

## 2 Secondary Market for Government Bonds

Not only are government bonds a means for government financing, but also they are financial products being traded on the ever changing financial and securities markets at the same time. For JGBs to be issued smoothly and fulfill their functions as indicators of bonds and interest rates, transparency and liquidity must be assured and secondary markets with reliable and efficient settlement must exist. This chapter outlines how JGBs are distributed and made settlement on the market.

### (1) OTC Transactions and Transactions on the Stock Exchange

The secondary bond market can be divided into transactions that take place on the Stock Exchange and transactions that are made over-the-counter, for example, at securities companies (OTC transaction). OTC is a predominant transaction method for bonds, because bonds have so many issues that their transactions and procedures tend to be cumbersome and bond transactions per se are complex.

In the OTC market, in principle, a price is concluded through a negotiation between the parties concerned. However, in order to ensure fair and smooth OTC bond transactions, Self-regulatory Regulations by the Japan Securities Dealers Association require each securities company to maintain the fairness of the transaction by acting at a proper price according to a set of internal rules (☞).

Currently, 2-Year, 5-Year, 10-Year, 20-Year, 30-Year and 40-Year JGBs are listed on the Stock Exchange in Tokyo and Nagoya, and their daily transaction volume is published.

☞ Furthermore, to improve the price discovery function of the OTC market, the Japan Securities Dealers Association publishes reference prices for OTC bond transactions on every business day, based on the reports from its member security companies and some other firms. As financial institutions often engage in OTC transactions through their brokers, such transaction price data are available from these brokers.

Fig.2-10 Case of the Tokyo Stock Exchange

		JGB Trading System
Particulars	Trading Hours	0:30-2:00pm
	Trading Unit	50 thousand yen in par value
	Tick Size	0.01 yen per 100 yen in par value
	Types of Orders	Limit orders only
	Daily Price Limit	Limit fixed by the exchange (1 yen)
	Trading Method	Trading other than trading via the trading system (Orders will be accepted via Target.)
	Trade Execution	Individual auctions for each issue (price priority and time priority are applied same as stocks)
	Types of Trading and Settlement Dates	Rolling settlement ( T+ 1 )
	Settlement	Settlement through BOJ-NET

(Source: Tokyo Stock Exchange)

## (2) Improvements to the JGB Transaction Settlement System

Ref. Chapter 1 1(5)B “The Bank of Japan government bond network system” (P47)

As for the book-entry transfer system for JGB transactions on the secondary JGB market, the Bank of Japan is designated as the transfer institution under the Act on Book Entry of Corporate Bonds and Shares and operates the system. The system uses book-entry transfer for JGB delivery accompanying JGB transactions between market participants. Practically, the BOJ-NET for fund settlements between private financial institutions is used for the system.

In 1994, the BOJ-NET adopted Delivery-versus-Payment (DVP) settlement (①), and in January 2001 changed from the Designated-time Net Settlement (DTNS) (②) to Real-Time Gross Settlement (RTGS) (③), to prevent the occurrence of any systemic risk event. Meanwhile, deliberations were held by market participants on how to deal with the significantly increased number of settlements and clerical workload associated with the shift to JGB settlement by RTGS. These deliberations resulted in the Japan Securities Dealers Association formulating the “Japanese Government Securities Guidelines for Real Time Gross Settlement” in August 2000. Based on this guideline, the standards prevailing in the major overseas markets such as Fails Practice, Cut-Off Time, and Reversal Time (④), as well as Bilateral Netting (⑤) have been adopted in the Japanese secondary markets in order to facilitate flawless settlement and increase efficiency.

① DVP (delivery versus payment) settlement of JGBs is a mechanism that prevents the occurrence of a situation in which “payment for securities is not received despite the delivery of the securities having been made” or where “securities are not delivered despite the payment of funds having been made,” by making the delivery of securities and payment therefore conditional on each other.

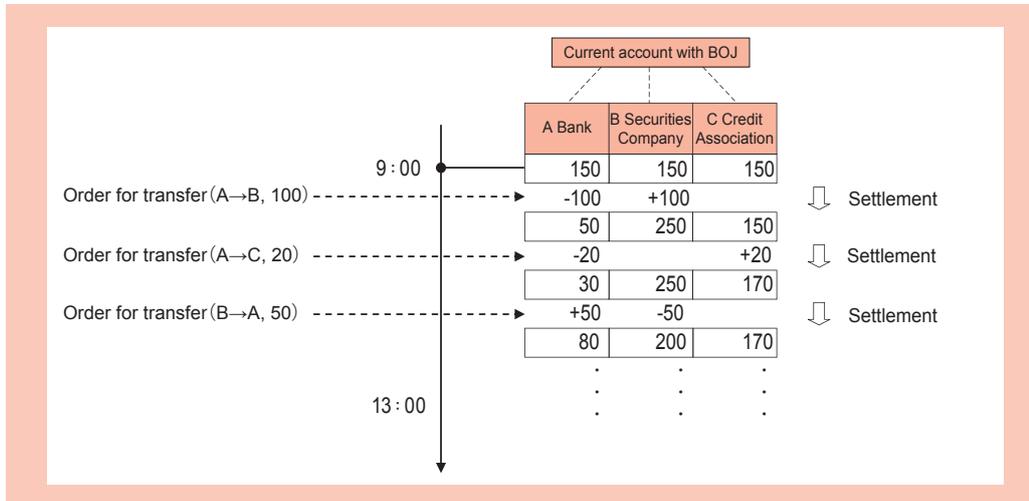
② The DTNS (Designated-Time Net Settlement) system is designed to hold and accumulate various orders received for book entry transfers (payment orders) until a certain time, and at that time, pay or receive only the difference between the total amount receivable and the total amount payable as of such time. Under this settlement method, one single payment default at the time of settlement will cause the settlement of any and all payment orders issued by all participating financial institutions to be suspended and reversed, and by extension, may cause a systemic risk.

③ The RTGS (Real-Time Gross Settlement) system is a mechanism to transfer in real time the gross amount of each transfer order as received. By this method, settlement is effected for each transfer order. Any single payment default will only directly affect the counterparty of that order (which mitigates any systemic risk).

