# Summary of Discussion at Financial Markets Panel
## (Thirty-fourth Meeting)

July 27, 2015

**Topic**

**Quantitative and qualitative easing – its performance and outlook**

**Dates**

**June 16, 2015 ＜9:30am-12:00pm＞**

**Participants**

**Mr. Yukio Egawa**, Chief Strategist, Research Division, Shinsei Securities
**Mr. Shinichi Fukuda**, Professor, Graduate School of Economics, University of Tokyo
**Mr. Kaoru Hosono**, Professor, Faculty of Economics, Gakushuin University (Absent)
**Mr. Izuru Kato**, President, Chief Economist, Totan Research
**Mr. Yukinobu Kitamura**, Professor, Institute of Economic Research, Hitotsubashi University
**Mr. Takashi Kozu,** Chief Research Fellow, Ricoh Institute of Sustainability and Business
**Ms. Naoko Nemoto**, Managing Director, Standard and Poor's
**Ms. Yuri Okina**, Vice Chairman of the Institute, Japan Research Institute
**Mr. Amane Oshima**, Managing Executive Officer (Joint Head of Markets Unit), Mizuho Bank
**Ms. Miyako Suda**, Special Advisor, The Canon Institute for Global Studies
**Mr. Hajime Takata**, Managing Executive Officer and Chief Economist, Mizuho Research Institute
**Mr. Katsuyuki Tokushima,** Chief Pension Consultant, NLI Research Institute
**Mr. Kazuto Uchida,** Executive Officer and General Manager, Credit Policy & Planning Division, Bank of Tokyo-Mitsubishi UFJ
**Mr. Toshiaki Watanabe**, Professor, Institute of Economic Research, Hitotsubashi University
**Mr. Noriyuki Yanagawa**, Professor, Graduate School of Economics, University of Tokyo (Absent)
**Tetsuya Inoue**, Mr., General Manager, Financial Technology and Market Research Department, Nomura Research Institute **<Organizer of the Financial Markets Panel>**
**Katsutoshi Takehana**, Researcher, Financial Technology and Market Research Department, Nomura Research Institute **<Secretary to the Financial Markets Panel>**

## Issues for discussion

1. **Effects of QQE on economy: its mechanisms**
2. **Impact on financial market functions, with focus on JGB markets**
3. **BOJ balance sheet management and implications**

## Summary of comments

### 1. Effects of QQE on economy: its mechanisms

**Inoue (Organizer)**:

・Now that two years have passed since the introduction of quantitative and qualitative easing (QQE) and the Bank of Japan has released its own analysis regarding the policy's transmission mechanisms and impact, I would like to ask Panel members to give their views on the policy's performance thus far and its outlook for the future. I would like to raise three main topics for discussion―QQE's effects on our economy and its mechanisms, its impact on financial market functions, with a focus on JGB market, and the implications of the BOJ's balance sheet management. But members are also welcome to bring up other issues thought to be important. This time we have asked certain members to present brief comments on each topic, which will be followed by free discussion. While I have distributed reference materials, there will be no specific discussion of them, and panel members are free to use them as they see fit.

・I would like to begin with the first topic―QQE's effects on our economy and its mechanisms. I have asked Mr. Fukuda and Mr. Watanabe to start us off with their views on this subject.

**Mr. Fukuda**:

・The BOJ's views regarding the transmission of QQE's effects are illustrated in Chart 1 of the BOJ Review paper. The BOJ has argued from the outset that QQE will reduce the output gap by raising inflation expectations and thereby lowering real interest rates. Inflation expectations have risen substantially, and real interest rates have fallen accordingly, but the economy has not experienced a pronounced recovery as a result.

・ Chart 6 in the BOJ Review paper shows the BOJ's estimates of the policy effect based on its own models. Simulation 1, which shows the impact of a 0.8% decline in real interest rates, underestimates the actual impact on share prices and exchange rates. In other words, asset prices have changed more than the simulation suggests. In Simulation 2, as I understand it, an exogenous shock has been applied to ensure that estimated share prices and exchange rates correspond to actual levels. Interestingly, this simulation overestimates real GDP growth and underestimates corporate profits. In either case, I think the actual transmission mechanisms via share prices and exchange rates were more powerful than anticipated by the BOJ (Chart 1), and as yet we do not know why, as the BOJ has used a black box approach.

・ Opinion is divided on whether our share prices and the yen are at appropriate levels. While the BOJ has suggested in its Financial System Report that stocks are fairly priced, future scenarios will vary greatly depending on whether one agrees with this view. If it is assumed that exchange rates will remain at current levels, for example, the current level of corporate earnings is largely justifiable, which would imply that stocks are fairly valued. However, that begs the question of whether the yen is fairly valued. Monetary policy can affect nominal exchange rates but should not, in the long run, have a significant impact on real exchange rates. However, not only has the yen weakened in nominal terms, but prices have not increased substantially, pushing the real exchange rate sharply lower. Viewed in terms of the real effective rate the yen is now trading at historic lows.

・ So while QQE has had a significant impact, it is not necessarily because of the mechanism assumed by the BOJ. It is difficult to say whether we should view that as a risk or as something that does not matter as long as the results are favorable. Nor is it easy to argue that the BOJ should have stood by and done nothing at all. Mr. Kuroda's Peter Pan analogy has attracted quite a bit of attention, but I think this reflects the characteristics of the current monetary policy regime. Previously the Bank tried a variety of easing measures, but there were always doubts about their effectiveness. Under the current regime, in contrast, the BOJ has sent a strong message to the markets by continuously arguing that the policy's effectiveness is indisputable. While there is nothing wrong with this position as long as the BOJ is still airborne, major problems could emerge if it loses its wings.

**Mr. Watanabe:**

・The BOJ Review paper summarizes the BOJ's efforts to measure the impact of QQE. Whereas most issues of this publication feature papers written by individuals in specific sections of the central bank, this one was prepared by the Monetary Affairs Department, which forces us to assume it was compiled under the supervision of the BOJ executive. One interesting thing about this paper is that the term "monetary base" is conspicuous by its absence. The BOJ has not argued that the increase in the monetary base will directly stimulate the economy. Instead, it has taken the position that a decline in real interest rates will stimulate private demand, that higher inflation expectations will help pull the economy out of its deflationary equilibrium, and that a recovery in lending driven by portfolio rebalancing will lift the economy. Thus it may be understandable that the paper did not discuss the monetary base. From a technical standpoint, it may have something to do with the difficulty of estimating the impact of an exogenously driven shift in the monetary base when the policy variable in the Quarterly-Japanese Economic Model (Q-JEM) used by the BOJ is the policy rate.

・ The first step in the study was to estimate the decline in real interest rates. The BOJ concluded that nominal interest rates had fallen 0.3ppt during the two years of QQE based on the actual decline in the 10-year JGB yield over this period. To its credit, the BOJ used a variety of methods to estimate inflation expectations, which are technically much more difficult to determine. The findings of surveys such as the ESP Forecast Survey and Nikkei's QUICK survey suggest that inflation expectations have risen by about 0.4–0.5ppt. For a quantitative approach, the BOJ used models for equilibrium interest rates, trend inflation rates, and the overall yield curve (see the BOJ Working Papers for details) to estimate that inflation expectations had risen about 0.5ppt. The Bank therefore concluded that long-term real interest rates have dropped by about 0.8ppt.

