Minutes of the Advisory Council on Government Debt Management

(50th Round)

1. Date: Wednesday, June 12, 2019 (9:55 a.m. to 12:00 p.m.)

2. Place: Ministry of Finance Special Conference Room 3

3. List of proceedings

1. Follow-up review of discussions at the previous two council meetings
2. Trends in the debt management policies of major foreign countries
3. JGB market seen from the viewpoint of foreign investors

(1) Overseas IR activities

(2) The environment surrounding the JGB market

(Shimamoto Koji, Societe Generale Securities Japan Limited)

First, the Financial Bureau provided a follow-up review of the previous two council meetings (Document 1) and explained the trends in the debt management policies of major foreign countries (Document 2). After that, the members exchanged opinions freely.

➢ Below is a summary of the Financial Bureau’s presentation.

(Follow-up review of the previous two council meetings)

- At the previous council meeting, it was pointed out that “while the future transition of investors’ demands for JGBs for each sector has already been discussed, it is also important to conduct risk analysis and cost validation for implementation of stable and smooth issuance of JGBs.”
- To accomplish the mission of government bond issuance authorities, which is "minimizing medium- to long-term fundraising costs,” it is important to issue

government bonds while ensuring the right cost-risk balance. Therefore, the issuance authorities of Japan and other countries are analyzing cost and risk by using various techniques.

- Japan conducts simulations of future interest rate movements by using the stochastic interest rate model in its cost-at-risk analysis and measures changes in interest payment cost due to interest rate movements, and the results of the analysis are used for internal deliberation on the JGB Issuance Plan. The analysis period is set at 10 years, and the cost is evaluated as the average ratio of interest payment to general-account expenditure during the period. Regarding the risk, the difference between the average value and the value at a confidence level of 99%, which represents the degree of upward deviation of the ratio of interest payment from the average at the time of the occurrence of tail risk, is used as an indicator.
- For example, as a result of the analysis, it was found that there is a trade-off between cost and risk: if the average maturity is lengthened through an increase in the share of 20-year Bonds in the JGB Issuance Plan for FY2018, the risk decreases but the cost increases, whereas if the average maturity is shortened through an increase in the share of 5-Year Bonds, the cost decreases but the risk increases.
- When cost and risks were evaluated under this framework based on the assumption that shares under JGB issuance plans in the past six years remained unchanged, the average maturity lengthened from 7.8 years in FY2014 to 8.8 years in FY2016. As a result, while the cost increased, the risk decreased. On the other hand, from FY2017 onward, the average maturity remained little changed, at around 9 years, so the cost-risk balance did not change much.

- Next, the U.S. Treasury Borrowing Advisory Committee (TBAC) uses the macro-econometric model in its analysis and conducts simulations of economic variables and yield curves over a 20-year period. In the analysis, the cost is evaluated as the average debt-to-GDP ratio, while the risk is analyzed as two indicators—the standard deviation of the debt-to-GDP ratio and the standard deviation of the budget balance-to-GDP. This approach is based on the idea that analyzing risk from the viewpoint of the budget balance is meaningful because even if the debt grows due to the rise of an interest rate associated with an economic expansion, the budget balance may improve

due to a revenue increase.

- Under the U.S. model, if financing is implemented through a single maturity, the cost does not grow much in the case of 3-year or shorter bonds, whereas the cost grows significantly in the case of 7-year or longer bonds. In the event of such a great shock as to cause a steep interest rate rise, the risk grows if 10-year or longer bonds are used for financing because the term premium is highly volatile in the long-term zone, according to the analysis results. In particular, the analysis results show that if the risk is evaluated as the standard deviation of the budget balance-to-GDP, financing through shorter maturities is more advantageous due to the effects of the Fed's interest rate reduction.

- In the case of financing with a fixed share for each maturity in the total issuance amount for 20 years, the cost decreases but the risk grows if the shares of short- and medium-term bonds are larger than the current shares. On the other hand, if the share of long-term bonds is larger, the risk does not decrease whereas the cost increases. If a certain assumption is set for the issuance authority's risk tolerance level, the optimum maturity composition can be obtained, according to the analysis results. If a certain degree of risk is to be averted, it is appropriate to shorten the average maturity somewhat compared with the current average.

- According to the analysis results, when the risk is evaluated as the standard deviation of the debt-to-GDP ratio, varying the shares of maturities in the total issuance amount in accordance with the economic situation is more advantageous than fixing the shares.

- When the extension of the average maturity conducted between 2007 and 2015 is evaluated from the viewpoint of the cost-risk balance, the analysis results show that the cost increased slightly while the risk, particularly the standard deviation of the debt-to-GDP ratio, decreased steeply. Therefore, we may say that the extension of the average maturity had some positive effects. However, extending the average maturity further will increase the cost but have little effect in minimizing the risk, according to the analysis results.