④ Cut-Off Time refers to a daily settlement closing time established among market participants that occurs before the end of JGB related operations on the BOJ-NET in order to identify “fail events,” etc., ahead of the end of settlement for the day. Currently the Cut-Off Time is set at 14:00. Reversal time refers to a period of time after the Cut-Off Time that is used for achieving the resolution of a fail status at the Cut-Off Time based on an agreement between the parties to extend the settlement time, or for correcting an erroneous settlement. Currently Reversal Time is from 14:00 to 16:30.

⑤ Bilateral netting is a method for the settlement of the difference between the various JGB delivery obligations and JGB payment obligations of two counterparties in situations where both types of obligation exist, as opposed to requiring each counterparty to meet each separate obligation as it falls due at the same time. All obligations are netted on each individual JGB and fund for settlement purposes. This netting process serves to reduce settlement volumes across the market as a whole.

Fig.2-11 Example of RTGS via Current Accounts with the Bank of Japan



The following section reviews the deliberations concerning the JGB settlement system to date and introduces the most recent discussion points.

### A. New BOJ-NET

The BOJ launched the development of a new system (hereinafter referred to as New BOJ-NET) in 2008. In January 2014, the key New BOJ-NET component for the first phase came into operation, covering money market operations, JGB auction procedures and delivery procedures for JGB purchasing operations. The New BOJ-NET came into full operation to cover all services on October 13, 2015.

The Forum towards Making Effective Use of the New BOJ-NET was created in August

2013 for further improving the safety and efficiency of the entire settlement system of Japan, invigorating financial markets and advancing financial services. The forum discussed how to use the New BOJ-NET with operation hours extended, a specific extension, and the implementation schedule of the extension. Based on the policy given in the report published by the forum in March 2014, operation hours were extended until 21:00 from February 15, 2016. In March 2016, the forum created three working groups, including one on “Cross-border Use of Yen and JGBs”, to discuss the expanded global use of JGBs as collateral and other measures.

## B. Establishment and propagation of the Fails Practice

“Fail” refers to a case of non-delivery of specific securities by the scheduled time due to reasons other than the creditworthiness of the relevant trade counterparty. “Fails Practice” refers to a market routine that prescribes general clerical procedures to be performed between the parties in a Fail instance and provides as a principle that a Fail event does not automatically imply default (☞①).

Fails Practice was introduced in January 2001 when the RTGS system for JGB settlement was adopted in Japan. Back then, a fair number of parties neither understood the need for Fails Practice nor had the clerical processing frameworks in place, which prevented Fails Practice from becoming established procedure. However, in connection with the collapse of the investment bank Lehman Brothers in September 2008, default contagion caused an unprecedented surge in Fail events. Subsequently, as a means for market participants to reduce Fail risk, avoiding new repurchase transactions altogether became increasingly widespread, which reduced liquidity not only in the repurchase (repo) market but also in the JGB market. This experience led in May 2009 to the inception of the Working Group concerning Review of Fails Practice for Bond Trading, an organ subordinate to the Japan Securities Dealers Association's Bonds Committee, which provided a market cross-sectional reviewing framework for policies to reduce Fail frequency and to further establish Fails Practice as a standard. The final report was released in April 2010. The current revision of Fails Practice has been implemented since November 2010, and it includes a newly introduced Fails Charge (☞②) and an accelerated Cut-Off Time.

Based on the recommendation of the “Current Situation and Future Challenges of Debt Management Policy—Discussion Paper—” that “It is desirable for the issuing authorities to support the discussions on secondary market reform made under market participants’ initiative and to take appropriate measures on its own”, the MOF, after reaching the consensus with JGB Markets Special Participants, has introduced a Fails Charge to be imposed on Buy-back auctions, since January 2011.

## C. Shortening of settlement periods

An increase in unsettled transactions through defaults and fails after the September 2008 Lehman Shock prompted market participants to strongly perceive settlement risks, leading once again to the realization that shortening settlement periods would be indispensable for effectively reducing unsettled transactions. Based on this experience, in September 2009, the Working Group on Shortening of JGB Settlement Cycle was established as a subordinate

☞① Specifically, in case of a Fail event, neither will the right of contract cancellation be exercised nor will a penalty for late payment be imposed, in principle. If the Fail duration is prolonged, Buy-In provisions, etc., are stipulated as a method of resolution.

“Buy-In” as used above means the purchase of the deliverable securities or identical securities by the recipient to resolve a Fail status that has continued for a certain period.

☞② “Fails Charge” means a payment imposed on the party that gives rise to a Fail event by failing to deliver. The Fails Charge was introduced for its conceivable power to reduce Fail frequency on the grounds of its compelling economic rationale, especially in a low-interest environment (For details refer to the relevant regulations including the “The Japanese Government Securities Guidelines for Real Time Gross Settlement”).

organ of the Promotion Meeting for Reform of the Securities Clearing and Settlement (☞①) to consider adopting T+2 and T+1 as standard settlement periods for JGB transactions.

Based on the paper titled “Development of Institutional Frameworks Pertaining to Financial and Capital Markets” released by the FSA in January 2010, the “Roadmap to Reduce Settlement Risk in JGB Transactions” was formulated and made public in June 2010. The roadmap provides that T+2 is to be implemented in the first half of 2012 and that deliberations are to be advanced on specific measures to implement T+1.

In response, the Working Group decided in March 2011 to implement T+2. The implementation came on April 23, 2012. Furthermore, T+1 began to be considered again in the second half of the 2012. Based on discussions at the Working Group and running tests, T+1 was implemented from May 1, 2018 (☞②).

#### D. Strengthening the operations and expanding the use of clearing institutions

Together with the change in January 2001 to JGB settlement by RTGS, Bilateral Netting was also introduced. Since in the JGB market outright transactions and repurchase transactions are being carried out constantly by multiple market participants, settling all transactions by individual counterparty would render clerical procedures complicated and highly inefficient, and also compel consideration of counterparty risk when making transactions. With regard to transactions contracted between market participants, this situation gave rise to the demand for an arrangement in which payments and JGBs deliveries of JGB transactions are netted under the guarantee of settlement implementations by a clearing institution taking the position between parties (☞①).