・ The BOJ then estimated the economic effects of lower real rates by feeding a 0.8ppt decline in long-term real interest rates into Q-JEM and examining the results. Chart 6 of the BOJ Review paper presents the results of two simulations, as noted earlier by Mr. Fukuda. Simulation 1 shows a 0.8ppt drop in long-term real interest rates lifting the TOPIX by 18% and causing the yen to fall by 8% against the dollar. These results are substantially lower than the actual figures of a 40% rise in share prices and a 24% decline in the yen versus the dollar.

Perhaps because of this less-than-satisfactory result, Simulation 2 assumes both a drop in long-term real interest rates and stock market gains and yen weakness that are in line with actual results.

・ In terms of the effects on economy, Simulations 1 and 2 indicated a 1.1ppt and 3.0ppt narrowing, respectively, of the output gap. The actual figure is thought to be 2ppt, which falls midway between the two estimates. CPI inflation is estimated at +0.6% in Simulation 1 and 1.0% in Simulation 2, but there were periods when prices were rising faster than that. Additionally, the model underestimated growth in both employee compensation and corporate earnings.

・ The BOJ paper does not discuss the problems with these estimates in detail, but I see three likely causes. First, the BOJ focused exclusively on the decline in real interest rates as a transmission mechanism. This is related to the design of Q-JEM and suggests the need for a model that can incorporate other transmission mechanisms. Second, it does not take into account factors other than rising share prices and a falling exchange rate. As noted in the BOJ Review, it does not consider the impact of large-scale public works investment, the increase in the consumption tax rate, or the decline in oil prices. Third, there may be problems with Q-JEM itself. For instance, ad hoc assumptions about expectation formation remain, and the model is based partly on data from the 1980s, which raises questions about the stability of the parameters. Dynamic stochastic general equilibrium (DSGE) models are typically used in the academic world to estimate the impact of macroeconomic policy, but there is the technical constraint of being unable to make the model too large.

・ In summary, while the quantitative estimates in the BOJ Review paper may have been less than successful, the paper was meaningful to the extent that it confirmed the aim of QQE was to raise inflation expectations by having the BOJ commit to lower nominal interest rates via the large-scale purchase of JGBs. I think trends in nominal interest rates and inflation expectations will both play a key role in determining whether the BOJ eases policy further.

**Ms. Suda:**

・ Given that the BOJ originally anticipated an economic recovery, as indicated in the Outlook Report, I don't understand why actual data over the past two years were compared with estimates generated by a model. I also think that the primary transmission mechanism for QQE was the decline in the yen, a conclusion reached by many academic economists as well. That is why the market interpreted Mr. Kuroda's comment that the yen would not weaken further to mean that there would be no additional easing of monetary policy. The paper's exclusive focus on the decline in real interest rates as a transmission mechanism is at odds with the reality.

**Mr. Fukuda:**

・ While I agree that the decline in the yen has had the greatest impact, I do not think that was why the BOJ originally embarked on QQE. Nevertheless, I do not understand why the paper did not explicitly examine the impact of a weaker yen. We should also remember that share prices and exchange rates are not always in equilibrium, and when they overshoot in one direction and then revert to the equilibrium, the effects on economy is not necessarily the same as if they had remained at the equilibrium from the outset. This is one of the inherent difficulties in attempting to estimate the impact of asset prices on the real economy. In that sense, we need to keep in mind that QQE takes as a given movements in asset prices that cannot be replicated using Q-JEM and is being conducted under the assumption that they will not return to earlier levels.

**Mr. Kozu:**

・ Q-JEM attempts to capture short-term adjustment processes when the economy converges towards a steady state, where the term "steady state" has some ad hoc characters. The estimation shown in Chart 6 of the paper show how the economy's path of convergence changes when you alter steady-state real interest rates or inflation rates, and how endogenous economic variables will shift as a result.

・ As has already been noted, however, it is impossible to create a "microcosm" which is sufficiently capable of explaining reality in a simple way by changing the steady-state real interest rate and the inflation rate. In fact, if share prices and exchange rates in this microcosm were to change as they actually did, the model loses its ability to explain real GDP and corporate earnings. In short, you cannot find a simulation which satisfies all aspects. Q-JEM also assumes optimization by the household and the firm and therefore, real interest rates must change in order for economic activities to change. That is why quantities like the monetary base do not appear in the equation. More generally, there is no model that allows both the price and the quantity to alter independently—by setting the price, we automatically determine the quantity at the same time.

**Mr. Kitamura:**

・While I understand that Q-JEM looks at the convergence to a steady state, the estimates provided in the BOJ Review paper still seem out of place. For instance, interest rates in the market are different from real interest rates in the real economy. Yet the paper does not appear to have addressed the gap between the two and simply seems to conclude that the gap will persist. I think the inappropriate linkage of real interest rates to productivity also contributed to the deviation between actual and estimated real GDP.

**Mr. Kato:**

・I can understand Q-JEM's exclusion of the monetary base as a technical constraint of the model. However, the decision to ignore the monetary base target in a paper examining the impact of QQE when the BOJ talks about it at each Policy Board meeting forces one to ask exactly where the targets are coming from. If the BOJ still insists that "you can fly if you believe you can," it is trying to manage expectations without providing a clear rationale.

・The fact that the BOJ Review paper makes a black box out of the effect of exchange rates may have something to do with the fact that this report was prepared by the Monetary Affairs Department. Placing undo emphasis on the fact that monetary policy led to a devaluation of the yen could create an international debates. Perhaps partly for that reason, the paper is ambiguous on the whole and leaves many questions on the future direction of policy unanswered.

**Mr. Fukuda:**

・The consensus appears to be that the portfolio rebalancing effect initially cited by the BOJ was not significant, but I think the BOJ's commitment to dramatically expand the monetary base was significant. This commitment is effectively a form of forward guidance. Recent research is making it increasingly clear that such talk must be accompanied by action. The important aspect of QQE is the forward guidance itself, and I don't think the supply of funds is particularly hard to understand when viewed as a means of enhancing confidence in the central bank's commitment.

**Mr. Kozu:**

・As for the technical aspects of the paper, it should be noted that the equilibrium yield curve is estimated. Ordinarily only the policy rate is picked up but here a trial is made to incorporate the impact of movements in the whole yield curve.

**Inoue (Organizer):**

・Putting aside the question of whether it was due entirely to QQE, doesn't the 0.8ppt decline in long-term real interest rates have significant implications for economic activity?

**Mr. Kozu:**

・As Mr. Watanabe noted earlier, the BOJ employed a variety of techniques to estimate the long-term real interest rate in the paper, and all of these approaches indicated a decline of around 0.8ppt. That might be the reason why they used this figure in the subsequent simulations.

