

System for Dissemination of Reference Statistical Prices

(Yields) for OTC Bond Transactions

January 4, 2018

<Purpose of this system>

Over-the-counter (OTC) trading is an effective means to efficiently execute high-volume transactions of various types of bonds. The details of each OTC transaction are not known to third parties because it is an off-market transaction exclusively between a seller and a purchaser. However, OTC transactions make up a large part of the trading market and it is therefore essential to make their market information (trading prices, rates, etc.) widely known to investors with a view to ensuring fair and proper bond pricing and investor protection.

In light of such characteristics of OTC bond transactions, Japan Securities Dealers Association (“JSDA”) operates the system for dissemination of reference statistical prices (yields) for OTC bond transactions. This system was initially launched as the system for dissemination of OTC quotations of bonds in March 1966 and redesigned as the system for dissemination of reference statistical prices (yields) for OTC bond transactions from August 2002. Regardless of such redesign, the intent and purpose of the system remain unchanged.

●Points to note

Reference statistical prices (yields) disseminated by JSDA may serve as reference information for OTC trading. However, such dissemination does not guarantee that JSDA members will execute their bond transactions with other members or their customers at the reference prices.

In addition, reference statistical prices (yields) disseminated by JSDA do not necessarily correspond to actual trading prices because of the nature inherent in the calculation of reference prices; for example, the data covered by the reports received by JSDA from its members are limited to median prices (the median value between a bid and an offer) for bond transactions for which the face value is approximately 500 million yen.

◆ List of Designated Reporting Members

● Securities firms (14members)

IwaiCosmo Securities Co., Ltd.

Okasan Securities Co., Ltd.

Shinkin Securities Co., Ltd.

Daiwa Securities Co., Ltd.

Nomura Securities Co., Ltd.

Marusan Securities Co., Ltd.

SMBC Nikko Securities Inc.

Credit Suisse Securities (Japan) Limited

Shinsei Securities Co., Ltd.

Tokai Tokyo Securities Co., Ltd.

BNP Paribas Securities (Japan) Limited

Mizuho Securities Co., Ltd.

<Outline of this system>

1. Outline of the system for dissemination of reference statistical prices (yields) for OTC bond transactions

This dissemination system is intended to accommodate investors and JSDA members, under which JSDA calculates and disseminates reference statistical prices (yields) for OTC bond transactions based on the quotations reflecting the execution prices of OTC bond transactions reported by Designated Reporting Member to JSDA. "Designated Reporting Member" means a JSDA member designated by JSDA as being well versed in the bond trading business, etc. and having the necessary organization and staff to appropriately conduct the operation of quotation reporting.

(1) Selection of Designated Issues (bond issues for which reference statistical prices are supposed to be disseminated)

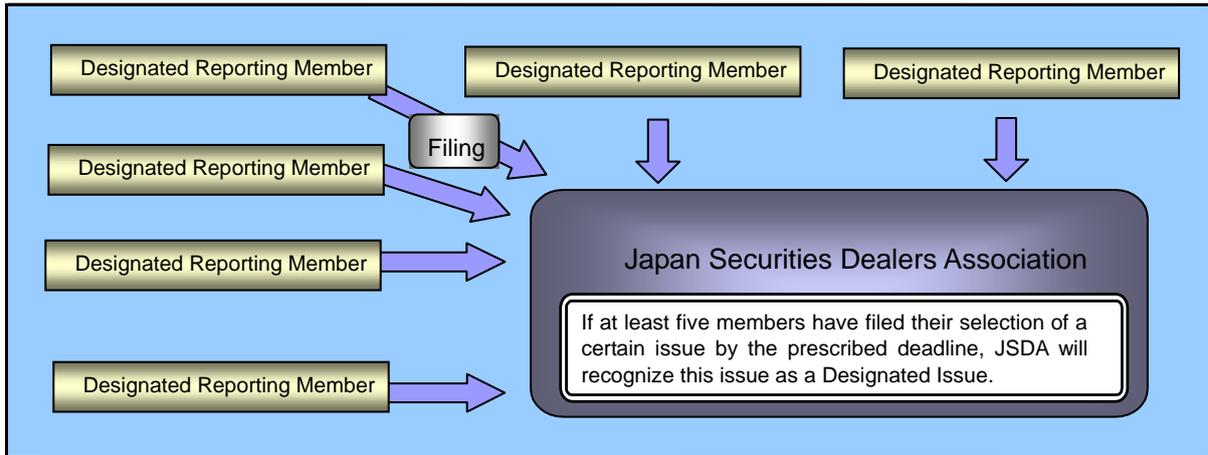
"Designated Issue" means an issue of bonds satisfying all the requirements specified in a) and b) below, which falls under any of the following and for which at least five Designated Reporting Members file their selection as a Reporting Issue with JSDA by its prescribed deadline: (i) public or corporate bonds issued through public offering, (ii) public or corporate bonds listed on a Specified Financial Instruments Exchange Market, (iii) public or corporate bonds Issued based on the program information which is submitted to a Specified Financial Instruments Exchange Market and publicly disclosed.

