

Topic Measures to Maintain JGB Market Stability

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Issues for discussion

- (1) JGB market stability: contributing factors and outlook
- (2) JGB ownership structure stability: contributing factors

- and outlook
- (3) Views on policy response

Summary of comments

Introduction

Inoue <Organizer>:

• Today I would like to discuss the maintenance of stability of the market for Japanese government bonds, focusing on market factors and the ownership structure, and to highlight several points regarding policy responses. A number of perspectives will be particularly important, in my view. First is financial system stability. Inasmuch as government bonds are key assets for financial institutions and institutional investors, a stable government bond market is an essential component of a stable financial system. Second, we need to consider ways of sustaining market stability over the longer term. To the extent that the factors that have helped ensure a stable JGB market in the past are expected to work for now, we should use that time to consider a longer-term policy response. Third, we should discuss these issues from a viewpoint of optimal mix of monetary and macro-prudential policy needed to maintain financial stability. Given the government's apparent commitment to real fiscal consolidation going forward, the decision of which roles to assign to which policy tools will become increasingly important.

1. JGB market stability: contributing factors and outlook

Mr. Takata :

• In a book titled JGB Crash, published about 10 years ago, I argued that concerns about a crash in Japanese government bonds were little more than people crying wolf. That may be no longer the case, however. The risk premium, which we can estimate as the JGB yield less adjustment factors for CPI

inflation, the potential growth rate, and the gap between banks' loans and deposits, has increased sharply since 2009 Q3. Although interest rate levels appeared stable during this period, the risk premium suggests they have actually begun to price in the risk of rising fiscal outlays.

- Of course Japan's current account surplus sets it apart from the PIIGS of Europe. Since the previous financial crisis, Japanese banks' loan-to-deposit ratios have declined, with the surplus funds used to purchase government debt. The maintenance of a de facto zero-interest-rate policy has also provided key support for the funding of growing fiscal expenditures. Possible changes going forward include (1) the flight of capital overseas (although views regarding the likelihood of this scenario differ widely) and (2) a collective move by financial institutions—which own the majority of outstanding JGBs—to reduce their holdings, as happened during the 2003 VaR shock. Longer-term issues include the falling savings rate and the question of whether the economy's potential growth rate—and with it government tax revenues—can be sustained.
- Yesterday I returned from a trip to the Middle East. Many of the people I spoke with wanted to know whether the Japanese government was capable of meaningful deficit-reduction efforts and what sorts of measures would be needed if it became difficult for the domestic bond market to continue absorbing increasing JGB issuance. The fact that there has not been a crash in the JGB market is very

significant, in my view, and I would like to stress the importance of maintaining this state of affairs.

Mr. Fukuda :

- Japan's fiscal deficits have increased substantially as a result of the massive fiscal outlays undertaken in the 1990s in response to the crisis. When prefectural government debt is included, Japan's national debt amounts to some 200% of GDP on a gross basis, more than any other developed nation. Even on a net basis it stands at roughly 100% of GDP. The fact that JGB yields have remained stable despite this high level of indebtedness is a subject of much research in the field of economics. Hypotheses proposed to explain this situation include strong expectations of low interest rates and deflation, the ample room that exists for tax hikes, including the consumption tax, and the presence of incentives for financial institutions to purchase government bonds.
- Another equally important factor is the major shift in key macroeconomic balances. Japan's savings rate has fallen precipitously and is now lower than in the US. Household sector savings have declined sharply while corporate sector savings have increased. The drop in household savings is largely attributable to higher consumption by senior citizens, and the savings rate will continue to decline as baby boomers grow older. Businesses have also cut back on borrowing as the expected growth rate falls and have limited their capital investments to what can be covered by retained earnings and depreciation expense. In spite of quantitative easing and other efforts by the BOJ, bank lending has continued to contract, leaving financial institutions holding large quantities of JGBs. Addressing these problems will require more than simple deficit-reduction efforts. Instead, changes in the economic structure are needed to restore sound money flows. Setting aside the issue of the declining savings rate brought about by the aging population, it is essential that Japan (1) encourage capital investment by boosting growth expectations and (2) reconsider the maintenance of zero-interest-rate policy.
- Academic economists can be divided into two camps based on their support for the Ricardian Equivalence, which claims that consumption and interest rates are unaffected by fiscal deficits. Those supporting this hypothesis believe that fiscal deficits will be paid back with future tax revenues. A "Ricardian" response is possible in Japan given that a 10ppt increase in the consumption tax would boost annual revenues by an estimated ¥30trn. Under that scenario, the yen exchange rate would tend to increase as domestic savings would be used to reduce the deficit and foreign investment would decrease. Such a response would be difficult in Greece, however, and a partial cancellation of debt is more likely. The value of the national debt can ordinarily be reduced by devaluing the currency, but that option is not available there.