In March 2001, the Meeting on the Japanese Government Bond Market (☞②) proposed in the paper entitled “Recommendation to Enhance Liquidity in the Secondary Market” the creation of a JGB clearing agency. Subsequently, after deliberations by the Working Group, in October 2003 the Japan Government Bond Clearing Corporation (JGBCC (Japan Securities Clearing Corporation or JSCC at present) (☞③)) was established as the Central Counterparty (CCP) for the JGB market. Actual operations commenced in May 2005. As a result, the relation of rights and obligations contracted between JGBCC participants was simplified to the effect that rights and obligations now exist between the JGBCC and each participant, with each party’s counterparty risk now posed by the JGBCC instead of the transaction counterparty. Moreover, since participants and the JGBCC settle only the net balance of funds and identical JGB issues, the amounts of settlements, funds, and JGBs necessary for settlement as well as their exposures during the day are significantly lower than before.

These risk management functions of the JGBCC came to bear during the financial crises in September 2008. To enhance the effectiveness of these functions, a paper entitled “Development of Institutional Frameworks Pertaining to Financial and Capital Markets” released by the FSA in January 2010 proposed to strengthen the operations and increase the use of the JGBCC. Another paper, entitled “Roadmap to Reduce Settlement Risk in JGB Transactions” released in June 2010, proposed with a view to widening JGBCC governance further policies, including the expansion of funding schemes for emergencies such as a participant’s default and the establishment of clear rules for Fail allocation. As a result, steps were indeed taken to widen JGBCC governance, including an announcement in September

☞① The “Promotion Meeting for Reform of the Securities Clearing and Settlement” is established under the “Committee for Reform of Securities Clearing and Settlement System” which is hosted by the Japan Securities Dealers Association. Its purpose is to engage, from an overarching, cross-sectional perspective, in the progress management of the securities settlement system reform and in the discussion of topics that cut across products and industries.

☞② As for the period between a JGB auction and issuance, T (auction date) +1 was also implemented for auctions from May 1, 2018, in principle (see Column 5 (P57)).

☞① The clearing institution comes between buyers and sellers to clear credit and debt relations established between numerous parties for securities and other transactions by replacing those relations with those between the clearing institution and sellers and those between the institution and buyers.

☞② The Meeting on the Japanese Government Bond Market was maintained from September 2000 until August 2004 for the purpose of enabling opinion exchanges with concerned parties in the market. It was superseded by the launch of the Meeting of JGB Market Special Participants.

☞③ On October 1, 2013, the JSCC merged with the JGBCC and took over the JGBCC’s clearing services for over-the-counter JGB trading.

2010 to strengthen cooperation with the JSCC, and the establishment of clear Fail allocation rules alongside a Fails Practice review on November 2010.

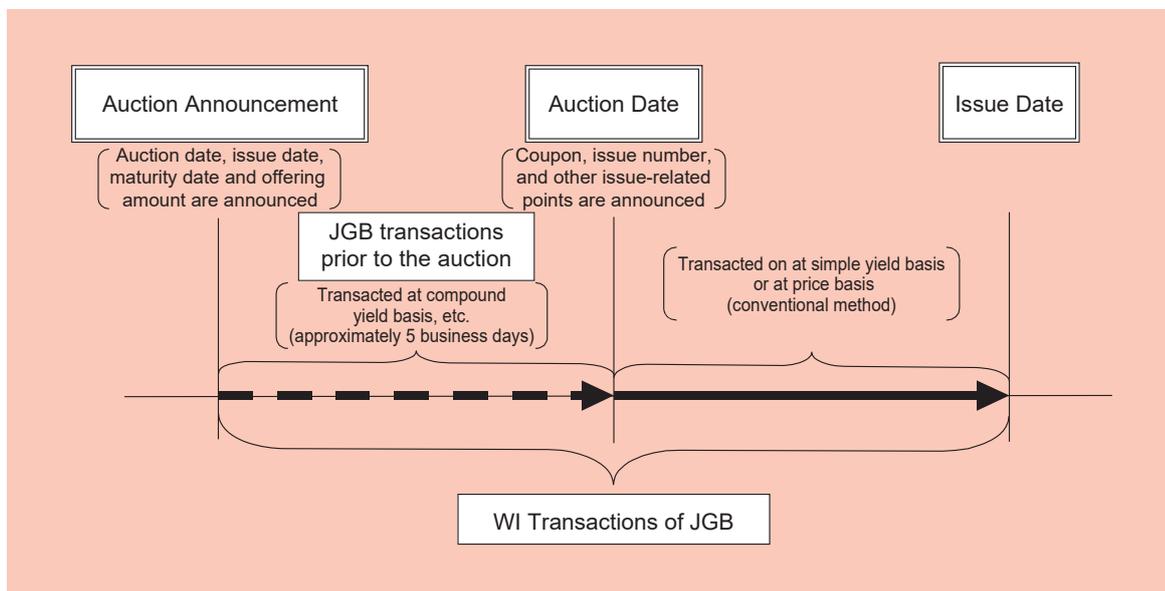
Regarding the expanded use of the clearing organization, the JSCC and trust banks accounting for a large share of JGB settlements considered how to design the clearing system with considerations given to the characteristics of trust banks. In June 2014, trust banks started their participation in the JSCC.

### (3) WI Transaction

A WI (When-Issued) transaction is a transaction made during a period between an auction announcement (in principle, a week before an auction date) and the previous day of its issuance. Besides a WI transaction during a period between an auction and the day of its issuance, one has become available prior to an auction date since February 2004.

A price of WI transactions functions as a predicted value of a bid price to be accepted because it reflects trends in the demand for a new issue prior to its auction. For the issuer, active WI transactions are considered to contribute to the efficiency of fundraising activities since they strengthen the linkage between the primary and secondary markets and reduce the uncertainty inherent in the auction process.