**Ms. Okina:**

・It concerns me that the paper did not sufficiently discuss or analyze the transmission mechanism of currency weakness. There may well be political constraints of the sort mentioned by Mr. Kato, but even so there is no doubt that the decline in the yen has had a significant impact on corporate earnings and share prices. And inasmuch as the yen's decline immediately after the Abe administration took office was due largely to expectations of the new government and a stabilization of conditions in Europe, I think the BOJ needs to properly analyze the impact of QQE itself on exchange rates.

**Ms. Suda:**

・The sharpest drop in the yen occurred in the period through March 2013. For that reason as well, I think the BOJ should make it clear just how different the policy impact of QQE has been from that of its predecessor, "comprehensive easing." The relationship between monetary policy and exchange rates means that a simple remark by the BOJ governor on the yen can spark heavy speculation on monetary policy. In any event, I hope the BOJ can use the communication tools at its disposal to properly communicate its desired message.

**Mr. Kozu:**

・Q-JEM incorporates a transmission mechanism where the exchange rate changes exert their effects over the whole economy. You can see that from the simulation results in Chart 6. However, I agree that the explanation capability is not sufficient, probably because it is technically really difficult to create a formula for the exchange rate with enough explanatory power. From another perspective, this underlines the difficulty to explain actual movements in exchange rates based on activities of the economy. The central bank needs to take such technical constraints into consideration when making policy decisions.

**Mr. Uchida:**

・Having previously worked on an exchange rate model, I am of the view that exchange rates cannot be explained using current transactions alone. Moreover, capital transactions between two countries tend to be influenced by expectations regarding those countries, resulting in extreme uncertainty. That the BOJ was able to push the yen lower under these conditions may be nothing more than a coincidental by-product of the 0.8ppt decline in long-term real interest rates. There are also cases—as we have seen in European countries experiencing fiscal problems—where exchange rates fall in spite of rising real interest rates.

・ The BOJ is not alone among the central banks of the developed economies in having successfully lowered real interest rates. The question is what impact that has had on economy. To be sure, asset prices have risen and there are signs of a recovery in business investments, but global capacity utilization is not particularly high. The policy does not appear to have had a major impact on employment or household leverage, but are we missing something in terms of its transmission mechanisms?

**Ms. Suda:**

・ Low growth expectations are one reason for the unexpectedly weak growth in business investments in the developed economies. Bold monetary accommodation has eased funding-related constraints substantially, but the dearth of attractive investment opportunities means lower real interest rates are unlikely to provide an immediate boost. In fact, pushing real interest rates below global levels risks encouraging inefficient investment in the longer run. If the policy authorities believe any amount of monetary easing is acceptable because monetary factors ultimately have no impact on the real economy, they need to think again.

**Mr. Fukuda:**

・ The BOJ believes that as long as a negative output gap remains, it must do something to try to alleviate the shortfall in demand. While some industries are experiencing supply constraints, many others are suffering from excess capacity, and longer-term risks remain. Meanwhile, the corporate sector as a whole remains a net saver. Companies spent the first 15 of the last 20 years reducing external liabilities, which was rational behavior from a standpoint of cost efficiency. Recently, however, many of the firms that have finished repaying their external liabilities are holding large amounts of funds in the form of low-yielding cash and deposits. Holding cash without any plan for using it suggests companies want to have the money available but have yet to decide how to use it. As Ms. Suda pointed out, the outlook for corporate and economic growth is probably more important than whether interest rates are high or low, and that is why the "third arrow" of Abenomics continues to attract attention. Much of the current recovery in business investments is being driven by replacement investment, with relatively little long-term, strategic investment being undertaken. In terms of Q-JEM, the uncertainty surrounding the potential growth rate assumed by the model is the reason why actual business investments is substantially lower than the estimates produced by the model.

**Inoue (Organizer):**

・The lowering of real interest rates itself is a transmission mechanism that is utilized by orthodox monetary policy and not just by unconventional monetary policy approaches like QQE. Even if there are constraints on this mechanism, should we take the view that it is the job of central banks to lower real interest rates, with anything beyond that left up to other policy authorities? Or should the central bank try to utilize other transmission mechanisms as well?

**Mr. Uchida:**

・ Lowering real interest rates had to have been a major objective of QQE, and it was achieved. But we also need to ask whether lowering real interest rates actually has a positive impact on our economy. As has already been pointed out here, companies in Japan and other developed economies currently hold large amounts of cash. Recently there have been more frequent instances of "pure" investment in which these funds are invested in overseas companies (which are accounted for using the equity method) to generate profits. Companies' return on invested capital has improved as a result, but it is still higher than the rate of economic growth because lower real interest rates by themselves cannot lift economic growth. And since depositors bear the cost of negative real interest rates, the earnings of life insurers and other institutional investors suffer. I think the central bank should lower real interest rates only after it considers both the costs and benefits of such a policy and determines how they will be distributed across society, and in fact it is in the process of collecting a wide range of views on this subject.

**Mr. Oshima:**

・ From a market participant's perspective, the two years of QQE have been characterized by a high degree of visibility in interest rates and exchange rates. Companies were able to engage in forward-looking behavior because the BOJ compressed term premia, lowered long-term interest rates, and kept them at low levels via its bond purchases, thereby enabling market participants to predict with a high degree of certainty that the yen would weaken against other major currencies. Compared with the earlier situation, in which a rising yen forced companies to record impairment losses on an annual basis, it became far easier for Japanese businesses to invest overseas, and the process received a further boost from the recovery in overseas economies. While companies may still not be doing enough to employ their cash on hand, forward-looking investment has definitely increased in Japan over the last two years. There have also been clear signs of lending growth in the last six months, and this trend is spreading to small business as well.

・ Investors are increasingly diversifying to achieve acceptable investment returns in today's ultra-low-interest-rate environment, with more funds flowing into equities and other risk assets. At the same time, more restrictive financial regulation is starting to affect these fund flows, something that was not adequately reflected in the analysis presented in the BOJ Review paper.

**Mr. Takata:**

・ If businesses and households did not react to lower real interest rates, it was clearly due to the lack of a forward-looking stance and a lack of assurance, to use the words of Mr. Kuroda. It is difficult for a central bank to change those attitudes and even difficult to analyze it quantitatively, and I think that is why Mr. Kuroda described the situation as he did.

**Ms. Nemoto:**

・ I, too, think there are few funding-related constraints inasmuch as the broader corporate sector holds surplus funds. However, the adoption of corporate governance codes is forcing many large enterprises to set higher ROE targets and dispose of cross-shareholdings. As such, companies are slowly starting to diversify their investment of surplus funds. Businesses are investing overseas based on the premise that there are few domestic investment opportunities, and M&A activity thus far in 2015 is running at double last year's pace. I think the reduced cost of funding under the BOJ's ultra-low-interest-rate policy has also played a role.

