

2 What is Debt Management Policy?

(1) Overview

Under the FY2023 budget (April-March), the central government plans to issue JGBs equivalent to 205.8 trillion yen, posting a decrease of 9.3 trillion yen from the initial level for FY2022. Construction Bonds and Special Deficit-Financing Bonds to provide General Account revenues decrease by 1.3 trillion yen from the initial level for the previous year to 35.6 trillion yen. On the other hand, JGBs outstanding at the end of FY2022 totaled up to 1,127.9 trillion yen.

The government raises funds from Financing Bills and Borrowings as well as JGBs. If Financing Bills and Borrowings are included, outstanding government debts excluding government-guaranteed debt came to 1,270.5 trillion yen. Moreover, the government gives guarantees to Incorporated Administrative Agencies in order for them to carry out funding to implement public projects, with this government-guaranteed debt totaling 29.4 trillion yen (Figures are as of the end of FY2022).

The government's fundraising amount or flow has become enormous. Outstanding debts on a stock basis have been increasing continuously. Government debt management affects not only choices of financial assets for economic entities such as corporations and households, but also the flow of funds on a macro-scale, which would eventually influence interest rates. In turn, changes to market interest rates influence government funding activities and the activities of all economic entities.

Based on these points, the government, while trying to mitigate fiscal burden, implements JGB issuance, absorption, distribution and redemption measures to allow government debts (JGBs, Financing Bills, Borrowings, Government-Guaranteed Debt and Subsidy Bonds) to be smoothly accepted at each stage of the national economy. These measures represent "debt management policy." In Japan, based on the following basic goals for the JGB Management Policy, the government carefully implements "communications with the market" through various meetings for the formulation and operation of the JGB Issuance Plan, tries to base JGB issuance fully on market needs, and tackles the diversification of JGB holders by:

- (1) To ensure the smooth and secure issuance of Japanese Government Bonds
- (2) To minimize medium- to long-term fundraising costs

Meanwhile, any excessive response to temporary or short-term changes in market demand could affect market transparency and predictability for market participants, leading to a rise in medium- to long-term fundraising costs. While a massive government debt issuance is expected in future, the government will try to issue JGBs in a more stable and transparent manner by identifying medium- to long-term demand trends.

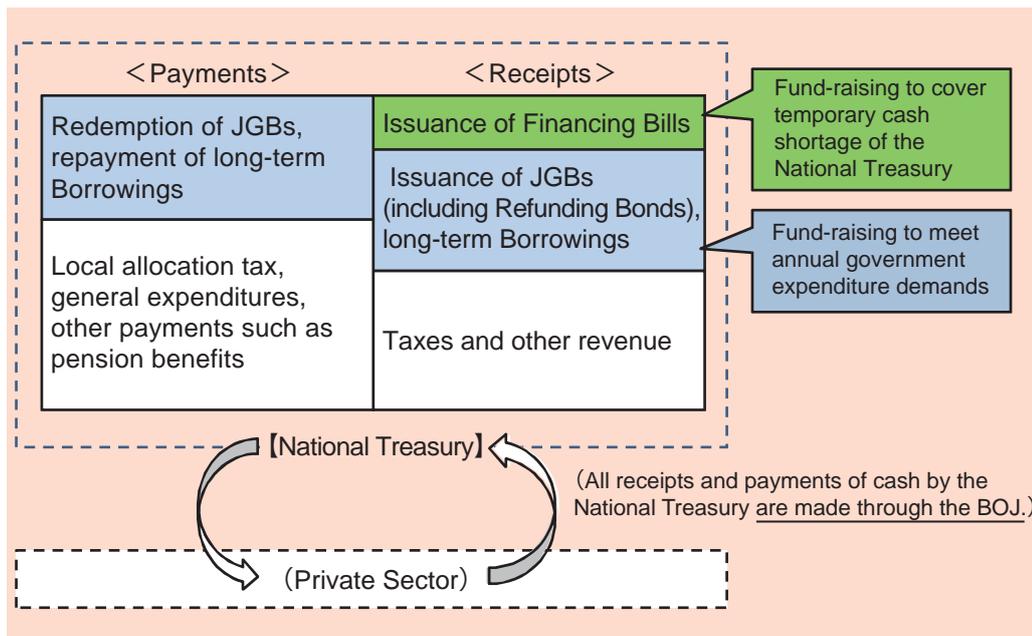
The "Guidelines for Public Debt Management," published by the International Monetary Fund and the World Bank in 2001, describes sovereign debt management as "the process of establishing and executing a strategy for managing the government's debt in order to raise the required amount of funding" and the objective of sovereign debt management as being "to raise the required amount of funding at the lowest possible cost over the medium to long term, consistent with a prudent degree of risk."