Fig.2-12 WI Transactions - Conceptual Diagram



## (4) Bond *Gensaki* and Bond-Lending Transaction

### A. Bond *Gensaki* Transaction

Bond *Gensaki* Transactions are bond sales transactions in which the traded bonds are traded back in the opposite direction on a date and at a price specified in an agreement concluded in advance between the parties to the transaction.

When the primary market reopened and trading resumed after the end of WWII, they were the principle means of fund procurement. Subsequently, however, certificates of deposit (CD), commercial paper (CP), and large-lot time deposits emerged as new short-term financial products. Bond *Gensaki* Transactions, however, continued to be subject to the securities transaction tax because it is a form of sales transaction, so fund procurement shifted toward the Japanese Repurchase Transactions, which are discussed below. The range of Bond *Gensaki* Transactions has since contracted to mostly Treasury Bills and Financing Bills (today's T-Bills), which are exempt from securities transaction tax.

Following a warning from the “Sub-Council on the Internationalization of the Yen” under the Committee on Foreign Exchange and Other Transactions that Japan's repurchase and *Gensaki* markets needed to promote transaction formats consistent with global standards (①), and after the abolition of the securities transaction tax in March 1999, a new Bond *Gensaki* Transaction format was introduced beginning in April 2001 that incorporated risk management methods such as the use of a package settlement provision (②), margin call feature (③), and substitution (④).

In November 2002, the “repurchase operations” of the BOJ changed from their previous lending format to the new *Gensaki* type and have since been offered as *Gensaki* operations.

Based on discussions at the Working Group on Shortening of JGB Settlement Cycle established in September 2009 (⑤), T+1 was implemented as the standard settlement cycle for JGB transactions on May 1, 2018. On this occasion, the settlement cycle for GC (General Collateral) repurchase transactions was shortened from T+1 to T+0, with new *Gensaki* transactions used for developing GC repos under Subsequent Collateral Allocation Method (⑥). As for repurchase transactions other than GC repos under Subsequent Collateral Allocation Method, a plan to switch from the Japanese Repurchase Transactions, as described later, to new Bond *Gensaki* transactions is under consideration.

### B. Bond-Lending Transaction (Japanese Repurchase Transactions)

Bond-Lending Transactions are transactions of Loans for consumption that one party (a lender) lends bonds to a second party (a borrower), and after a specified period, the borrower returns bonds of the same kind and in the same amount to the lender, thereby settling the lending transaction.

Bond-Lending Transactions were introduced in 1989 concurrent with the deregulation of the short-selling of bonds to promote the development of the secondary bond market.

Bond-Lending Transactions were for the most part fully uncollateralized; collateralized Bond-Lending Transactions were shunned by market participants. This is because the limits were originally imposed on the interest to prevent competition with the Bond *Gensaki* Transactions discussed above that was allowed to accrue to cash collateral, and there was complicated clerical work associated with permitted bond collateral other than

① "The internationalization of the yen for the 21st century — Japan's Response to Changes in Global Economic and Financial Environments," as replied to by the Council on Foreign Exchange and Other Transactions on April 20, 1999.

② A provision whereby if one of the two counterparties to the transaction defaults on payment, all the debts and credits under the basic agreement between them are replaced by one single monetary debt and credit (each of which is obtained by terminating all individual transactions and then offsetting the resulting loss or profit against the total collateral).

③ If, while transactions are being conducted, any difference arises as between the market value of the bond in a bond-lending and the value of the collateral provided because of fluctuations in bond prices, this feature permits a counterparty to claim a collateral shortage at any time.

④ A feature whereby, during the transaction period, another bond of equal or higher market value can be used to substitute for the bond being sold or purchased, subject to the agreement of both parties and following a notification given by one counterparty to the other of such an intention to substitute.

⑤ Ref: IIChapter 1 2(2) C "Shortening of settlement periods" (P62)

⑥ Ref: Column 6 (P71)

cash collateral (such as substitute securities).

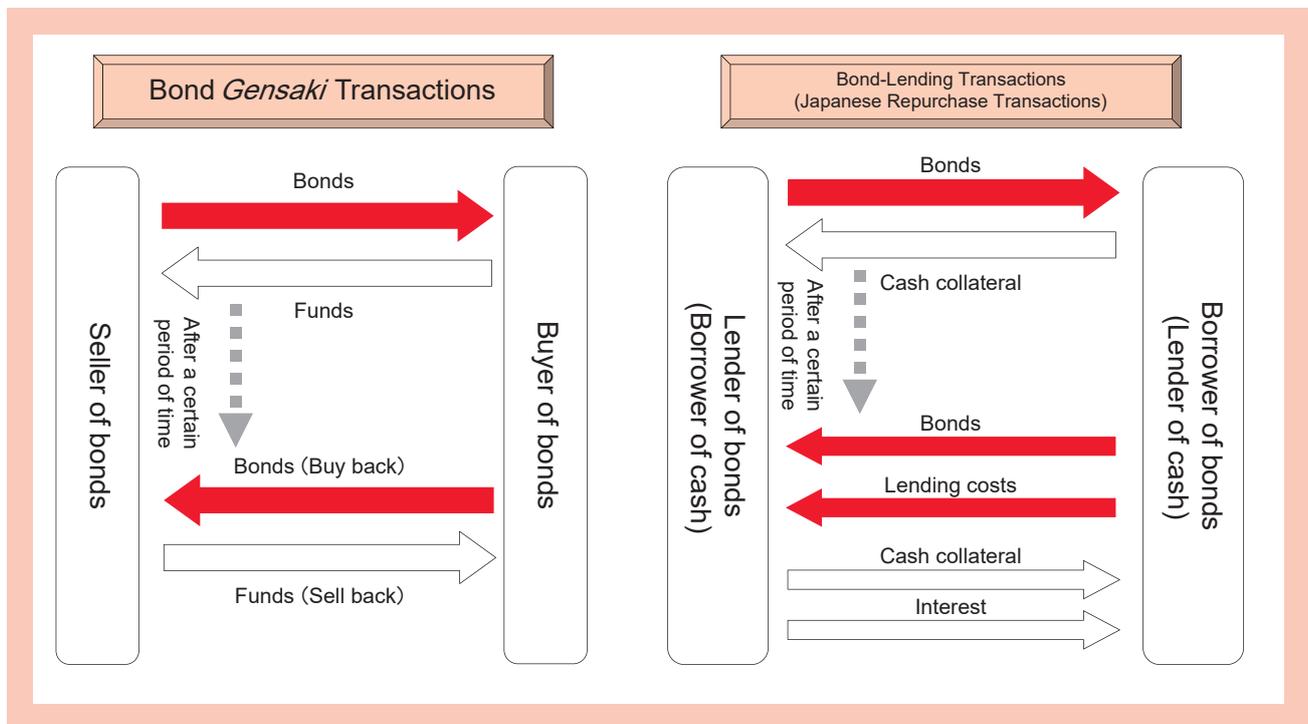
The collapse of the Barings Bank in February 1995 served as a fresh reminder of the risk associated with unsecured dealings. In order to mitigate credit risk, Bond-Lending Transactions underwent a review towards collateralization, modeled after the U.S. repurchase transactions. Risk management was reinforced by putting into place a package settlement provision and margin call features, and with the change to rolling settlement (🔄) of JGB transactions, the minimum limit for cash collateral was abolished along with the limit on interest. Beginning in April 1996, cash secured Bond-Lending Transactions were initiated (as so-called the Japanese Repurchase Transactions).