**Mr. Tokushima:**

・ The adoption of corporate governance codes has had a major impact on corporate behavior. Japanese companies previously had a tendency to hold on to retained earnings in the form of surplus funds, leading to demands for companies to return those funds to shareholders—such as the "Total Shareholder Return Survey" conducted in the life insurance sector. Now, under the leadership of the Prime Minister's office, securities exchanges and other organizations are urging companies to adopt corporate governance codes. It is hoped that companies will change their habit of holding on to surplus funds as investors demand higher ROEs. Incidentally, when we look at market cycles, it is difficult to acquire overseas firms once the yen has weakened. Until quite recently there were frequent calls in the life insurance sector for firms to take advantage of the strong yen and seek out overseas acquisition targets, but now we are hearing that the timing is not particularly good.

**Mr. Takata:**

・ For better or worse, Japanese firms' collective behavior is now more likely to encourage the adoption of corporate governance codes. At the same time, overseas investors pay more attention to the impact of corporate governance codes than we do. For example, overseas investors who had been avoiding Japanese equities because of a lack of progress on growth strategies are now showing renewed interest because of the new focus on corporate governance.

**Ms. Suda:**

・ One concern I have with corporate governance is that an excessive emphasis on short-term ROE instead of long-term growth or profitability risks creating distortions in corporate activity. Originally I think the goal was to introduce corporate governance based on a long-term perspective and a broader range of stakeholders. I worry about the impact on wages, among other things, if firms adopt an outdated approach to corporate governance.

**Ms. Okina:**

・ With Japanese investors gradually turning their attention to environmental, social and governance (ESG) issues, many listed firms are in the process of setting up longer-term governance structures. There are a number of issues that need to be addressed by both companies and investors if companies are to achieve not just the short-term distribution of profits to shareholders but also long-term growth in business value.

## 2. Impact on financial market functions, with focus on JGB markets

**Inoue (Organizer):**

・ I would now like to move to today's second topic, market functions. We will start with prepared comments from Mr. Egawa and Mr. Oshima.

**Mr. Egawa:**

・Government bond yields in the eurozone have been very volatile in recent months. The US Treasury market also experienced heavy volatility last October, and the JGB market underwent similar turmoil in May 2013 following the announcement of QQE. My impression is that these moves were based on country-specific factors. For instance, the April issue of the IMF's Global Financial Stability Report (GFSR) warned about a decline in market liquidity, citing widening bid-offer spreads, falling trading volume in secondary markets, and reduced dealer inventory. In my view, these characterizations applied most to dollar-denominated bonds. US and European dealers are trimming inventory because of the new liquidity coverage ratio (LCR) rules and not because of the Volcker Rule or ring-fencing regulations, in my view. The LCR rules force banks to cut back on short-term market funding, and that is why they are reducing their bond portfolios.

・ In Japan, it can be helpful to focus on the attributes of market participants. Domestic institutional investors hold the majority of JGBs, while overseas investors and trust funds own relatively few. Banks acquire most of the JGBs sold at auction, but they then turn around and sell many of those bonds to the BOJ within a relatively short period of time. Consequently, while issuance of JGBs is increasing, as shown in the reference materials, the amount of JGBs held by non-BOJ entities is gradually declining.

・Securities companies play an important role in Japan's secondary markets. Although these firms' holdings of JGBs are extremely small, bond trades on Japan's secondary markets are executed in such a way that the bond is first bought by a securities company and held on its books for a brief period of time (unlike in the US and Europe, where banks or bank holding companies typically serve as middleman). Consequently, inventory levels have major implications for market liquidity. As I understand it, the securities companies are generally characterized by a surplus of capital and have the ability to expand their inventory (although there are limits to this because they are much smaller than the banks). In that sense, conditions are very different from the US and Europe, where the LCR rules are putting limits on the amount of inventory that large financial institutions can hold.

・In Japan, QQE not only lowered JGB yields but also flattened the yield curve, making it difficult for investors to earn income from roll-down. Inasmuch as this reduces the buffer against valuation losses in the event of a rise in interest rates, it could, over a longer-term horizon, make financial institutions and institutional investors more reluctant to buy JGBs. Another characteristic of JGB market is that there is only a small group of active traders, nearly all of which are in Tokyo. They see each other frequently in meetings held by the Ministry of Finance and the BOJ. Liquidity in the JGB market depends largely on the maintenance of order by this small "community."

・ JGBs account for an overwhelming majority of yen-denominated bonds in Japan, and the yields on other bonds—including municipals, FILP bonds, corporates, and securitizations—are tightly linked to JGB yields. The JGB market naturally has the highest liquidity, so any liquidity-related problems are likely to surface in one of these other markets and affect JGBs only towards the end. Additionally, because QQE compressed credit spreads and made it more difficult for investors to earn income on credit products, institutional investors and financial institutions have laid off or reassigned many of the people who used to work in this area, leaving fewer staff dedicated to credit products. The question is whether there will still be a market for these products if at some point companies indicate renewed demand for corporate bonds or securitizations.

**Mr. Oshima:**

・ I would like to make three points regarding government bond market liquidity in the developed economies. The first concerns the impact of monetary policy. Specifically, I refer to the decline in the amount of government bonds in the market under the QE policies of central banks like the BOJ and the ECB. The risk is that the central banks will spark major (albeit temporary) turmoil in the markets when they seek to wind down these policies.

・ Second is the impact of more restrictive financial regulation. The US adopted the Volcker Rule on July 21, and banks around the world are gradually introducing leverage ratio rules and other components of the Basel III capital framework. The question is whether market functions can be sustained — particularly at the end of June and December — amid tighter balance sheet constraints on the middlemen in the government bond market. According to one survey, the balance sheets of Japanese securities companies shrank more than 30% between 2010 and the present, mostly on reduced holdings of repos and bonds. It is estimated that these players will need to trim their balance sheets by another 5–10% if they are to reduce their leverage going forward. Meanwhile, outstanding JGB issuance continues to expand, and assets under management in the asset management industry have increased by 60–70% in the last five years. I find it worrying that the middlemen in the government bond market are shrinking at a time of substantial growth in both supply and demand.

・ Third is the impact of structural changes in the mix of market participants. High-frequency traders have expanded their presence in the market at the expense of players engaged in more stable investment. This probably has something to do with the frequent large shocks witnessed in global markets. Recently we saw a sharp rise in German government bond yields, and at the beginning of 2015 there was the Swiss National Bank's currency shock, which affected government bond yields around the world. With similar events occurring last October and in May 2013, I think we need to view these shocks as a kind of trend. While the recent surge in German bond yields may eventually come to be viewed as a needed correction in the yield curve, the resulting rise in volatility was dramatic.

・ The findings of the BOJ's Bond Market Survey suggest that, based on market depth or bid-and-ask spreads, JGB market functions have not appreciably deteriorated or improved over the last three months. From a longer-term standpoint, quantitative indicators in the futures market do point to a decline in market liquidity. For example, average transaction size has fallen and bid-and-ask spreads are wider than when QQE was launched. Market depth has neither decreased nor increased, and there are no signs of improvement in the periods when fewer than 10 contracts are being on the open order book. Trading volume is also trending lower.