- a) Bonds issued in Japan (excluding bonds with share options)
- b) Bonds with principal, interest, and redemptions denominated in Japanese yen

Issues eligible for Designated Issues include bonds other than fixed-rate bonds or bullet bonds, e.g., floating-rate bonds, step-up (or –down) bonds, amortizing bonds, etc. When disseminating the information about bonds other than fixed-rate bonds and bullet bonds, unit prices only are indicated in principle, without indicating yields and coupon rates.

An issue ceases to be a Designated Issue when the number of Designated Reporting Members selecting this issue as a Reporting Issue falls below five. If less than five Designated Reporting Members report quotations of a certain issue to JSDA on any business day because other Designated Reporting Members cannot report quotations due to unavoidable circumstances (e.g., system failure), the reference statistical prices (yields) of this issue on the same day will not be disseminated. (This does not mean that the issue in question will cease to be a Designated Issue.)

• Schematic chart showing the process of selecting Designated Issues



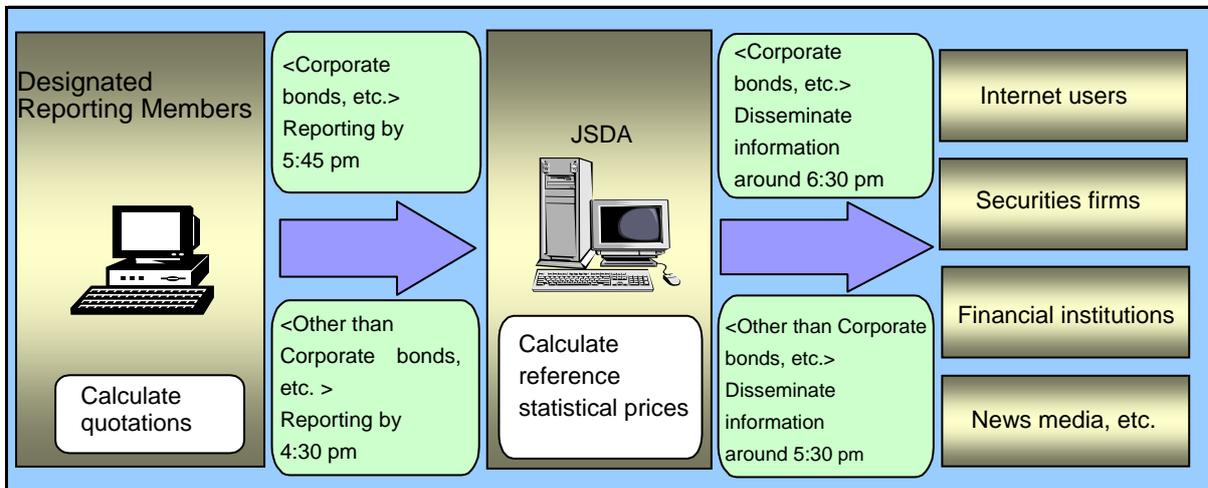
(2) Reports on quotations from Designated Reporting Members