These Japanese Repurchase Transactions have actively been made for SC (Special Collateral) transactions to procure cash bonds required for unwinding short positions on bonds and for GC transactions to raise funds by pledging unspecified issues of bonds as collateral. In November 1997, Japanese Repurchase Transactions were included in the operations of the BOJ (as so-called “repo operations”). Moreover, the JGBCC (Japan Securities Clearing Corporation or JSCC at present) in May 2005 started settlement services including repo transaction settlements (such as obligation assumption and netting) and risk management, contributing to expanding repo transactions.

The Japanese Repurchase Transaction market size exceeded 120 trillion yen in terms of the outstanding balance at the end of FY2017, forming the core of the short-term money market. A plan to switch from the Japanese Repurchase Transactions to new Bond *Gensaki* transactions is under consideration.

🔄 Rolling settlement is a method to settle transaction sequentially, when it passed by the scheduled days.

Fig.2-13 Bond *Gensaki* and Bond-Lending Transactions (Japanese Repurchase Transactions)(images)



(5) STRIPS

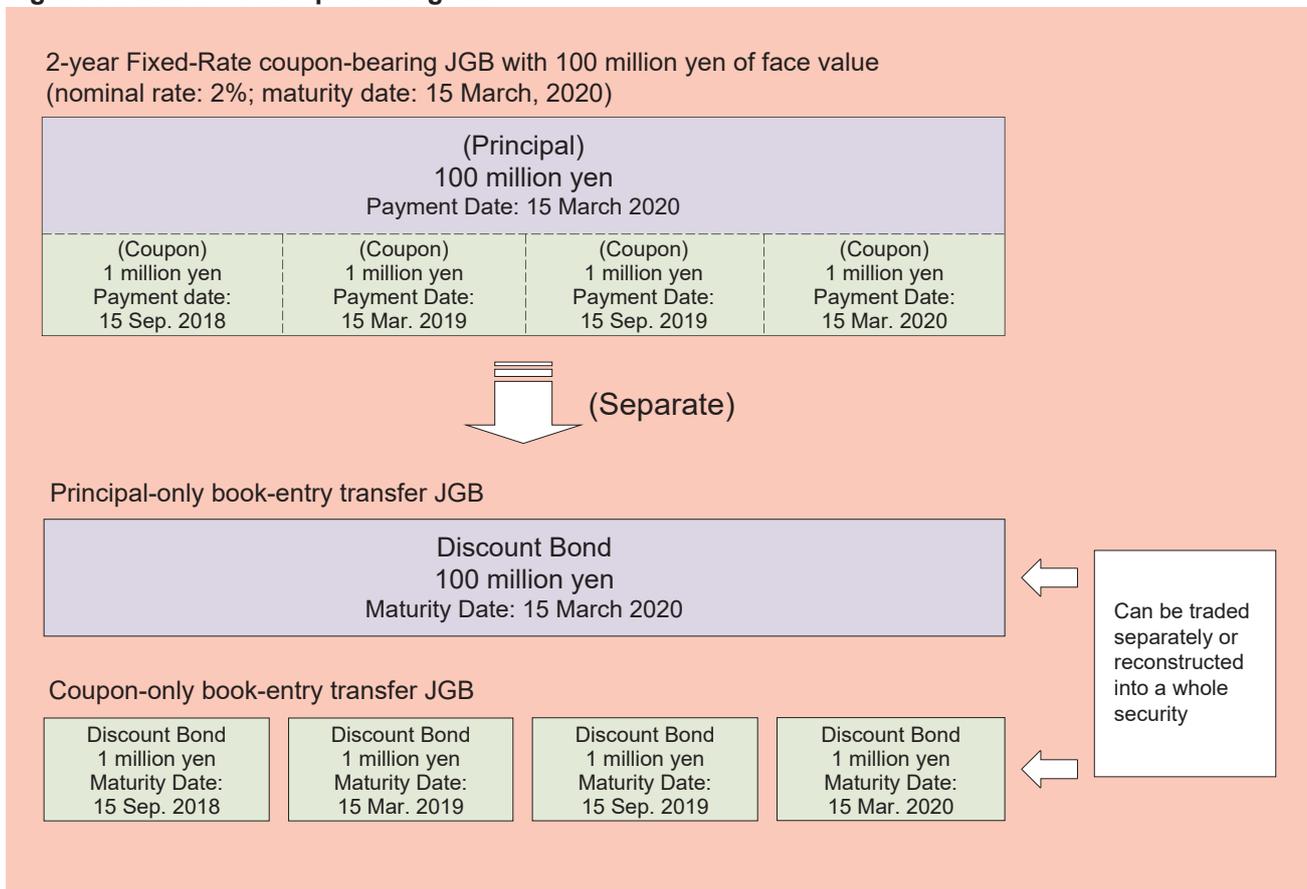
STRIPS (Separate Trading of Registered Interest and Principal of Securities) are a type of coupon-bearing government bonds of which coupons and principal can be separated and traded respectively. These separated coupons and principal can be reconstructed into a whole security.