・The most popular topic among overseas investors today is liquidity risk, and some believe that market liquidity will be the trigger of the next financial crisis. In that sense as well, the question of how many government bonds to buy and how to manage related commitments is an important one for central banks.

**Mr. Uchida:**

・ With regard to the recent surge in German government bond yields and last October's instability in US Treasury yields, I think we have to accept a certain amount of market volatility as being inevitable. From a longer-term perspective, however, I see two key problems.

・ One concerns the question of whether market functions can still recover. By market functions I mean the ability of participants to execute necessary hedges, the transparency of transactions, and the discipline of participants. Second is whether the central bank and financial authorities are communicating appropriately with the market. This will affect the volatility that emerges when the market is moving from one equilibrium to the next. For instance, in a scenario in which the 10-year US Treasury yield rises to 4% as part of the FRB's "normalization" efforts, the market's experience will be very different depending on whether the 10-year yield gets there by bouncing between 3% and 6% or whether it sees some initial volatility but then slowly stabilizes and heads towards its destination.

・ Regarding the first perspective, conditions in the JGB market are changing, with a flattening of the short-term sector of the yield curve and problems in hedging the super-long sector. As for the second, the JGB market has some unique features. For instance, while overseas markets also have a framework for communication between stakeholders in the government bond market, overseas investors are largely absent from this framework in Japan. If the JGB market is to become more globalized, I think it is important that overseas investors participate as stakeholders and that the market be characterized by transparent, disciplined communication.

**Ms. Nemoto:**

・ How will the mix of JGB owners change over the longer run? And what sort of impact will the BOJ's approach to bond purchases have on that mix? As for the former question, attention is focusing on changes in the investment strategy of institutions like pension funds and Japan Post Bank, two of the leading holders of these bonds.

・We also need to consider the implications of the BCBS's proposed rules on interest rate risk in the banking book (IRRBB) for the JGB market. As the final version of the rules may offer options other than a capital charge, the impact may be limited. On the other hand, we should expect a substantial impact if the rules are applied to banks using the domestic capital standards.

**Mr. Oshima:**

・ My impression is that overseas investors are gradually increasing their presence in the market, as indicated in the reference materials. Some of these investors are using swaps to earn meaningful yields. We cannot ignore the impact of these players' transactions given the sustained decline in JGB market liquidity.

・The potential impact of IRRBB is very large. At present, a large increase in yields would lead to valuation losses and a decline in accumulated other comprehensive income (AOCI), but if the fluctuations in valuation losses can be appropriately managed, a subsequent steepening of the yield curve and a corresponding increase in higher-yield investment opportunities would lead to improved returns for the next few years, thereby absorbing any temporary valuation losses. However, if IRRBB is moved to the first pillar of the BIS capital rules, banks could be forced to set aside more capital, prompting a correction in the size of their investment portfolios and increasing their presence in the short-term sector, which would naturally have an impact on their investments in the long-term sector. Another possibility is that banks might allocate more funds to high-yield bonds and other credit products (as opposed to JGBs) in an attempt to raise their ROEs. We could then see liquidity-related stresses in both the JGB market and the credit market. While I think it will be several years before the final version of the IRRBB rule emerges, both the market turmoil triggered by the winding down of unconventional monetary policy and its impact on the balance sheets of leading global financial institutions will affect the regulatory framework. To that extent, I think financial institutions will become increasingly cautious in their behavior.

**Ms. Suda**:

・ How long can the BOJ keep buying JGBs at the present rate?

**Mr. Oshima**:

・ I think it will be difficult to maintain incentives for investors to participate in the BOJ's buying operations beyond next April.

**Mr. Tokushima**:

・Life insurers have remained patient buyers of JGBs. While they have recently shown interest in foreign government bonds as well, I think they will continue to buy JGBs, with reason, as yields in the 20-year sector and beyond are still above 1%, unlike the period immediately preceding the VaR shock in 2003. However, number of staff in charge of management and research of JGB investments tends to be fewer than before. I do worry about our ability to respond in the event of a sharp move in the market.

・The GPIF is said to have adjusted its asset allocations to near the middle of the target range by the end of March this year. In that sense, I think further rebalancing of the GPIF portfolio is unlikely to have a significant impact on the JGB market. In the longer term, however, the GPIF may reconsider its current allocation to JGBs in the event that long-term interest rates rise substantially following an economic recovery or a BOJ exit from unconventional monetary policy.

・Looking ahead, national public service personnel mutual aid associations are expected to rebalance their own portfolios in line with the GPIF guidelines. This would involve reducing the target allocation to bonds to 35% from more than 60% at present. Given the combined size of the affected associations, such a move would probably result in JGB selling pressures amounting to several trillion yen. Naturally, I expect the rebalancing would be conducted in such a way as to minimize the market impact, and for now, at least, any selling pressure would be absorbed by the BOJ's bond purchases. Additionally, these mutual aid associations' involvement in the underwriting of FILP bonds could make it difficult for them to sell.

**Mr. Kato**:

・The FRB has indicated it will probably raise rates by the end of this year, but it says the rate hikes will not be on autopilot as they were during the last normalizing phase under former Chairman Greenspan. The FRB would probably decide policy rates based on discussions at each FOMC meeting given the continued uncertainty surrounding the economy. However, at a time of reduced liquidity and a tendency for extended one-way moves in the financial markets, I think it takes a certain amount of courage to create a situation in which market participants have to nervously approach each FOMC meeting. Additionally, it will probably be difficult for the FRB to communicate appropriately with the market if it eventually starts scaling back its reinvestments of Treasury and MBS principal payments.

**Mr. Oshima**:

・US investors seem to prefer a world with volatility to one without it. For that reason as well, I think there will always be speculation about an eventual rise in long-term interest rates. The FRB's absorption of negative convexity from the market with its massive holdings of MBS kept term premia in check and lowered long-term interest rates. However, this policy cannot continue forever. When an exit was initially being discussed, some argued that reinvestments should be tapered and eventually discontinued before interest rates would become substantially higher, but that probably would have roiled the market. I see little risk of a severe impact on MBS or Treasury Notes supply and demand as long as the FRB keeps reinvesting principal payments.

・ Along with the FRB's QE, financial institutions' acquisition of Treasury securities in response to regulatory changes had a major impact on supply/demand dynamics. The liquidity rules and increased need for collateral boosted demand for high quality liquid assets (HQLA). (US banks bought HQLA and booked them as held-to-maturity - not available-for-sale - securities to help dampen fluctuations in accumulated other comprehensive income due to adoption of the AOCI filter.)

However, these effects are now fading along with their contribution to Treasury Notes supply and demand. Meanwhile, the marked improvement in the US fiscal balance has positively affected supply/demand. The FRB probably thinks it will be able to absorb any stresses in the Treasury securities market, although external factors such as ECB policy and JGB stability are likely to have some impact.