- At the council meeting in October last year, regarding the JGB Issuance Plan, we compared the initial estimates with the actual results in the three years from FY2015 to FY2017 and analyzed the factors behind the increase in front-loading Refunding

Bonds. The projections of the results in FY2018 have been recently issued. Under the JGB Issuance Plan for FY2018, the adjustment issuance between fiscal years is 1.4 trillion yen, and the amount of front-loading issuance of Refunding Bonds was initially assumed to be reduced by 1.4 trillion yen due to year-to-year adjustment. However, because of a higher-than-expected excess revenue due to JGB sales to individuals and over-par issuance and other factors, the amount of front-loading issuance of Refunding Bonds at the end of FY2018 was 52.5 trillion yen, an increase of approximately 3 trillion yen from the end of the previous fiscal year.

- It is necessary to continue efforts to improve the accuracy of estimates and to reduce the front-loading Refunding Bonds through such measures as holding down calendar-based market issuance.

(Trends in the debt management policies of major foreign countries)

- Regarding the extension of the average maturity, most countries have extended it since the latter half of the 2000s. This trend seems to subside recently.
- The United States has indicated a policy of increasing the issuance amount, mainly of medium-term bonds, and of stabilizing the average maturity at the current level. This policy is in line with the results of cost-risk analysis in Document 1.

- There is a consensus among the issuance authorities that it is necessary to secure transparency and predictability for government bond issuance. However, concrete policies differ significantly from country to country as to specifics such as how much disclosure should be made regarding the issuance amount for each maturity, how much flexibility for revision should be allowed in response to changes in the market environment or fiscal needs, and so on.

- In the United States, “regular and predictable” issuance has been proclaimed as a basic objective of debt management. The issuance plan is formulated every three months based on the projection of government’s borrowing needs at the time, the cash balance of the national treasury at the end of the quarter, and the amount of government bond redemptions.

- In the United Kingdom, the issuance plan is formulated once each year, but the plan is reviewed in April, when the actual amount of funds needed in the previous fiscal year is published, and in November, when the economic and fiscal projections for the current year are announced. Under the issuance plan, the issuance amount for each maturity is not indicated, unlike in Japan, while the total amount for each zone such as the short-term, the medium-term and the long-term and for the Inflation-Indexed bonds is published.

- The arrangement in Germany is relatively similar to the one in Japan, as the issuance amount and schedule for each maturity are indicated under the issuance plan. However, the plan is reviewed quarterly and may be revised if necessary in light of the government's financing needs and the market conditions.

- In France, the issuance plan is published in December, followed by a review in September based on the projection for the budget balance in the current year. Under the issuance plan, only the total amount for medium-to-long term bonds is indicated. The total amounts for sets of multiple maturities are indicated immediately before the issuance, while the issuance amount for each maturity is determined in light of the bids from auction participants, which means that there is ample room for discretion on the part of the issuance authorities.

- As has been explained, how to strike a balance between predictability, transparency and flexibility differs significantly from country to country. In Japan, as the JGB issuance amount is large relative to the scales of the bond market and the economy, strong emphasis is placed on securing predictability for market participants compared with the situations in other countries.

- Let me cite a working paper issued by the OECD in November last year, which summarizes the results of a survey concerning the liquidity buffer (liquid assets owned by debt management authorities as reserves to prepare for unforeseen events

related to debt management and financing).

- According to the OECD, 29 of the 35 countries surveyed have a liquidity buffer, and many countries have built up their buffer through “over borrowing” in excess of their fiscal needs.
- Although the level of the liquidity buffer in each country is not disclosed in the working paper, “the needs inherently differ for countries with mature markets and for countries with somewhat constrained market conditions” and the most common practice is to keep a buffer level sufficient to cover budget expenditures for one month, according to the OECD’s analysis. In the example cases of Denmark and Portugal that are cited in the working paper, the level of the liquidity buffer corresponds to 4-5% of GDP in Denmark and 40% of the gross borrowing needs of the following 12 months in Portugal.

➢ Views expressed by the members have been summarized (by the Financial Bureau) below.

- Regarding cost-at-risk analysis, financial institutions also conduct risk management based on earning-at-risk analysis, which analyzes the risk-return relationship. By sharing analysis results, the issuance authorities and financial institutions may be able to better clarify the risk balance in the entire market.
- The risk-cost balance would be totally different between the current situation in which the ultra-low-interest environment will structurally continue and the future situation in which interest rates will rise steeply. It may become possible to manage JGB issuance in a more stable and flexible manner if you examine what the balance will be like under various scenarios while conducting quantitative analysis and discuss the maturity mix based on the analysis results.