Mr. Takata :

- We could see capital flight and a "Non-Ricardian" outcome if an absence of suitable domestic investments prompted Japanese investors to take more of their money overseas. The resulting depreciation of the yen would probably reduce the real value of the national debt. But it would be interesting to see how persistent expectations of a stronger yen, which reflect long years of yen strength, might change. There are also powerful expectations that interest rates will remain low. But in the event that serious expectations of higher interest rates were to emerge, as happened in 2003, JGB market stability would face a major test given the ongoing structural changes in the macro economy and the financial system.

Mr. Uchida :

- The savings rate is influenced by two main factors: disposable income and demographics. The decline in Japan's savings rate is attributable largely to the latter. The savings rate of workers below the age of 60 exceeds 20%, but the rate for those 60 and older is less than -20% and continues to decline, in part because of the substantial financial assets they own. With individuals aged 60 and older projected to account for 45% of all households in 2015, up from 35% today, I believe a substantial decline in the savings rate is inevitable.

2. JGB ownership structure stability: contributing factors and outlook

Mr. Uchida :

- Ninety-five percent of outstanding JGBs are held by domestic investors. Even in Germany, with its relatively sound public finances, foreign investors own some 30% of outstanding government debt. The excess of deposits over loans at Japanese financial institutions amounts to a cumulative ¥150trn over the past ten years, most of which was earmarked for the purchase of JGBs. From a macroeconomic standpoint, the household sector has more assets than liabilities and has supported the excess of liabilities over assets in the government and corporate sectors. The fact that corporate liabilities have declined since 2000, at a time when the aggregate assets and aggregate liabilities were largely unchanged, contributed to the stable absorption of government debt emissions. Japan Post Bank substantially increased its holdings of JGBs starting in 2000. This was the result of reforms that channeled FILP funds into the JGB market. By maturity, city banks own a comparatively large percentage of short-and intermediate-term bonds, whereas Japan Post Bank and institutional investors own a relatively large portion of long-term JGBs.
- Interest rate risk is central to the stability of the ownership structure. The VaR shock erupted when a sharp rise in long-term interest rates forced financial institutions to cut

losses on their bond portfolios. Today there is a substantial accumulation of “magma” below the surface of the market, and the BPV of financial institutions’ JGB holdings has increased from ¥230bn in 2005 to ¥350bn. If the large banks continue to increase their JGB holdings at the current pace, their interest rate risk is likely to exceed the BIS outlier criterion.

- In the longer term, effective government revenues are likely to total about ¥52trn, including ¥48trn in tax revenues and additional revenues from hidden reserves. Government expenditures, on the other hand, will continue to increase as the DPJ implements its “manifesto” and the aging population lifts social security expenditures by about ¥1trn a year. The national debt will therefore increase from more than ¥630trn in FY10 to more than ¥1,100trn in 2020. Even if the consumption tax rate is raised to 10%, the national debt would amount to almost ¥1,000trn in 2020. I expect the nation’s savings rate to continue declining and reach zero around 2015. The household sector’s net financial assets will trend sideways at best, and the corporate sector may turn net investor if the economy recovers. I therefore expect JGB absorption by foreign investors to start increasing around 2015 even if the consumption tax rate is raised to 10%. Increased debt purchases by foreigners will also raise the risk of downgrades. Three conditions are needed for Japan to maintain its current rating: (1) the continued ability of the government to engage in fiscal consolidation, (2) the suppression of interest expense via low interest rates, and (3) steady absorption of debt by domestic investors. The second and third conditions will no longer hold in 2015. To avoid the scenario of a sovereign downgrade, the government needs to establish fiscal rules, including restrictions on total debt, and put in place a PDCA (plan-do-check-act) cycle.