**Ms. Okina**:

・ In Europe and the US more attention is focusing on the liquidity ratio rules and the need for collateral in derivative transactions. This has led to increased demand for short-term government bonds at European banks in particular. Meanwhile, banks' demand for long-term government bonds continues to decline as they seek to reduce interest rate risk. On the whole, I think regulatory developments are pushing banks in the direction of buying short-term government bonds and disposing of long-term government bond holdings. This is consistent with the point made earlier by Mr. Oshima that the impact of financial regulation will depend to some extent on the remaining maturity of the bonds held by an institution. Government bond markets - and by extension national debt management policies - are influenced by these regulations and by the question of which sector the central bank is buying in.

**Mr. Oshima**:

・Even if long-term interest rates rise, demand in the medium-term sector from banks and other investors is likely to increase as long as any increase in short-term yields is modest. In the long-term sector, however, central banks need to "reconstruct" the yield curve by normalizing monetary policy. From this standpoint, the recent surge in German bond yields may turn out to be a success for the ECB. After all, it helped ease the shortage of viable investments and more importantly has given the ECB greater flexibility in conducting monetary policy.

**Mr. Egawa**:

・ How should we view the linkages between the bond markets in Japan on one hand and the US and Europe on the other?

**Mr. Oshima**:

・Linkages definitely exist, as was recently demonstrated by the 10-year JGB yield's rise in response to the surge in German bond yields. One reason is banks' risk management. Inasmuch as banks engage in comprehensive management of value at risk and interest rate risk, an increase in foreign bond exposure naturally requires adjustments in their exposure to Japanese bonds. As those adjustments are typically carried out in the long-term sector, that is where the linkages tend to be more evident. In contrast, the linkages tend to be less prominent in the short-term sector. Market participants' activity in the belly of the curve tends to be quite stable, in part because the BOJ's market dialogue helps it maintain control.

**Mr. Fukuda**:

・Do market participants believe fiscal deficits are manageable, or are they recklessly ignoring the risk of fiscal collapse?

**Mr. Uchida**:

・ It's something very different. Banks have already reduced their bond holdings to the absolute minimum required, with almost all remaining holdings characterized by very short residual maturities.

**Mr. Fukuda**:

・The major banks' JGB portfolios probably have short remaining maturities, but I think there are other financial institutions that hold substantial quantities of long-term JGBs, as indicated in the BOJ's Financial System Report.

**Mr. Uchida**:

・ That is true, but from an aggregate perspective it is the BOJ itself that holds the most JGBs. Other investors are deciding how much an optimal amount constitutes after considering various stress scenarios for the financial system and Japan's fiscal position.

**Mr. Kitamura**:

・ When companies distribute profits to shareholders in the form of higher dividends or share buybacks and the stock price rises as a result, funds tend to flow into the stock market. At the same time, the favorable turn in credit makes it possible for firms to issue corporate bonds at lower cost than in the past. The resulting progress in financial disintermediation will therefore diminish the effectiveness of the monetary policy transmission mechanism. And when the central bank increases its purchases of JGBs in an attempt to enhance the policy effect, I suspect the gap between financial markets and the economy will widen further.

**Mr. Watanabe**:

・ I think disintermediation is a long-term phenomenon and not something that has just begun in the last few years.

**Mr. Oshima**:

・ It is also irreversible.

**Mr. Kitamura**:

・Then what happens to the transmission mechanisms for monetary policy? Is there still a role for direct finance?

**Mr. Oshima**:

・ I agree. Given the changes in the cost of funding via equity and corporate bonds noted by Mr. Kitamura, monetary policy may begin to act mainly through the capital markets, as it does in the US.

**Mr. Takata**:

・ If businesses are to increase their leverage, corporate bonds will not be sufficient at the aggregate level and will have to be complemented by loans. The decision of which to use will depend in part on the length of the borrowing period, and in the case of large funding requirements a company may borrow the money initially and then make separate use of longer-term funding instruments. The important thing is to maintain a healthy balance between the two as leverage grows. However, given corporate governance and other issues, I do not think the capital markets are ready yet.

### 3. BOJ balance sheet management and implications

**Inoue (Organizer)**:

・ For the third topic, I have asked Mr. Kozu and Ms. Suda to prepare some initial comments.

**Mr. Kozu**:

・ I think there are basically three ways for central banks to exit from QEs. They can pay interests on excess reserves, they can reduce the size of their balance sheets, or they can increase reserve ratios. Among these, the last option can be discarded because it would place too great a burden on commercial banks. That leaves only two options: either central banks can maintain the size of their balance sheets or they can start to shrink them as they move towards an exit from QEs. If they opt for the former, they will suffer income losses from the rise in short-term interest rates, while if they choose the latter they will be exposed to capital losses.

・ Capturing these losses in essence is not easy. Under the current regime, the BOJ is supposed to remit seigniorage to the national treasury. Actual amount of remittance, however, varies to a large degree - while typically on the order of several hundred billion yen, they can be as much as a trillion yen and as little as zero. In other words, it is not necessarily clear what the neutral level of seignorage is. It may well differ depending on market trends and budget needs of the BOJ itself. Still, at least conceptually, it is possible to estimate the neutral remittance amount based on certain assumptions, and if the BOJ becomes unable to pay that amount, we should assume that it is because some losses have been incurred.

・ QQE will eventually be normalized. If we assume that a contraction of the BOJ's balance sheet from the outset is unrealistic, that leaves the payment of interest on excess reserves, which would reduce the BOJ's remittances correspondingly. If we understand generally that monetary ease is to enjoy future economic growth in advance, current consumption of future seignorage as losses to support current economic growth can be justified in theory. Furthermore, as long as Japan continues to exist as a sovereign nation, technical insolvency at the BOJ should not be a serious problem as long as it can be explained that it is just temporal.

・ The current consumption of future seignorage would effectively place the BOJ in the realm of fiscal policy in effect, since it would be no different from issuing JGBs in anticipation of future tax revenues and spending proceeds today. Naturally this would lead to a discussion of democratic procedure - i.e., is it acceptable for the central bank to enter the realm of fiscal policy? But it can also be argued that the public has effectively given its consent by maintaining its support for the current administration - which pledged to continue QQE - in the last Lower House election.

・ It is difficult to predict how financial markets would react if Japan's central bank became technically insolvent. There are also a variety of projections regarding the likelihood of such outcome. The estimates provided by the Japan Center for Economic Research do not take into account capital losses and consider only the fact that the cost of paying interests on excess reserves will increase along with higher short-term interest rates, thereby reducing the BOJ's remittances to the government or causing a recurring loss for the BOJ. I don't have the detailed figures, but a look at their graphs suggests that recurring losses of maximum ¥1trn in a year will continue for about five years. The BOJ already has reserves of about ¥3trn, which means it could be capable of absorbing that kind of losses on a cumulative basis. As the most of the participants at a conference of the Japan Society of Monetary Economics, where these estimates were presented, seemed to be persuaded with such figures, I think the view that the BOJ's technical insolvency is unlikely might be accepted to some extent.