Each Designated Reporting Member must report its quotations as of 3:00 pm for the Designated Issues which the Member has filed with JSDA in advance. These quotations may be used as reference prices for transactions for which the face value is approximately 500 million yen. The deadlines for reporting to JSDA are 5:45 pm for corporate bonds, etc. (meaning Corporate Bonds, Specified Company bonds, or Yen-denominated Foreign Bonds), and 4:30 pm for bonds other than corporate bonds, etc. (meaning Japanese Government Bonds, Municipal Bonds, Government-guaranteed bonds, FILP-agency bonds, or Bank Debentures).

The term “quotation” used under this dissemination system means the median value between an offer (the best price of the sellers) and a bid (the best price of the purchasers).

Based on the quotations reported by Designated Reporting Members, JSDA calculates and disseminates reference statistical prices.

• Calculation of quotations: calculation of reference statistical prices (yields)



Japan Securities Dealers Association's website

Reference Statistical Prices [Yields] for OTC Bond Transactions /Rating Matrix Download

http://market.jsda.or.jp/eigo/html/saiken/kehai/downloadInput_e.php

• **Points to note**

To disseminate reference statistical prices (yields) at an earlier time in a stable manner, JSDA introduced a cutoff time system. **If JSDA cannot obtain quotation reports from at least five Designated Reporting Members for any issue on a certain business day, JSDA will refrain from disseminating reference statistical prices (yields) of this issue for the same business day.** In this case, a report released by JSDA in its prescribed format shows the name, the redemption date, the coupon rate, and the number of reporting members, without indicating reference statistical prices (yields).

As a rule, JSDA is supposed to post **all** reference statistical prices (yields) on its website **around 6:30 pm.** (On English version of its website, reference statistical prices (yields) are to be posted at 10:00 a.m. Japan time on the following business day.) However, this time may be slightly moved up or postponed, depending on the status of reporting from Designated Reporting Members or of monitoring and review, etc. by JSDA.

(Note) The cutoff time means a predetermined deadline for JSDA to receive quotation reports from Designated Reporting Members.

(3) Dissemination of reference statistical prices (yields)

The reference statistical prices (yields) refer to the four types of quotations reported by Designated Reporting Members, i.e., Average Price, Median Price, Highest Price, and Lowest Price.

How to apply the rule of eliminating higher and lower values is explained on page 6.

Reference statistical price (yield)	Description	Information to be disseminated
Average Price	Average value of the quotations reported by Designated Reporting Members (after eliminating a specified number of higher values and the same number of lower values, in case of bonds other than corporate bonds, etc.)	Price (day-to-day change, yen) Compound yield (%) Simple yield (%)
Median Price	Median value of the quotations reported by Designated Reporting Members (after eliminating a specified number of higher values and the same number of lower values, in case of bonds other than corporate bonds, etc.) * The median value is the value placed in the center of a list of data values sorted in ascending or descending order. If there are an even number of data values, the average	Price (day-to-day change, yen) Compound yield (%) Simple yield (%)

	of the two values in the center is recognized as the median value.	
Highest Price	Highest value of the quotations reported by Designated Reporting Members (after eliminating a specified number of higher values and the same number of lower values, in case of bonds other than corporate bonds, etc.) * The Highest Price is recognized based on unit prices to be reported. Therefore, a compound yield or simple yield disseminated as the Highest Price shows the lowest yield.	Price (day-to-day change, yen) Compound yield (%) Simple yield (%)
Lowest Price	Lowest value of the quotations reported by Designated Reporting Members (after eliminating a specified number of higher values and the same number of lower values, in case of bonds other than corporate bonds, etc.) * The Lowest Price is recognized based on unit prices to be reported. Therefore, a compound yield or simple yield disseminated as the Lowest Price shows the highest yield.	Price (day-to-day change, yen) Compound yield (%) Simple yield (%)

(Note 1) Designated Reporting Members are required to report simple yields (%) in principle.