While STRIPS have long been in place in the U.S. and some European countries, it was introduced into Japan in January 2003 to meet the needs of investors who want the separation of principal and interest components (👉). The new instrument is also expected to enhance arbitrage functions between discount bonds and coupon-bearing bonds, thus adding to the efficiency of the JGB market.

State of stripping of STRIPS is published at the MOF's web site on a regular basis.

👉 All coupon-bearing bonds issued in January 2003 and thereafter except for 15-Year Floating-Rate Bonds, JGBs for Retail Investors, and 10-Year Inflation-Indexed Bonds are the "strippable book-entry securities. (Bonds issued as special bonds provided by the "Act on Book-Entry Transfer of Company Bonds, Shares, etc." are excluded.)" While no restrictions exist on holders of stripped book-entry securities, only the JGB Market Special Participants are allowed to apply for the separation and reconstruction of STRIPS.

Fig.2-14 STRIPS - Conceptual Diagram



## (6) JGB Futures Trading

Futures trading means a trading contract to make deals for specific products on a certain future date at a certain designated price. Trading conditions such as trading units and delivery dates have been standardized on the premise that a large and uncertain number of participants will be trading JGB futures on securities exchanges.

JGB futures are listed and traded on the Osaka Exchange. 10-year JGB futures are traded on the Singapore Exchange as well as the Osaka Exchange.

JGB futures trading does not entail trading in government bonds actually issued; instead, market participants use notional JGBs, so-called standardized instruments (☞①), for futures trading purposes.

Parties engaged in trading may at any time before a final trading day make an offsetting trade (long liquidation or short covering) and settle transactions by paying/receiving the purchase/sale cost and receiving/delivering actual JGBs on the delivery settlement date (delivery settlement). Actual JGBs that have been deemed delivery-qualified issues (☞②) will be delivered in place of notional JGBs for delivery settlement. In this case, a settlement is conducted using a price multiplied by a conversion factor which represents the value of the delivered issues with the value of standardized instruments set at 1. Therefore, if the delivering party uses the cheapest issues (☞③) for delivery, it can minimize losses (or maximize profits). For this reason, the correlation between the prices of futures and the cheapest issues is likely to be high.

☞①“Standardized instruments” mean notional JGBs for which the stock exchange standardizes interest rates, redemption dates, and some other factors for smoother transactions.

☞②“Delivery-qualified issues” mean 10-Year Coupon-bearing JGBs with a remaining maturity of not less than 7 years but less than 11 years at the delivery settlement date in the case of long-term bond futures trading.

☞③“the cheapest issues” mean issues offering the smallest difference between spot and futures prices. As of the end of March 2018, issues whose remaining maturity is shortest (approximately 7 years) are the cheapest issues.

### Fig.2-15 Overview of JGB Futures Trading

	5-year JGB Futures	10-year JGB Futures	20-year JGB Futures	Mini 10-year JGB Futures															
Date launched	Feb. 16, 1996	Oct. 19, 1985	Jul. 8, 1988 (Closed from Sep. 10, 2002 to Apr. 4, 2014) Resumed trading on Apr. 7, 2014	Mar. 23, 2009															
Contract	Standardized 3%, 5-year JGB	Standardized 6%, 10-year JGB	Standardized 3%, 20-year JGB	Price of standardized 6%, 10-year JGB															
Deliverable grade	5-year coupon-bearing JGBs with remaining maturity of 4 years or more but less than 5.25 years	10-year coupon-bearing JGBs with remaining maturity of 7 years or more but less than 11 years	20-year coupon-bearing JGBs with remaining maturity of 19 years 3 months or more but less than 21 years	—															
Trading hours	<p style="text-align: center;">&lt;Morning session&gt;                      Opening: 8:45                      Regular session: 8:45-11:00                      Closing: 11:02</p> <p style="text-align: center;">&lt;Afternoon session&gt;                      Opening: 12:30                      Regular session: 12:30-15:00                      Closing: 15:02</p> <p style="text-align: center;">&lt;Night session&gt;                      Opening: 15:30                      Regular session: 15:30-5:25 (next day)                      Closing: 5:30 (next day)</p> <p>*1: If no trade is made at the opening, a shift to the regular session will be made.                      *2: If no trade is made at the closing, trading session moves to Zaraba.</p>																		
Contract month	March, June, September, December cycle (three contract months traded at any one time)																		
Last trading day	5th business day prior to each delivery date (20th of each contract month).			* 6th business day prior to each delivery date of the 10-year JGB Futures for the same contract month. Trading for the new contract month begins on the business day following the last trading day of 10-year JGB Futures. * Final settlement day is 2nd business day following the last trading day.															
Contract unit	100 million yen face value			Multiply 100 thousand yen by the price of 10-year JGB Futures															
Tick Size	0.01 yen			0.005 yen															
Daily price limit	(1) The price limit range shall be the following: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>5-year JGB Futures</th> <th>10-year JGB Futures</th> <th>20-year JGB Futures</th> <th>Mini 10-year JGB Futures</th> </tr> </thead> <tbody> <tr> <td>Normal price limit</td> <td colspan="2" style="text-align: center;">± 2.00 yen</td> <td style="text-align: center;">± 4.00 yen</td> <td style="text-align: center;">± 2.00 yen</td> </tr> <tr> <td>Maximum price limit</td> <td colspan="2" style="text-align: center;">± 3.00 yen</td> <td style="text-align: center;">± 6.00 yen</td> <td style="text-align: center;">± 3.00 yen</td> </tr> </tbody> </table> * The price limits will be expanded to the expansion of price limits. (Only price limits in one direction, up or down, will be expanded.)					5-year JGB Futures	10-year JGB Futures	20-year JGB Futures	Mini 10-year JGB Futures	Normal price limit	± 2.00 yen		± 4.00 yen	± 2.00 yen	Maximum price limit	± 3.00 yen		± 6.00 yen	± 3.00 yen
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	(2) Immediately Executable Price Range (Dynamic Circuit Breaker (DCB)) (☞①): LTP or BBO (☞②) mid price ± following ticks <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>5-year JGB Futures</th> <th>10-year JGB Futures</th> <th>20-year JGB Futures</th> <th>Mini 10-year JGB Futures</th> </tr> </thead> <tbody> <tr> <td colspan="2" style="text-align: center;">10 ticks</td> <td style="text-align: center;">30 ticks</td> <td style="text-align: center;">10 ticks</td> </tr> </tbody> </table>				5-year JGB Futures	10-year JGB Futures	20-year JGB Futures	Mini 10-year JGB Futures	10 ticks		30 ticks	10 ticks							
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10 ticks		30 ticks	10 ticks																
Circuit brake	In the case where a buy (sell) order is placed (or executed) at the upper (lower) price limit for the central contract month (excluding mini 10-year JGB Futures), and no subsequent trades are executed outside the dynamic circuit breaker range from the said price in the next minute, the trading (including mini 10-year JGB Futures) will be suspended and the upper (lower) daily price limit range will be expanded. (☞③)																		
Strategy trading	The calendar spread trading is available. (☞④)																		
J-NET trading (☞⑤)	Available (Tick size: 0.0001 yen, Minimum trading unit: 1 unit)																		
Clearing value	Last traded price			Clearing value of the 10-year JGB Futures (Large) for the same contract month.															
Margin	Calculated by using SPAN® (☞⑥)																		
Settlement method	1. Long liquidation or short covering 2. Final settlement (delivery settlement)			1. Long liquidation or short covering 2. Final settlement (cash settlement)															
Delivery of bonds	The delivery of issues is at the discretion of the seller of the futures contract.			—															
Give-up (☞⑦)	Available																		
Position transfer (☞⑧)	Available																		