(2) Framework of “Government Funding Activities”

Government expenditures for a year should fundamentally be covered by tax and other revenues within that year. To satisfy expenditure demands that cannot be covered by these revenues, the government issues JGBs or carries out Borrowings (🏦). The government also issues Financing Bills to cover temporary cash shortages for daily cash management of the National Treasury. The following discusses the framework of these government fundraising activities.

🏦 Unlike JGBs, Borrowings are a form of funding that does not involve the issuing of securities.

Fig.1 National Treasury Receipts and Payments



The central government budget consists of the General Account and 13 Special Accounts (as of April 1, 2023), and all receipts and payments in these accounts are managed through the Bank of Japan (BOJ). The government smoothly implements spending within the budget by using JGBs and Borrowings to meet expenditure demand that cannot be covered by tax and other revenues and by issuing Financing Bills to cover temporary cash shortages of the National Treasury as follows.

A. JGBs and Borrowings to meet annual government expenditure demand

The government issues JGBs or carries out Borrowings to satisfy expenditure demand that cannot be covered by tax and other revenues and records funds raised through JGBs and Borrowings as revenues. The government smoothly implements budget spending as needed, by raising funds in this manner.

In addition to planning the government debt management policy, the Financial Bureau of the Ministry of Finance implements the policy by conducting auctions, issuance and redemption of JGBs, and auctions for Borrowings.

B. Financing Bills to cover temporary cash shortages for the National Treasury

Government ministries, agencies or special accounts carry out large quantities of fiscal activities each day. All receipts and payments are made through the BOJ, for integrated

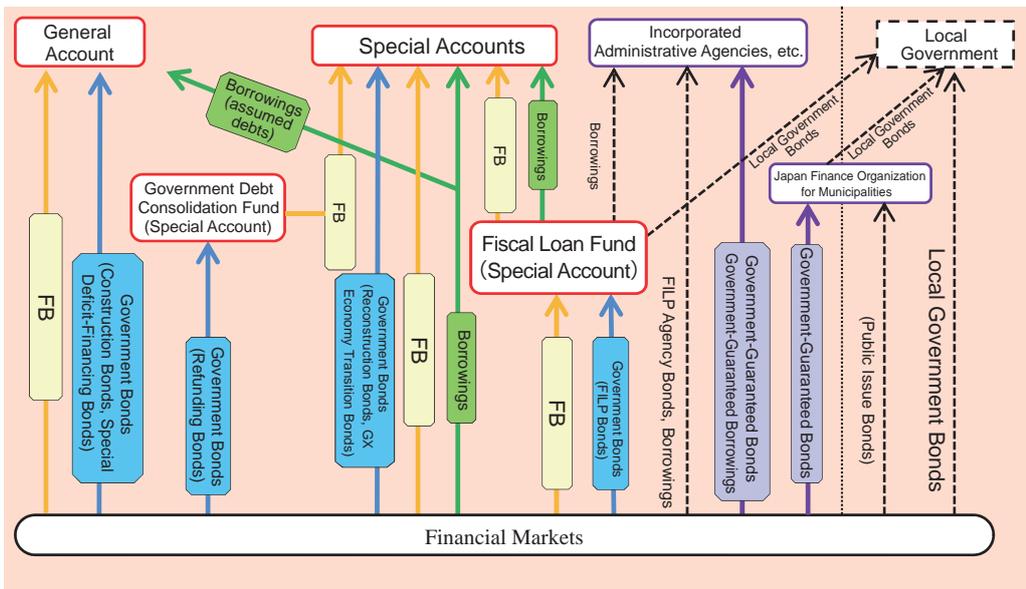
handling in the National Treasury. As explained in section A, the government raises funds with JGBs and Borrowings to meet expenditure demand that cannot be covered by tax and other revenues. However, the government encounters temporary cash shortages and surpluses due to lags for day-to-day receipts and payments of National Treasury funds. The Financial Bureau of the Ministry of Finance makes adjustments through the issuance of Financing Bills in the case of shortage, and through the temporary use of treasury surplus in the case of surplus (“Cash Management in the National Treasury”) (📄).