(Some issues are required to be reported in the form of a compound yield (%), an interest rate spread over the standard interest rate (%), or a unit price (yen).

(Note 2) With regard to floating-rate Japanese Government bonds (JGBs) offered as pre-auction JGBs (as explained later), interest rate spreads over the standard interest rate (%) in absolute value are disseminated (indicated in the “price” column for convenience of system design).

(Note 3) Under the standard calculation procedure, a unit price is obtained from a simple yield and a compound yield is obtained from a unit price.

• Higher and lower values to be eliminated in statistic calculations

For all information disseminated by JSDA on and after November 2, 2015, a specified number of higher values and the same number of lower values are eliminated when calculating statistical prices for bonds other than corporate bonds, etc. Before then, this elimination rule applied to all kinds of bonds including corporate bonds, etc.

• How to eliminate higher and lower values

Number of reporting members	Number of higher and lower values eliminated
34–40	Top 6 and bottom 6 members
27–33	Top 5 and bottom 5 members
21–26	Top 4 and bottom 4 members
15–20	Top 3 and bottom 3 members
10–14	Top 2 and bottom 2 members
5–9	Top 1 and bottom 1 members

Average Prices, Median Prices, Highest Prices, and Lowest Prices are calculated based on the quotations after eliminating the specified number of higher values and the same number of lower values in accordance with this table. In the “number of reporting members” column in the list of reference statistical prices (yields) in the prescribed format, the number of all reporting members before such elimination is indicated.

<Calculations of prices, etc.>

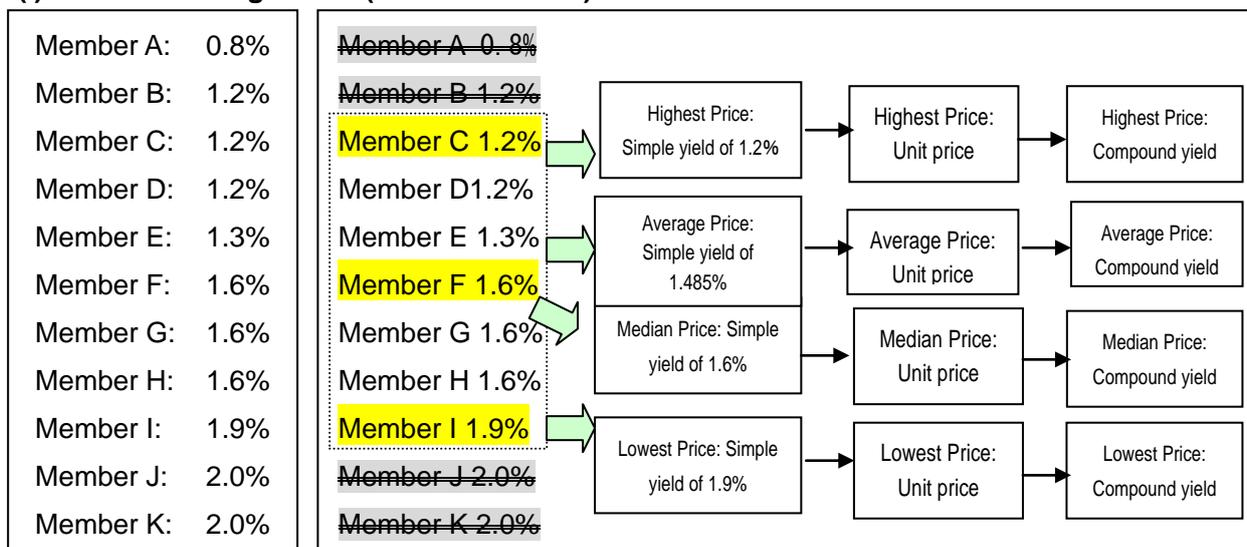
Type of bond	Calculation procedure
Interest-bearing bonds (fixed-rate bullet)	Simple yield reported ⇒ Unit price calculated ⇒ Compound yield calculated
Interest-bearing bonds (floating-rate or amortizing)	Unit price reported
Pre-auction JGBs ^(Note 1) (fixed-rate JGBs)	Compound yield reported ⇒ Compound yield disseminated (without calculating a unit price)
Pre-auction JGBs (floating-rate JGBs)	Interest rate spread over the standard interest rate reported ⇒ Interest rate spread over the standard interest rate disseminated (without calculating a unit price)
Discount JGBs	With a remaining maturity of one year or more: Compound yield reported ⇒ Unit price calculated Mature less than one year: Simple yield reported ⇒ Unit price calculated
Principal-only book-entry transfer JGBs; coupon-only book-entry transfer JGBs	With a remaining maturity of six months or more: Compound yield reported ⇒ Unit price calculated Mature less than six months: Simple yield reported ⇒ Unit price calculated
Treasury discount bills ^(Note 2)	Simple yield reported ⇒ Unit price calculated
Discount bank debentures	Simple yield reported ⇒ Unit price calculated
Yen-denominated foreign bonds (interest paid each year)	Compound yield reported ⇒ Unit price calculated