(☞①) From the viewpoint of preventing sudden price fluctuations, such as caused by erroneous orders, a rule is established to temporarily halt trading, when an order placed will trade beyond a set price range from the immediate reference price. This is called the Immediately Executable Price Range Rule.

(☞②) The BBO mid-price refers to the mid price of the immediate best offer and best bid.

(☞③) Exceptional cases

1. In the case where the above criteria is met within 20 minutes before the end of the regular session of the day (afternoon) or night session.

2. In the case where the circuit breaker criteria is triggered again after the price limit of a bid or offer has been expanded to the maximum range.

3. In cases where the Osaka Exchange deems that a trading suspension would not be appropriate in consideration of the trading conditions, etc.

(☞④) Calendar spread trading means a form of trading conducted by placing bids/offers based on the price difference (spread) between two different contract months (specifically, a nearer contract month and a farther contract month; for example, March and June) to establish opposite positions by making one sale and one purchase at the same time for the two contract months.

(☞⑤) J-NET trading means the trading of futures and options without sessions at the J-NET Market that is independent from competitive trading markets.

(☞⑥) The SPAN® (Standard Portfolio Analysis of Risk) system is a methodology that calculates the margin developed by the Chicago Mercantile Exchange (CME).

(☞⑦) A give-up system enables a customer to entrust order-execution to a transaction participant and to entrust its settlement-related operations (payment/receipt of the difference at the time of settlement for futures trading, payment/receipt of options premium and margins, etc.) to other transaction participants.

(☞⑧) A position transfer system allows a transferring clearing participant (a transaction clearing participant who transfers unsettled positions) to transfer futures/options unsettled positions to a transferee clearing participant (a transaction clearing participant who takes over unsettled positions from the transferring clearing participant), with prior JSCC approval.

(Sources: Osaka Exchange, JSCC)

## Column 6 Introduction of GC repos under Subsequent Collateral Allocation Method

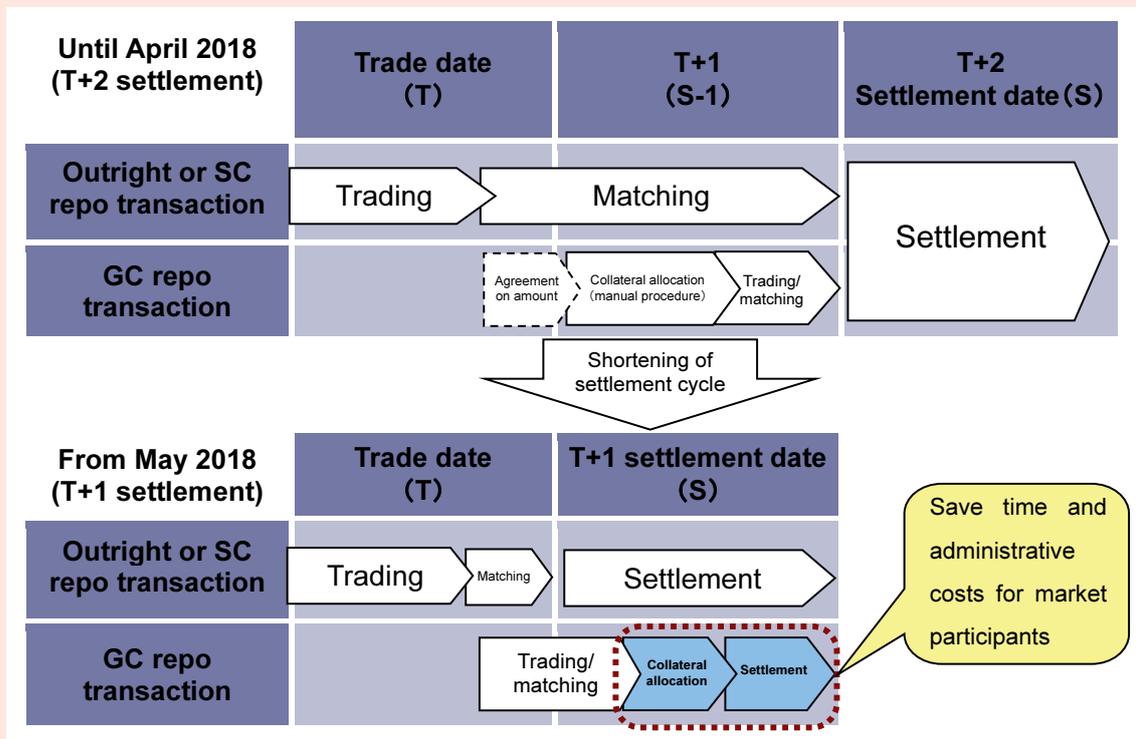
When the standard JGB settlement cycle was shortened to T+1 on May 1, 2018, the settlement cycle for ordinary JGB transactions (hereinafter referred to as outright transactions) and SC (Special Collateral) repurchase transactions was shortened from T+2 to T+1. At the same time, the settlement cycle for GC (General Collateral) repo transactions was shortened from T+1 to T+0.