- The cost-at-risk analysis could show quite different results for the easing and tightening phases of monetary policy, so it is essential to take into consideration possible changes in monetary policy when conducting the analysis.

- Your cost-at-risk apparently does not take into consideration yield curve changes that may be caused by changes in the average maturity. However, unlike the United States, whose government bonds are in robust demand because the U.S. dollar is the key global currency, other countries may need to consider the impact that changes in the supply-demand balance for government bonds may have on interest rates.

- At present, under the Yield Curve Control policy, the market environment is such that we may describe it as a “fixed-rate market” situation. When the market returns to the former “floating-rate” market situation, discontinuous movements are likely to arise. It is important to consider how to adapt to a possible drastic regime change.
- Interest rates seem to have been in the structural declining phase for four decades globally, and in this situation, it may be necessary to come up with new ideas when discussing the maturity mix including super long-term bonds.

- According to the document, in the effort to extend the maturity in recent years, Japan is preparing for tail risk worth 158.6 billion yen at a cost of 78.8 billion yen. It is necessary to consider whether the cost is commensurate with the risk.
- An opinion based on the premise that ultra-low interest rates will continue was expressed, but it should be kept in mind that the level of global interest rates may rise in the future if China’s current account balance turns to a deficit.

- The U.S. TBAC’s recommendation that the issuance amount should be increased, mainly for medium-term bonds, may be intended as a counterargument against the argument for the issuance of 50-year bonds that was made immediately after the change of government. In that sense, it may be better to discount the importance of that recommendation.
- Unlike the United States, which can consider the issuance plan only from the viewpoint of financing because the Department of Treasury does not have budgetary authority, or Europe, which is affected by the EU’s fiscal discipline, Japan may have a substantial degree of freedom with respect to debt management policy and have abundant expert knowledge accordingly.

- If we are to conduct analysis based on the interest rate level in recent years, interest rates around zero have to be used as the basis. Therefore, when conducting medium- and long-term analysis, it is also necessary to use interest rates of 30-year to 50-year bonds as the basis of analysis.

- TBAC's analysis is very interesting in that it integrates macro variables into the model and examines their effects on the term premium, the budget balance, volatility and so on. As the new Reiwa Era has begun, it is desirable for Japan to conduct more in-depth risk-cost analysis.

- It is useful to analyze how the risk-cost balance may be affected by practices unique to Japan, such as distinguishing Refunding Bonds from other bonds and adopting the Redemption System and the 60-year redemption rule, and what the practices in other countries are like.

- If future forecasts are integrated into analysis, the validity of the forecasts could become a source of controversy. Therefore, it is important and meaningful for improving accountability that the risk-cost balance has been indicated quantitatively based on objective data.
- Besides examining the short-term scenario that the financial market has become uncertain, it is also important to conduct simulations taking into consideration multiple factors, such as future changes in monetary and other policies and changes in the JGB holders due to demographic changes.

- Next, the Financial Bureau explained overseas IR activities related to JGBs (Document 3), followed by explanations of the environment surrounding the JGB market by Mr. Shimamoto Koji from Societe Generale Securities Japan Limited (Document 4). After that, the members exchanged opinions freely.

➢ Below is a summary of the Financial Bureau's presentation.

- Regarding overseas Investor Relations (IR) activities, we have to continue the efforts from the viewpoint of the secure and smooth issuance of JGBs and the stability of the JGB market, which will encourage investors with diverse needs to own JGBs.

- The ratio of JGB holdings by foreign investors (on a stock basis) is gradually rising, reaching around 12% at the end of last year. In the secondary JGB market, foreign investors have a strong presence, with shares of slightly over 30% regarding spot trading and of slightly over 60% regarding futures trading. As for monthly trading volume, foreign investors have recorded net purchases in a very large number of months, and their trading value is large compared with that of banks and life insurance companies.

- The ratio of overall JGBs owned by foreign investors (at the end of last year) was around 12%, but the T-Bill ownership by foreign investors was higher than 70%. As the reason for that, trading utilizing dollar-yen basis swaps has been pointed out.
- A regional breakdown of yen bonds owned by foreign investors, including non-government bonds, shows that the ratio of investors in Europe and North America is rising.
- As the presence of foreign investors is growing as shown by those data, it will continue to be important to provide them with accurate and timely information on JGBs and the Japanese economy.

- Regarding IR activities targeting at foreign investors, we visited 19 countries in FY2018 and held interviews with 139 investors. We also held direct talks with debt management authorities and made lectures at seminars for invited by foreign investors.
- In order to conduct overseas IR activities more effectively and efficiently, we are implementing the PDCA (Plan-Do-Check-Act) cycle.