(Note 1) Pre-auction trading of JGBs means a transaction of JGBs subject to a condition precedent which is conducted during the period from the date of announcement of the auction of JGBs to the time of announcement of the auction number, coupon rate and other terms and conditions on the auction date.

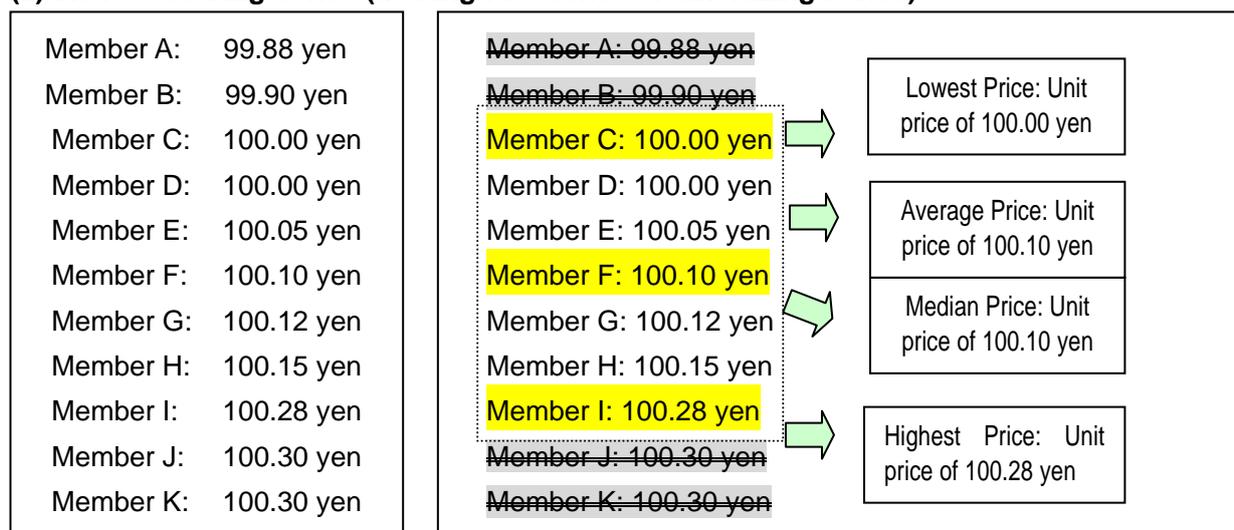
(Note 2) The same calculation procedure applies when these types of bonds are traded as pre-auction JGBs.