This column describes GC repos under Subsequent Collateral Allocation Method that were introduced when the standard JGB settlement cycle was shortened to T+1.

GC repo transactions are frequently conducted by securities companies to raise funds to cover shortages after outright or SC repo transactions. GC repo transactions thus accompany outright or SC repo transactions. When the T+1 standard JGB settlement cycle took effect, how to accelerate post-trade procedures, including matching and netting, taken between GC repo transactions and their settlement became a challenge as parties to outright or SC repo transactions must contract GC repo transactions from the transaction day's evening when fund shortages are fixed and complete settlement on the T+1 day.

To address the challenge, the "Grand Design for Shortening of JGB Settlement Cycle (T+1)" published in November 2014, called for introducing "GC repos under Subsequent Collateral Allocation Method" through *Gensaki* transactions, as a new transaction method based on existing European and U.S. models, and for developing new market infrastructure for the new transactions.

(Fig. c6-1) Image of T+0 settlement for GC repos under Subsequent Collateral Allocation Method

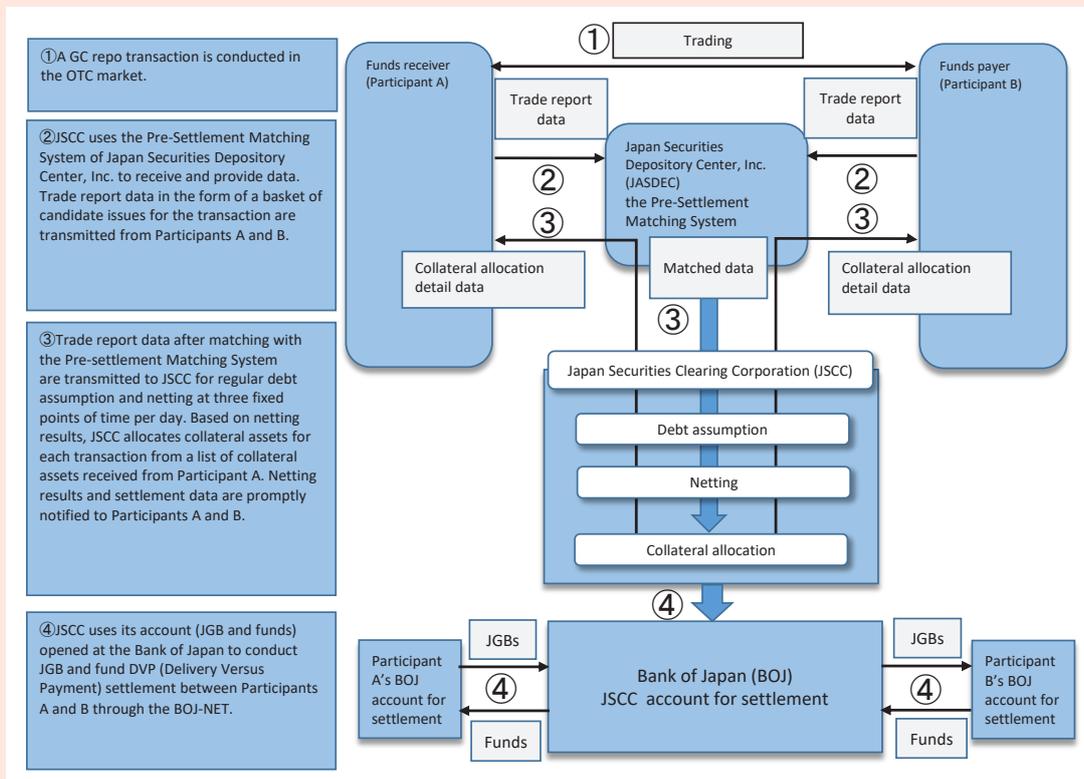


(Source) Prepared by the MOF based on the "Grand Design for Shortening of JGB Settlement Cycle (T+1)" published on November 26, 2014, by the Working Group on Shortening of JGB Settlement Cycle

Parties to a traditional T+1 GC repo transaction fix the issue of JGBs and their amounts before contracting the transaction. However, parties to a T+0 GC repos under Subsequent Collateral Allocation Method designate the amount of funds to be delivered and type of collateral such as "Treasury Discount Bills or JGBs with maturity of less than 10 years", before contracting, leaving Japan Securities Clearing Corporation (JSCC) to allocate the specific issue of JGBs for the transaction just before the settlement. In this way, market participants can save time and administrative costs for post-trade procedures after GC repo transactions. The well developed market infrastructure is expected to mitigate burdens on market participants and help a wider range of market participants to expand GC repo transactions. As for U.S. GCF (General Collateral Finance) repo transactions, the rationalization of collateral issue selection procedures triggered an expansion in a range of market participants. In Japan as well, the rationalization of issue selection procedures is expected to improve the convenience of T+0 GC repo transactions, vitalizing the short-term money market and improving the JGB market's liquidity, stability and efficiency.

Following the introduction of the GC repos under Subsequent Collateral Allocation Method, a plan to switch to new global-standard *Gensaki* transactions is under consideration. These efforts are expected to expand nonresidents' participation in Japan's repo market to further globalize and vitalize the market.

(Fig. c6-2) Image of GC repos under Subsequent Collateral Allocation Method



(Source) Prepared by the MOF from information on the JSCC website