(3) Debts with Public Characteristics

Besides government debt, there are several forms of public debt including local government bonds and the debts of Incorporated Administrative Agencies, etc. This public debt affects government debt management through the market interest rate formation mechanism.

📄 The term “revenue” refers to all income in one fiscal year and the term “income” means received funds that serve as the source of payment to meet the demands arising from the various levels of the State. Financing Bills, which are issued to manage the National Treasury, are not counted as revenue, since Financing Bills are redeemed with the revenue of the same fiscal year.

Fig.2 Public Debts (Conceptual Diagram)



- Note 1: The highlighted area represents government debts.
- Note 2: In addition to these debts, there are government bonds that are held by the Bank of Japan as a means of open market operations.
- Note 3: The Government-Guaranteed Bonds issued by the Japan Finance Organization for Municipalities are issued only for refunding of Government-Guaranteed Bonds converted from the former Japan Finance Corporation for Municipal Enterprises.

Based on the above, the chart below provides an overview of various elements of public debt and lists the relevant reference points in this report.

Fig.3 Various Elements of Public Debts and Relevant Reference Points in This Report

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Box 1 JGB Yields

Japanese government bond is a bond the government issues by promising to pay a certain amount of money after a certain period of time. The MOF presets a coupon and maturity for a JGB issuance. While the JGB par value (an amount that a JGB holder will receive upon redemption) remains unchanged, a JGB price at which market participants buy fluctuates depending on the conditions, including supply and demand. For example, a JGB with a par value of 100 yen may be priced at 95 yen, below the par value, or at 105 yen, above the par value. JGB yield is an annual percentage rate of return on a JGB based on the purchase price.

In the case a market participant buys a JGB with the par value of 100 yen, for example, the investment return includes the following:

- (1) An annual interest income (an income gain represented by a coupon), and
- (2) A gap between the par value and the purchase price (capital gain or loss) that is annualized.

The JGB yield is represented by the following equation.

Fig. B1-1 Calculating yield

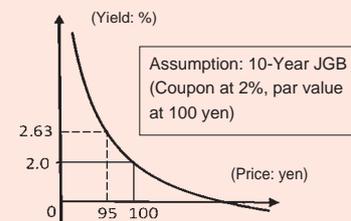
$$\text{Yield} = \frac{\text{(1) Annual interest income (yen)} + \frac{\text{(2) Par value (100 yen) - Purchase price (yen)}}{\text{Maturity (years)}}}{\text{Purchase price (yen)}} \times 100$$

(Yield to maturity, simple interest, before tax, %)

The annual interest income in (1) is fixed by the coupon determined upon issuance and will remain unchanged until redemption. However, the purchase price in (2) fluctuates depending on the purchase timing. Therefore, the JGB yield fluctuates. The graph on the right (Fig. B1-2) indicates the relationship between the JGB price and yield in the above equation for a 10-Year JGB that has a 2% coupon and a par value of 100 yen. As the purchase price falls (from 100 yen to 95 yen), the yield rises (from 2.0% to 2.63%). Conversely, as the price rises (from 95 yen to 100 yen), the yield declines (from 2.63% to 2.0%).

The figure below (Fig. B1-3) shows a cash flow indicating fund receipts and payments from purchasing to redemption for a 10-Year JGB that has a 2% coupon and a par value of 100 yen. If an investor buys the 10-Year JGB at a price of 95 yen and holds it until its redemption, for example, the investor will get a total investment return of 25 yen including the interest income of 20 yen and the gap of 5 yen between the par value and the purchase price. The annual yield (simple interest) comes to approx. 2.63% with the annual interest income of 2 yen and the annual capital gain of 0.5 yen.

