of Japan.
Box Chart 3-3:	Bank of Japan.
Box Chart 3-4:	Bank of Japan.
Box Chart 4-1:	Ministry of Finance; Bank of Japan.
Box Chart 4-2:	Ministry of Finance; Japan Bond Trading; Bloomberg.
Box Chart 4-3:	Japan Bond Trading; Bloomberg.
Box Chart 4-4:	Ministry of Finance; Japan Bond Trading.
Box Chart 4-5:	Ministry of Finance; Japan Bond Trading; Bloomberg.
Box Chart 4-6:	Japan Securities Dealers Association.
Box Chart 5-1:	Bank of Japan, "Bond Market Survey."
Box Chart 5-2:	Japan Bond Trading.
Box Chart 5-3:	Bloomberg.
Box Chart 5-4:	Japan Bond Trading.
Box Chart 5-5:	Bank of Japan.
Box Chart 5-6:	QUICK.
Box Chart 5-7:	Bank of Japan.
Box Chart 6-1:	Japan Securities Dealers Association; JBOND Totan Securities.

Box Chart 6-2:	Bank of Japan.
Box Chart 6-3:	Bank of Japan.
Box Chart 6-4:	Japan Securities Dealers Association.
Box Chart 6-5:	JBOND Totan Securities.

Reference:	Bank of Japan.