<Sample calculation> Case where there are 11 reporting members (higher and lower values are not eliminated for corporate bonds, etc.)

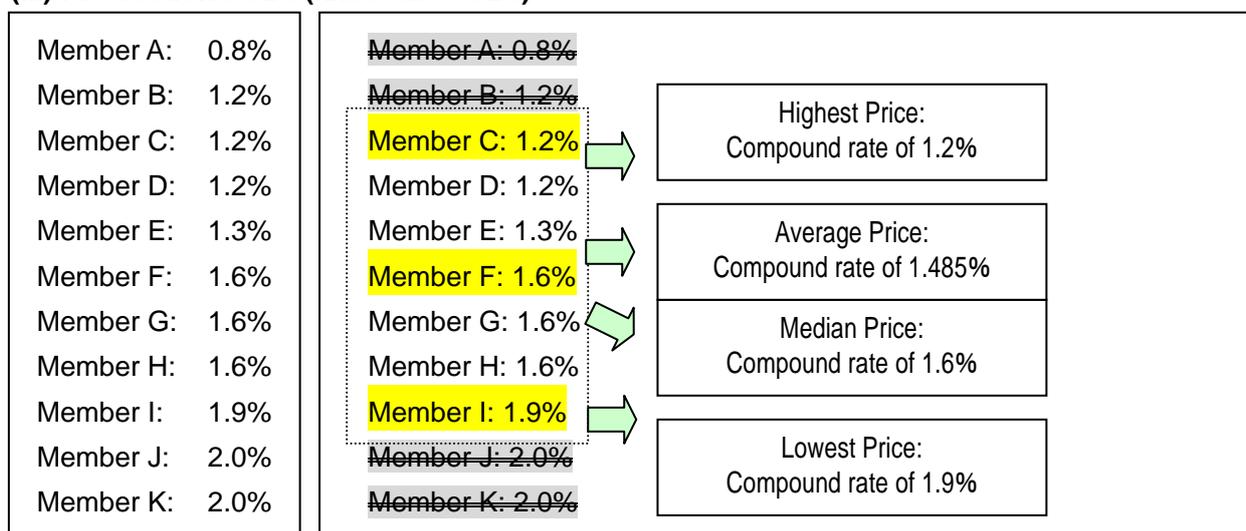
(i) Interest-bearing bonds (fixed-rate bullet)



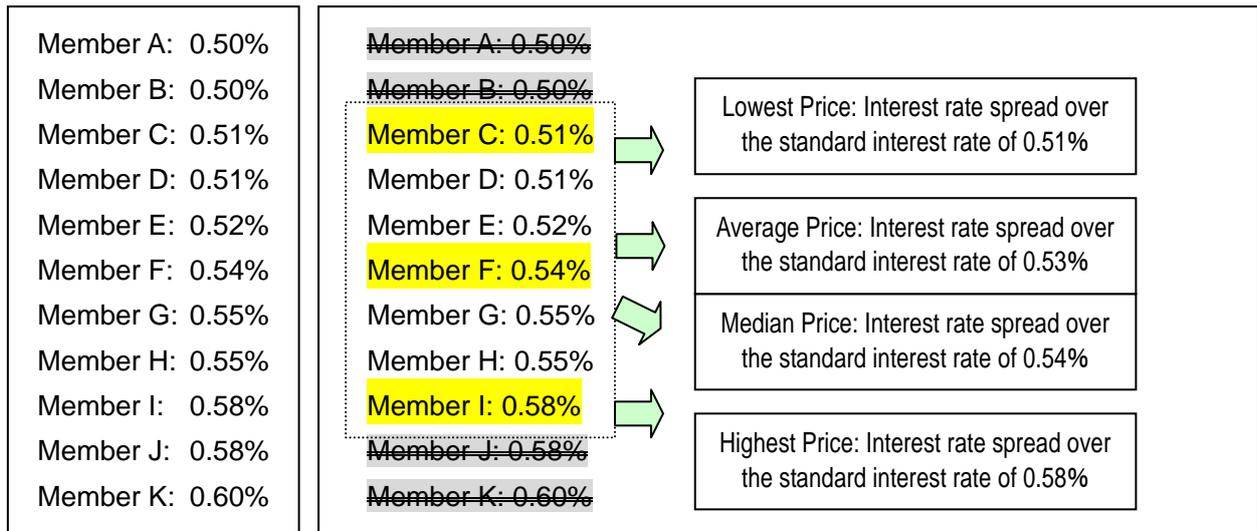
(ii) Interest-bearing bonds (floating-rate bonds or amortizing bonds)