・ In contrast, Professor Mitsuhiro Fukao has produced an estimate that includes potential capital losses, and Professor

Kunio Okina updated it after the BOJ announced its additional easing measures (QQE2) last October. The estimate calls for a loss of nearly ¥40trn. Yet on this point, I think an argument could be made that the Japanese government will never go bankrupt, and as long as the BOJ holds government bonds until maturity, capital losses are irrelevant for the BOJ and that there is no need to mark them to market.

・ The soundness of a central bank's balance sheet would come down to the balance between the monetary base in the liability side and the corresponding assets on the other side. Under the gold standard, those assets consisted of gold. A serious situation may appear if the central bank becomes technically insolvent and private-sector economic agents decide they just no longer want to hold base money. Therefore, a central bank will naturally try not to impair its balance sheet in order to avoid situation where economic agents start worrying about.

・ The BOJ seeks to maintain a certain ratio of capital to the average outstanding bank notes. I think it is a kind of a legacy of the era when bank notes represented nearly the entire monetary base. Under the current regime, with current account deposits at the central bank accounting for the vast majority of the monetary base, theoretically it might be better to hold some buffer to protect the assets corresponding to the whole monetary base. The central bank should be allowed to use up such buffer when faced with large scale shocks which may happen every few years.

・ At the BOJ, most of the assets on the other side of the monetary base are currently JGBs—liabilities of the central government. A look back at Japan's modern history, by the way, shows that the central government has defaulted on its debt twice in the last 150 years. The global financial crisis triggered by the Lehman failure was said to be a once-in-a-century occurrence and I do not think a once-in-75-years event can be safely overlooked.

・Even if the BOJ achieves its 2% inflation target, the government - which does not prefer to see an increase in long-term interest rates - will probably ask the central bank to continue buying JGBs. In that case, even if inflation was running at a steady 2% pace, the BOJ could probably argue that it continued its JGB purchases because a rise in long-term interest rates would increase the risk of a return to deflation. The question here is whether Japanese voters would support the BOJ when it took a position that "there is no reason to continue buying JGBs now as we have achieved our inflation target, and such purchases are also in violation of the Bank of Japan Act because they create the risk of higher inflation."

・ Central banks in Japan and in other developed economies may well bring back zero-interest-rate policies or quantitative easing in future business cycles. Still, I think - and the FRB seems to be of the same view - that a policy-rate-based monetary policy that adjusts to the business cycle is better for long-term economic growth, even within a relatively narrow range of policy rates. In hindsight, I think you could say the BOJ was too late in ending its first ZIRP. Instead of keeping the zero policy rate until officials are sure it will never be needed again, I think it would be better to say that ZIRP will be discontinued if the economy picks up and reinstated when the economy subsequently weakens. Otherwise the economy will lose its dynamism.

**Ms. Suda**:

・ The BOJ has argued from the outset of QQE that the expansion of its balance sheet was important, and last October it decided to increase the rate of growth in response to smaller-than-expected improvements in inflation expectations. When it did so, it said that a gradualist approach was undesirable and that it would expand the balance sheet as much as possible after taking into account related costs and capital constraints.

・ The current Bank of Japan Act requires the BOJ to ensure that its capital exceeds the risk on its balance sheet. In fact, the reason why the current Bank of Japan Act eliminated the provision for government compensation of the BOJ's losses was to encourage the central bank to conduct monetary policy in such a way as to avoid losses or technical insolvency. It will therefore be important to maintain this perspective when discussing the pros and cons of further expansion of QQE. The BOJ currently has capital of around ¥7trn, a figure that has increased by ¥1trn in the last two years. The Bank will have to engage in thorny negotiations with the MOF if it wants to increase its capital. That is why it has placed its own constraints on the scope of monetary policy.

・ It will be interesting to see how the BOJ responds if capital constraints prevent it from continuing its JGB purchases. The previous experience with quantitative easing included frequent undersubscribed operations, and the market did not accept the BOJ's argument that such failures were unimportant because the BOJ was supplying large quantities of funds under an aggressive monetary easing program. QQE, meanwhile, has always had a provision stating that the BOJ will take both upside and downside risks into account and make adjustments as necessary, and this provision could be employed. For instance, the BOJ might scale back QQE if market functions became severely impaired or if it sensed an overshoot in asset prices or exchange rates. During the previous QE program, the BOJ faced strong demands to purchase the amount it had committed to buying, which forced it to conduct overnight operations and (paradoxically) reduce the number of operations, among other things. In May 2006, in return, a modest pick-up in the economy enabled it to scale back QE. Under QQE, meanwhile, the main problem facing the BOJ, at least for now, is what to do if increased holdings of JGBs by financial institutions and other investors make it difficult to continue buying bonds at the current pace.

・ In the first place, I think having a large balance sheet in and of itself can act as an impediment to the conduct of monetary policy by creating external pressure. For instance, it places constraints on monetary policy in the sense that the larger the balance sheet, the more difficult an exit will be. Both the FRB and (in the past) the BOJ have argued that increasing current account deposits is meaningless, and that the important thing was what assets the central bank bought and kept on its balance sheet. That is why the BOJ was able to "exit" from quantitative easing the first time while keeping the zero-interest-rate policy in place and holding on to the assets it had acquired.

・ When the BOJ winds down QQE, it will have to keep in mind the impact on the nation's already difficult fiscal position. If the process of winding down ZIRP is to start with an increase in the rate of interest paid on excess reserves, as the FRB would do, that will immediately reduce the BOJ's remittances to the MOF. As the government strives to reduce the primary fiscal deficit to around 1% of GDP by FY18, an elimination of the BOJ's remittances, which account for a meaningful portion of tax revenues, would invite heavy opposition from the MOF and, by extension, the taxpayers who will have to foot the bill in the end.

・ Moreover, the BOJ has purchased substantial quantities of risk assets under QQE, and now that moral hazard has taken hold - i.e., now that market participants believe the BOJ will step in to buy ETFs whenever share prices fall - I suspect opposition to an exit would be far more intense than when the first QE program was brought to an end. In that case, the BOJ would be forced to conduct an accommodative monetary policy while maintaining its massive balance sheet for the time being. This is even more important than what is on the balance sheet, in my view.

・ It is not difficult to estimate the neutral level of seignorage even if prices are increasing steadily and the resulting rise in interest rates produces balance sheet losses for the BOJ. This can then be used as a basis for comparison to determine whether an excessive "advance" has been made from seignorage. As for the BOJ's losses, the decline in remittances and its technical insolvency are both important, but as some think they do not pose any serious problems, I would like to focus for now on the fact that it would contribute to intergenerational inequity inasmuch as it represents a transfer of the fiscal burden to future generations.

**Mr. Fukuda**:

・ In Japan, monetary policy is ultimately not as important as the nation's fiscal position. From a fiscal policy standpoint, the fact that the BOJ's purchases of JGBs have exceeded new issuance has definitely helped stabilize the market, and the MOF probably thinks private-sector market participants will be able to safely absorb new JGB issuance as long as the BOJ continues to hold existing bonds after it starts tapering.