Ms. Nemoto :

- Since the bubble collapsed, financial institutions have steadily increased their holdings of JGBs in spite of extremely low interest rates. This is because the risk premium on loans and equity investments increased substantially, leaving JGBs an attractive investment when viewed in terms of risk-adjusted return. When the risk-adjusted return on loans began to improve around 2005 as the nation emerged from the previous financial crisis, Japan Post Bank stepped in for banks and sharply increased its holdings of JGBs with proceeds from the repayment of FILP funds. This led to continued stable absorption of JGBs. Also helping was the government’s issuance of JGBs for retail investors and the adoption of mark-to-market accounting for liabilities, which forced insurers to take measures to reduce the maturity gap on outstanding life insurance policies.
- In the short term, a major shift in financial institutions’

purchases of JGBs is unlikely. JGB yields may rise if an economic recovery boosts loan demand or if an easing of the uncertainty surrounding financial regulation prompts a recovery in risk appetite. Yields rose 140bp during the so-called Trust Fund Bureau shock of 1998 and 110bp during the VaR shock of 2003. However, a repeat performance is unlikely. Both of these events happened in response to a shift in policy expectations. Today, in contrast, both the government and the BOJ are carefully administering policy based on a steady dialogue with the markets. Given the lessons learned from the VaR shock, I also think financial institutions will do everything they can to avoid a situation in which market functions are impaired by risk management problems at individual institutions.

- That said, the amount of JGBs held by financial institutions continues to increase. A 100bp rise in interest rates would lead to valuation losses totaling some ¥2trn at the large banks (roughly half of net operating profits) and about ¥1.6trn at the regional banks (almost a full year of net operating profits). Regional lenders in particular have been forced to take on interest rate risk to secure profits at a time of diminishing lending opportunities, increasing the duration of their JGB portfolios. Some banks are working to lower estimated interest rate risk by reexamining the interest rate sensitivity of core deposits. However, it is unclear how core deposits would respond to an increase in interest rates, and there are many cases of institutions having underestimated interest rate risk or experienced substantial future fluctuations. While I do not think the stability of the JGB market will be compromised, the impact if it were would be significant.

Mr. Uchida :

- Public entities like Japan Post Bank have two key roles: direct ownership of JGBs and the shifting of funds between the postal savings system and bank deposits. The transfer of funds from FILP to JGB holdings is winding down. Looking ahead, an increase in the limit on postal savings accounts would probably boost Japan Post Bank’s JGB holdings. But if it also prompted a shift out of bank deposits, financial institutions would have a correspondingly smaller need to hold JGBs. That would probably focus attention on the implications for short- and medium-term JGBs. Based on the estimates noted above, a 100bp increase in interest rates would lead to valuation losses totaling some ¥33trn at Japanese financial institutions, of which banks would account for only about ¥6trn. The majority of the remaining losses would accrue to institutional investors and government-affiliated financial institutions, including Japan Post Bank, which has a large portfolio of long-term JGBs. This point is important to keep in mind when considering the impact of a rise in interest rates.

Ms. Nemoto :

- As the transfer of funds from FILP deposits by Japan Post Bank to JGB holdings winds down, there is growing uncertainty regarding the market's ability to continue absorbing JGB issuance. Meanwhile, the government still has an equity stake in Japan Post Bank, and an increase in the limit on deposits would help ease such concerns. I think expanding the scale of Japan Post Bank's operations would not only weaken the government's fiscal discipline but also add to the bank's interest rate risk. And an increase in unrealized losses could adversely affect the creditworthiness of the Japanese government itself.

Mr. Takata :

- Assuming that the BOJ keeps interest rates low, the government could maintain steady absorption of JGB while reining in interest expense by issuing more short-term debt and reissuing floating-rate debt. The MOF has been issuing floating-rate JGBs since 2003, but the question of what types of bonds to use—including index-linked bonds—will be an important one given the impairment of market functions in the current crisis. In the event that interest rates turn higher, the BOJ will need to go beyond a simple exit strategy from narrowly defined monetary accommodation and begin making policy decisions that take into account government debt management policies, including JGB purchases and the so-called time commitment.
- Following the VaR shock in 2003, JGB market stability was restored despite expectations of higher interest rates largely because Japan Post Bank began buying more government debt and institutional investors purchased longer-term JGBs in a bid to match the durations of their assets and liabilities. If this process is largely complete, it begs the question of what factors might help stabilize the market the next time interest rates head higher.

Mr. Fukuda :

- In the short term, a sharp increase in JGB yields would demand some kind of response from the BOJ. In the longer term, it is essential that the government present a vision for fiscal consolidation. Government debt management policies only treat the symptoms and can invite the kind of moral hazard on fiscal discipline noted by Ms. Nemoto. At a time when many of the structural factors that have traditionally helped stabilize the JGB market are changing, I worry that, unless the government implements structural fiscal measures, Japan could face problems much worse than a short-term rise in interest rates.