(iii) Pre-auction JGBs (fixed-rate JGBs)

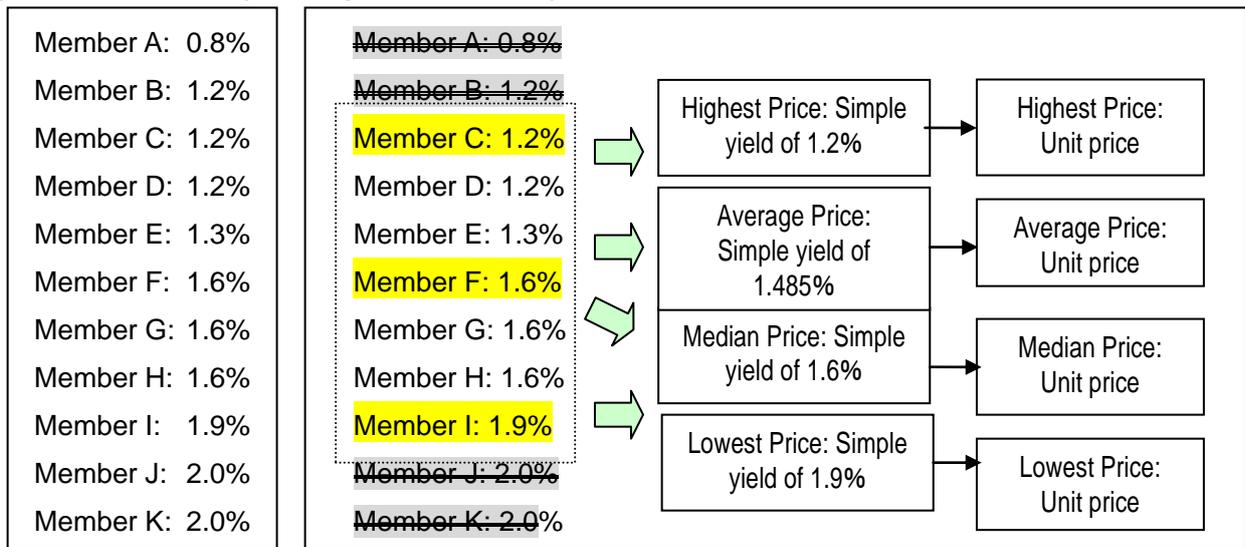


(iv) Pre-auction JGBs (floating-rate JGBs)