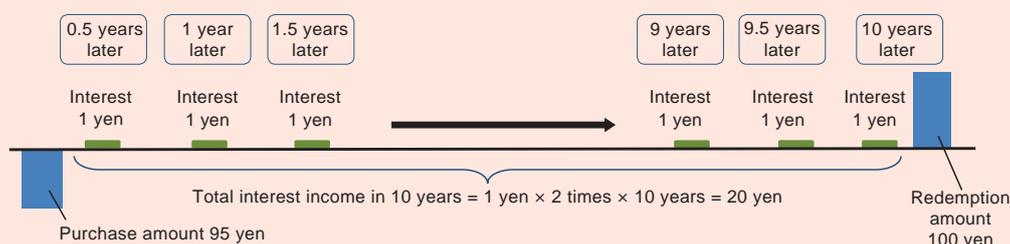
Fig. B1-2 Relationship between yield and price



Note: The figure is for illustrative purposes only.

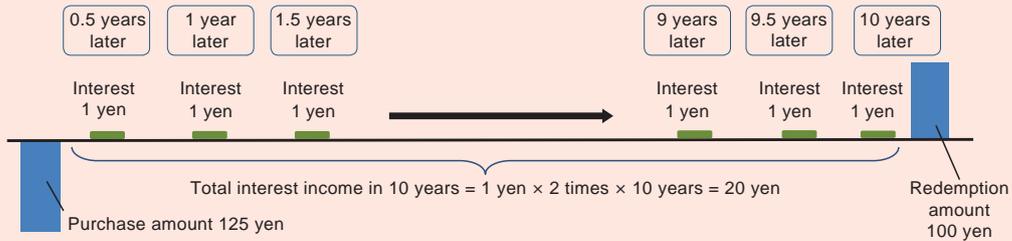
Fig. B1-3 Bond investment cash flow

(10-Year JGB priced at 95 yen that has a 2% coupon and a par value of 100 yen)



In recent years, JGB yields can be negative. If an investor buys a 10-Year JGB that has a 2% coupon and a par value of 100 yen at a price of 125 yen and holds it until its redemption, for example, the combination of an interest income (20 yen) and the gap (-25 yen) between the par value and the purchase price will bring about a loss (-5 yen) (Fig. B1-4). On an annual basis, the combination of an annual interest income (2 yen) and the annual capital loss (-2.5 yen) brings a yield (simple interest) of minus 0.40%.

Fig. B1-4 Bond investment cash flow
(10-Year JGB priced at 125 yen that has a 2% coupon and a par value of 100 yen)



If an investor buys a JGB with a negative yield and holds it until its redemption, a combination of the interest income and the redemption amount will slip below the purchase amount, bringing about a loss. If the investor can sell the JGB at a higher price than the purchase price before its redemption, however, the investor will eventually get a gain.

Besides the “simple interest” as described above, the yield may take the form of “compound interest” reflecting the reinvestment of the interest income.

Box 2 Demand for JGBs with negative yields

In recent years, JGB yields in the short- to medium-term zone can be negative. If an investor buys a JGB with a negative yield and holds it until its redemption, the combination of the interest income and the redemption amount will slip below the purchase amount, bringing about a loss.

If an investor who bought a JGB with a negative yield sells the JGB at a higher price than the purchase price before its redemption, however, the investor may earn a gain eventually. If the price of the JGB rises due to monetary policy measures, the so-called “flight to quality”, etc., for instance, the investor may earn a gain by selling the JGB at a higher price than the purchase price.

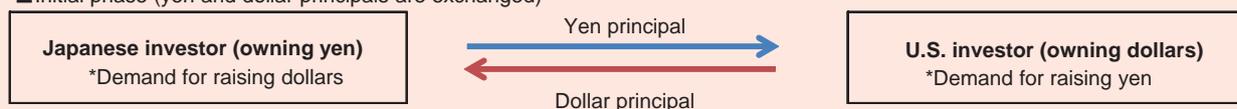
Financial institutions, when borrowing funds from the Bank of Japan (BOJ) or conducting foreign exchange and derivatives transactions with each other, may use JGBs as collateral. For instance, the BOJ has adopted JGBs as eligible collateral for operations to supply yen or dollar funds. JGBs are purchased to be used as collateral for such BOJ operations. Particularly since FY2020, the BOJ has introduced the “Special Funds-Supplying Operations to Facilitate Financing in Response to the Novel Coronavirus” to expand fund supply, that increased demand for JGBs as collateral.