Mr. Kato :

- If the market is thrown into turmoil, it would make sense for the BOJ to purchase JGBs in an attempt to stabilize it. But when the IMF or World Bank carries out economic programs in

emerging economies, they instruct local authorities to enhance the central bank's independence and not force it to finance government deficits. In the debate surrounding regulatory reforms in the US, the question of whether to strengthen oversight over Fed monetary policy was a key topic of discussion. Both the Fed and the Treasury Department argued that doubts about the central bank's independence could lead to an increase in Treasury yields and the risk of inflation. It might be difficult to justify such arguments in Japan given the broad deflationary trend in place. In the longer term, however, I think this is an important point when considering BOJ purchases of JGBs.

Mr. Uchida :

- In the event that economic ties between Asian nations grow stronger and a common currency such as the ACU eventually emerges, I think Japanese government bonds, which could have a good reputation within the region, could serve as an underlying asset. If we assume that the dollar's substitute in the future—not just in Asia but in economies around the world—will be a basket of currencies, JGBs could also function as an underlying asset in that basket. I think the government needs to present a longer-term strategy for fiscal consolidation and enhance JGB market functions.

3. Views on policy response**Inoue (Organizer) :**

- Finally, I would like to discuss the policy responses that could help maintain a stable market for JGBs. The first step, of course, is to repair the nation's finances. But today I would like to focus on the policies that could play a mutually complementary role from the standpoint of the financial system. Even if we limit ourselves to this kind of perspective, there are many issues to be discussed. Given the characteristics of Japan's financial economy noted in our discussions, the following points are particularly interesting. First, what kinds of early warning signals might alert us to a change in the JGB market? Second, what approach should be taken regarding macro-prudential policy given the large holdings of JGBs by Japanese financial institutions? Third, what role should BOJ purchases of JGBs play in terms of maintaining a stable market for JGBs?

Mr. Yanagawa :

- One of my university seminars uses Professor Tirole's book on the Asian currency crisis as a textbook. Recent developments in the financial markets have increasingly diverged from the events described in the book. It has become more difficult for policy authorities to control the markets, which seek to anticipate the future based on market participants' expectations, and market interest rates are pricing in sovereign default risk long before an actual default. As forecasts themselves grow increasingly unstable, the

markets are experiencing sharp directional moves unrelated to the fundamentals. That in itself can trigger shocks.

- As for an early warning of changes in the JGB market, ultimately we need dialogue with the markets and increased trust between the authorities and market participants. Appropriate disclosure by the authorities is important to prevent the destabilization of market forecasts. Otherwise, early warnings themselves can trigger shocks. In the recent case of Greece, the downgrades of Greek debt occurred when the market had already been destabilized, sending a major shock throughout European markets. Of course there is a dilemma here: a warning is not a warning unless it delivers a certain shock. For an early warning to function properly, therefore, it is important to enhance the transparency of policy administration before market forecasts become destabilized. Continued macroeconomic stability is a critical precondition.
- Achieving financial stability itself does not solve the problem of government debt issuance. In fact, a stable financial system can often impede fiscal consolidation efforts by creating the perception that increased debt will somehow be absorbed by the market. It is easy to tell when the waves have grown larger when traveling in a small boat, but in a larger, more stable vessel changes in ocean conditions are easier to overlook, and passengers can miss the warnings of a large, potentially boat-threatening wave. Achieving an ideal mix of fiscal and financial system policy is not easy.

Mr. Watanabe :

- Fiscal deficits lie at the core of the Greek crisis, but problems regarding credit assessment exacerbated the crisis. Estimates of default risk embedded in sovereign CDS and credit ratings are characterized by the same problems as during the crisis. Because such credit events are extremely rare, estimates of their probability tend to be easily influenced by arbitrary factors and instability. For this reason, the EU nations are moving to strengthen rating agency oversight by (1) requiring rating agencies to register with governments and provide increased disclosure; and (2) seeking the registration of CDS transaction data. I myself am in favor of increased monitoring of the rating agencies, but achieving a balance is important, as excessive regulation would make it difficult to use CDS as a tool for managing credit risk.
- While there is not a great deal of academic research regarding sovereign CDS, a paper published in the Bank of Japan Review Series in April (Shino & Takahashi (2010), “Sovereign Credit Default Swaps: Market Developments and Factors Behind Price Changes”) suggests that CDS premia in Europe’s problem nations are strongly correlated with fiscal deficits, whereas no clear correlation can be observed in Japan, the US, or the UK. The more serious the problems in Europe become, of course, the stronger the global correlation

that will be observed in the form of rising sovereign CDS premia (including Japan), etc. Although the overall market for sovereign CDS is growing, its share as a percentage of the cash market remains extremely small in Japan and the US.