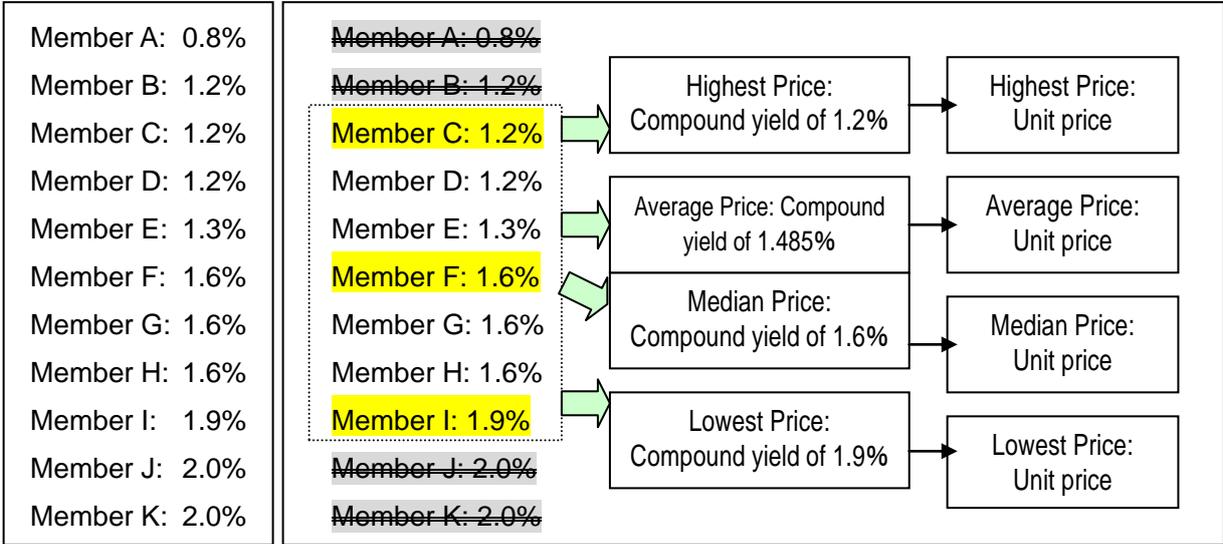
(Note) For convenience of system design, interest rate spreads over the standard interest rate (%) are indicated in absolute value (without bearing a plus or minus sign) and output in the “price” column.

(v) Discount JGBs (mature less than one year), principal-only book-entry transfer JGBs and coupon-only book-entry transfer JGBs (mature less than six months), treasury discount bills, pre-auction JGBs (treasury discount bills)



(Note) The formulas for calculating a price from a simple yield differ among Discount JGBs, principal-only book-entry transfer JGBs and coupon-only book-entry transfer JGBs, and other types of bonds.

(vi) Discount JGBs (with a remaining maturity of one year or more), principal-only book-entry transfer JGBs and coupon-only book-entry transfer JGBs (with a remaining maturity of six months or more), Yen-denominated foreign bonds (interest paid each year)



(Note) The formulas for calculating a price from a compound yield differ among Discount JGBs, principal-only book-entry transfer JGBs and coupon-only book-entry transfer JGBs, and other types of bonds.

2. Data formats for disseminating reference statistical prices (yields) for OTC bond transactions

Various lists of “Reference Statistical Prices [Yields] for OTC Bond Transactions” available on JSDA's website can be downloaded in the formats explained in **Reference for Downloaded Reference Statistical Prices [Yields] for OTC Bond Transactions**.

Japan Securities Dealers Association's website

Reference for Downloaded Reference Statistical Prices [Yields] for OTC Bond Transactions Data

http://www.jsda.or.jp/en/statistics/bonds/prices/html/info2_e.html

3. Data formats for disseminating the rating matrix

In April 1997, JSDA started to prepare and disseminate “Rating Matrix” as reference information.

Since the abolition of the issue standards in January 1996, rating information has become increasingly important among participants in the bond market. In light of this and other trends, JSDA prepares the rating matrix by rating agency, which shows compound yields, etc. for bonds classified based on their ratings and remaining maturities. Such rating matrix is disseminated with the aim of dissemination of and familiarization with ratings and more enhanced investment information service for investors.

Regarding the data formats, see **Reference for Downloaded Rating Matrix Data**.

Japan Securities Dealers Association's website

Reference for Downloaded Rating Matrix Data

http://www.jsda.or.jp/en/statistics/bonds/prices/html/data_explanation_e.html

This translation is solely for the convenience of those interested therein, and accordingly all questions that may arise with regard to the meaning of the words or expressions herein shall be dealt with in accordance with the original Japanese text.