In addition, investors with foreign currencies (mainly foreign investors) can earn gains by combining JGB purchases with currency basis swaps.

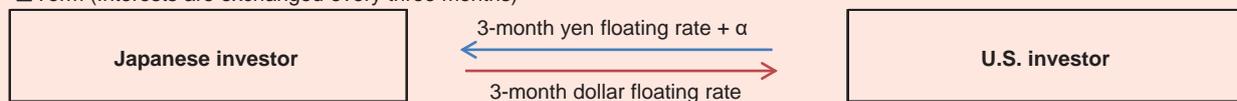
In a currency basis swap, principals in two different currencies are exchanged at a certain exchange rate for a certain period, during which floating interests for the currencies are exchanged. Fig. B2-1 below outlines a dollar-yen basis swap. In the figure, α is the so-called basis spread. The spread means a premium on a yen interest rate (annual rate) and fluctuates depending on supply and demand between the currencies. If demand is strong for raising yen even at the cost of an increase in yen interest payments, for instance, upward pressure is exerted on α . If demand is strong for raising dollars even at the cost of a decline in yen interest receipts, downward pressure is exerted on α . In recent years, because demand is strong for raising dollars, α has generally remained negative in all maturities of dollar yen basis swap, and this state of negative value for α is referred to as a “premium in dollar funding is occurring.”

Fig. B2-1 Scheme diagram of currency basis swap (dollar-yen basis swap)

■ Initial phase (yen and dollar principals are exchanged)



■ Term (Interests are exchanged every three months)



■ Maturity (Last interests payments and principals are exchanged)



Given that α for a 2-year transaction (a basis spread for a dollar-yen basis swap maturing in 2 years) stands at around minus 0.50% (50 basis points), for instance, the U.S. investor in Fig. B2-1, if using a 2-year dollar-yen basis swap, will receive a 3-month dollar floating rate every three months and pay a 3-month yen floating rate + (- 50 bp) over 2 years. The U.S. investor’s payment of interest equivalent to minus 50 bp means the receipt of interest equivalent to plus 50 bp. Given these interest rate levels, the receipt of interest equivalent to 50 bp allows the U.S. investor to earn a higher yield by swapping dollars for yen and investing in JGBs than by investing in U.S. Treasury securities.

(Fig. B2-2) Comparison between U.S. investors swapping dollars to yen and investing in JGBs and investing in U.S. Treasury securities (using a 2-year dollar-yen basis swap) (transactions in the mid-term portion of Fig. B2-1)

(1) 2-year dollar-yen basis swap + JGB (2-year) purchase



→ The U.S. investor earns an annual yield of **4.55%** ($= 4.00\% - (-0.10\% + (-0.50\%)) + (-0.05\%)$)

(2) 2-year U.S. Treasury purchase



→ The U.S. investor earns an annual yield of **4.20%**.

→ Comparison of (1) and (2) indicates a yield gap of **0.35%** ($= 4.55\% - 4.20\%$)

Fig. B2-2 compares U.S. investors swapping dollars for yen and investing in JGBs with investors investing in U.S. Treasury securities (Japanese and U.S. interest levels here are assumptions). If a U.S. investor swaps dollars for yen and invests in JGBs (combining a 2-year dollar-yen basis swap with the purchase of a 2-year JGB), the annual yield for the U.S. investor is simply calculated to be 4.55% (the 3-month dollar floating rate (4.00%) – (the 3-month yen floating rate (-0.10%) + α (-0.50%)) + the 2-year JGB (-0.05%)). If the investor invests in U.S. Treasury securities (purchase 2-year Treasury securities), the investor will receive an annual yield of 4.20% on the 2-year Treasury securities. By swapping dollars for yen and investing in JGBs, therefore, the U.S. investor will earn a yield that is 0.35% ($= 4.55\% - 4.20\%$) higher than the yield on investment in U.S. Treasuries.

(Note 1) Although the 3-month yen floating rate and the 3-month dollar floating rate in the descriptions above are assumed to remain unchanged, they actually change every three months.

(Note 2) Interest rate swap transactions for fixing the 3-month yen floating rate and the 3-month dollar floating rate are omitted here to simplify the explanation.