- Concerning investment trends identified through overseas IR activities in FY2018, while the investment stance varies from investor to investor, there are some major trends, such as making indexed investment for the purpose of risk diversification, investing in short-term bonds using dollar-yen basis swaps, and owning government bonds as a way to adapt to liquidity regulation.

- As for indexed investment, many investors are underweight in terms of government bonds relative to the benchmark. Amid the increasing investment in bonds against the backdrop of global economic uncertainties, some investors are purchasing JGBs, mainly in the long-term zone.

- Regarding investment in short-term bonds by using currency swaps, some investors use euro-yen basis swaps.

- In addition to holding interviews with foreign investors, we attended various international conferences in FY2018 and explained Japan's debt management policy.

- Finally, as to how we will conduct overseas IR activities in the future, we would like to establish close and lasting relationships with foreign investors, focusing mainly on those who are expected to continuously invest in and stably hold JGBs for a long term. At the same time, we will attempt to contact asset-management companies, etc. regularly irrespective of their present JGB investment positions. In addition, we will continue efforts to enhance relations with debt management authorities and international organizations.

➢ Views expressed by the members have been summarized (by the Financial Bureau) below.

- In response to the difficult investment situation around the world, demand for Japanese securities is increasing. Although demand for Japanese bonds previously concentrated on short-term bonds, the needs for long-term bonds have also increased recently.

- While JGBs appear to be attractive in the eyes of foreign investors due to the widening of the spread in basis swaps, Japanese industrial companies and financial institutions are paying a heavy cost when investing abroad. In that sense, active investment in JGBs by foreign investors is assisting Japanese companies through a decline in the cost of dollar-based financing.
- One of the reasons why the share of foreign investors in the JGB futures market is increasing is an increase in HFT (high-frequency trading). Although there is flash crash risk, attracting investors with various values into the market is important. So, it is necessary to improve the market environment for spot trading.

- We have the sense that Japan's stock market has become very sensitive to the influence of foreign investors because the ratio of stocks owned by foreign investors has surpassed 30%. In that sense, 30% may be a benchmark above which the JGB market's stability could be lost.
- Japan has been able to maintain its sovereign credit rating because of its current account surplus, political stability and affordability of policy options as exemplified by the control over expenditure and the room for tax increase.
- Although the interest rate has not changed much, the structure of fiscal method, the current account balance and the demographics of the population have been changing. Therefore, it is necessary to pay close attention to those points when discussing debt management policy in the future.

- While domestic investors' activities are weakening, foreign investors' presence in the market is growing. Therefore, it is becoming more and more important to analyze trends concerning foreign investors. The current market environment is favorable for increasing in the ratio of JGBs owned by foreign investors, so it is important to provide information to foreign investors through IR activities.

- From the viewpoint of stable and smooth issuance, it is more important to approach investors who intend to hold JGBs over the long term than to try to capture demand from investors purchasing JGBs by utilizing basis swaps.

- In the current market, the interest rates of bonds whose maturities are shorter than 10 years almost unchanged. If this environment continues, we are worried that the market functions may be destroyed. Even though you may try to minimize cost by shortening the average maturity, the cost could end up rising if the market functions are undermined by that effort.

- Foreign investors are investing in JGBs not necessarily because they find JGBs attractive. In many cases, foreign investors purchase JGBs for the purpose of investing yen funds that they obtained as counterparties to currency-hedged investments made by Japanese investors. It is doubtful whether we can call investors investing in JGBs for that purpose as “end investors” in the primary sense of the term. Such investors may unwind their positions instantly when it becomes difficult to obtain excess returns through swaps.
- Foreign investors’ recent investments are linked to the Bank of Japan’s current monetary policy in a sense. Therefore, it is necessary to keep in mind the possibility that the amount of JGBs owned by foreign investors may decrease when the BOJ changes the monetary policy.
- As the amount of JGBs owned by individual investors is increasing little, it is important to make an appeal for investment by individual investors from the viewpoint of diversifying JGB investors.

- Because of the low-interest-rate environment around the world, investment appetite for risk-free assets is weakening, with investment money flowing to the credit market, stocks, and private assets. If the markets for these assets start to stumble for some reason or other, that could have a negative economic impact. In that case, there is little room for monetary easing by central banks, and the expectations for fiscal policy are likely to be enhanced. It is necessary to consider debt management policy with a situation like that in mind.

- According to the presentation, the ratio of JGBs held by foreign investors is rising, with the ratio of foreign T-Bills holders reaching 70%. In addition to that, the amount of long-term bonds owned by foreign investors is also increasing substantially.

Although the impact of basis swaps is large, the impact of the flattening of the yield curve of U.S. Treasury bonds has been greater recently.

- It is exactly when we are in a market environment like this that attracting foreign investors by maintaining and enhancing market liquidity and by improving the market infrastructure is necessary.