- Fiscal deficits are also the central problem for JGBs. However, I do not expect the problems to boil over immediately, as they have in Greece. From a financial system standpoint, though, the response to shocks tends to be one-sided inasmuch as the majority of JGBs are held by financial institutions. One way for macro-prudential policy to address this issue would be for supervisory authorities and the central bank to compile information about JGB portfolios through inspections of financial institutions, perform stress tests based on these data, and require corrective action if warranted. Careful inspection of distortions in term premia in the JGB market could also provide useful information for measuring interest rate risk. And of course it is important to take market characteristics into account when monitoring sovereign CDS premia.

Mr. Kato :

- In 2005 the BOJ’s JGB holdings came close to the value of outstanding banknotes. The gap between these two then widened through 2008 as the maturity of JGBs purchased by the BOJ shortened. Since March 2009 the BOJ’s holdings have resumed growing as changes in its purchase method led to increased buying of long-term JGBs. The “Banknote Rule” was introduced in March 2001. Under ordinary circumstances, it is a reasonable approach to managing the BOJ’s balance sheet, as purchases of JGBs in excess of currency leads to the entrenchment of excess reserves. Until the current crisis the Fed also followed a policy of keeping the sum of TBs and T-Notes holdings in line with the value of currency. The direct underwriting of government debt by the BOJ is prohibited (Public Finance Law, Article 5) as in other developed economies. This is based on the past experience that the BOJ’s financing of government deficits during the war years led to hyperinflation in the postwar era.
- It remains unclear how much stimulus central bank purchases of government bonds can provide in major economies. The Fed’s purchases of Treasury securities during the crisis produced a decline in yields immediately after the announcement, but interest rates have subsequently risen, reflecting trends in the economy. Even some Fed officials questioned the effects and the FOMC decided at its August 2009 meeting to discontinue them at the end of October. After indicating in December 2008 that the Fed would begin buying T-Notes, Chairman Bernanke appeared to hesitate before actually beginning it in March 2009, apparently because of complaints from large foreign investors. The amount of purchases was small relative to its market size; large-scale purchases would have fueled concerns about monetization.

The BOE also began purchasing Gilts around the same time. The upper limit on its purchases was raised several times, and the Bank's holdings are close to the £200bn limit. In the UK as well, the yields declined immediately after the launch but have since moved higher. The BOE argues that effective interest expense has declined as a result of the temporary contraction of the yield spread between 10-year gilt and the 10-year OIS. The BOE's decision to leave the limit on its purchases on hold is probably due to concerns that further buying would be counterproductive at a time when the risk premium on sterling assets is rising.

- The BOJ's holdings of JGBs amount to some ¥51trn, or 10.7% of GDP. If the JGBs purchase is continued at its current pace, it will approach the value of banknote in a couple of years, at which time its JGB holdings will amount to about 15% of GDP. The BOE owns government debt worth 14.2% of GDP, and the Fed happens to own T-Notes and MBS worth the same percentage of GDP (14.2%). Although many have criticized the BOJ for taking a defensive stance in its JGB purchases, the value of banknotes is quite large due to deflation and continued low interest rates. The BOJ's holdings of JGBs as a percentage of GDP will not differ substantially from overseas colleagues even if it keeps observing the "Banknote Rule".
- The ECB's purchase of European government debt was designed to treat the dysfunctional markets and to restore monetary policy transmission. It was different from the BOE's QE and closer to the Fed's purchase of MBS when the market stopped functioning. The ECB's action is an attempt to put out the fire. It will not provide a fundamental solution to the problem absent the prospect for longer-term improvements in the fiscal position of Greece and other problem countries.

Mr. Fukuda :

- What the BOJ and other central banks can do is respond to crises. They have an important and effective role of market in intervention where buyers have disappeared. Expansion of the CBs' balance sheet will produce few side effects given the liquidity trap, but at some point economies will emerge from that trap, and central banks will need to reduce the amount of funds supplied to the system. Separate measures will then be needed to address structural problems in the economy.

4. Adjournment

Inoue (Organizer):

- Today we have discussed a number of issues, including the phenomena that might occur following a change in JGB market stability and the approaches that might be suited to identifying or mitigating these phenomena. We have heard a variety of perspectives and views. I hope to continue this discussion at future meetings of the Financial Markets Panel.