**Mr. Oshima**:

・Inasmuch as the BOJ and the FSA are both closely monitoring the major financial institutions, the BOJ could well decide that a gradual tapering is worth attempting. In other words, it could try to minimize the impact of slower growth in its balance sheet while determining whether a smooth transition to an interest rate-based monetary policy was possible.

**Mr. Uchida**:

・ At the risk of oversimplifying, if we compare a scenario in which tapering is carried out at a time of low growth and low inflation with one in which it is implemented after the BOJ's inflation target is achieved, the former is quite likely to succeed inasmuch as there would be strong demand for government bonds in the financial markets. The latter scenario, on the other hand, would be more problematic, and the BOJ would have to consider implementing a Fed-like interest rate peg.

・ The BOJ buys its bonds on the secondary market. If it were to allow its portfolio to contract naturally as existing bonds were redeemed, current account deposits would decline by a corresponding amount. Financial institutions would then be asked to support the government's outstanding current account at the BOJ by purchasing new JGBs at auction, which would make conditions in the JGB issuance market particularly important. In addition to the question of whether other investors would be capable of taking up the slack as the BOJ reduced its JGB holdings, there is also the question of how views of fiscal risk would change and, depending on financial market developments, how private-sector financial institutions' appetite for government debt would change. As the BOJ plans its exit from QQE, it is therefore important to convince everyone involved that private-sector financial institutions will take up the slack by 1) having the government pledge to pursue fiscal consolidation and 2) committing itself to maintaining stability in the JGB market. The BOJ would also want to get rating agencies on board.

**Ms. Suda**:

・ Uncertainty remains about a central bank's ability to manage interest rates while maintaining a large balance sheet. It faces such questions as whether to flexibly adjust buying operations when demand for funds starts to pick up, and when to start selling bills in its dealings with market participants. An inability to keep short-term interest rates in check could have spill-over effects on other financial markets and could also derail a still-weak economic recovery. On the other hand, keeping interest rates too low for too long could prompt financial markets to overheat and dramatically increase market volatility by requiring larger rate hikes in the end.

・ Excessive attempts to manage market interest rates can keep market volatility too low, casting doubt on market functions, which will become increasingly important as the economy starts to recover. Short-term money market functions recovered rapidly when the BOJ previously wound down quantitative easing, but there is no guarantee that will be the case this time, and I worry about the outcome of pushing ahead with rate hikes before market functions have recovered sufficiently.

**Mr. Kato**:

・ I think it will be extremely difficult for the BOJ to exit from QQE without a government commitment to fiscal consolidation. The Federal Reserve was able to end its Treasury yield peg in 1951 only because the primary fiscal balance of the US government improved dramatically after the war ended and issuance of new Treasury securities fell accordingly, which made it possible to discuss what to do about the FRB's existing holdings of Treasury securities. This time, even if the BOJ achieves its inflation target, I think there will be extremely strong resistance to winding down QQE if the prospects for fiscal consolidation are poor. That risk will increase if the BOJ's large purchases of JGBs have created moral hazard in terms of the government's willingness to pursue fiscal consolidation.

**Mr. Kitamura**:

・ Japan's two previous fiscal crises happened during the Meiji Restoration and World War II. Both were major national events that coincided with a change in the form of government itself. The current situation, in contrast, is far less severe. The causes lie in politics and in an overreaction by the government and central bank, and it is not even clear whether all of the previous fiscal stimulus was necessary. Moreover, moral hazard has resulted as governments have kicked the can down the road, claiming that fiscal deficits are not a major issue. Current fiscal deficits are clearly far from what constitutes a healthy level, and as a practical matter we need to discuss how to set aside the time and effort needed to gradually bring it back to a healthy level.

**Ms. Okina**:

・ Even if the BOJ succeeds in achieving its inflation target, "normalization" of QQE will not succeed if the government does not make a commitment to fiscal consolidation. But I still do not see enough serious public discussion about such essential issues as social security reforms at a time when Japan is growing older. I also sense a contradiction in the way the BOJ's large-scale bond purchases are shielding politicians from market pressures for fiscal retrenchment.

**Mr. Tokushima**:

・ Fiscal consolidation will become extremely important when it comes time for the BOJ to wind down QQE. Pension payments are indexed to macroeconomic conditions, which will act as a natural brake on growth, but medical and nursing costs will continue to increase as the population ages. The question of how to keep debt service costs in check is also important. Unless the BOJ and the MOF adopt some sort of joint accord, Japan could fall into a vicious cycle of rising interest rates and widening fiscal deficits.

**Ms. Nemoto**:

・ Japan currently has a sovereign rating of AA minus, but its government debt market is unique in a number of ways. It is alone among the developed economies in having a national debt burden on a par with Greece's, but at the same time it has the world's lowest interest rates and the most stable government debt market. It therefore presents a conundrum of sorts for the rating agencies.

・ When it comes time to wind down QQE, inflation is likely to be higher than it is now, which will be a positive for Japan's sovereign rating since it will reduce the nation's outstanding debt as a percentage of GDP. On the other hand, higher interest rates will increase debt service costs, and the environment for JGB issuance may have changed. Naturally, another important factor will be how committed the government is to fiscal consolidation efforts.

**Mr. Egawa**:

・ Will market participants in the developed economies really worry about credit risk of their governments?

**Mr. Oshima**:

・ In addition to IRRBB, the BCBS has begun a review of the risk weights assigned to sovereign debt. If this effort is led by Europe and proceeds quickly, it could influence the BOJ's exit from QQE, including Japan's sovereign rating. Additionally, demand for JGBs from both domestic and overseas investors would probably diminish if it becomes less effective to use JGBs as collateral for derivatives or in foreign currency funding transactions. In that sense, we may see a fundamental shift in market participants' confidence in JGBs.

**Mr. Kozu**:

・ One of the next issues that supervisory authorities in the developed economies are looking at is sovereign credit risk. Germany in particular is said to be supporting to pick up this area. That said, given the wide rift of opinions on IRRBB between Europe on one hand and the US and Japan on the other, it is hard to envision the talks on sovereign credit risk making swift progress.

・ I do not see that the domestic debate over fiscal consolidation has been reasonably rational from a long-term perspective. The central bank should not adopt policies that will take the macroeconomy any further away from the long-term equilibrium and therefore, communications between the central bank and the fiscal authority become crucial in such circumstances.

・ Meanwhile, democratic processes are very important at the same time. "Abenomics" has won the support of a majority of voters, and also the members of the BOJ Policy Board are chosen by politicians selected through national elections. As such, I think it is no use criticizing policies implemented as irrational. In other words, major changes in the monetary policy or the fiscal policy can hardly be expected unless a majority of voters show a different view through democratic procedures. Yet the central bank has been granted independence, hence it could keep distance somewhat from short-term myopic arguments, so it has been trying to implement policies that make sense in the longer run. One of the important themes for the monetary policy today, I presume, is how the central bank will behave in this space between long-term sensible considerations and political wills supported by democracy.

**Mr. Kitamura**:

・I think one's view on this matter will differ depending on whether one sees democracy as a system of majority rule or a system designed to allow a plurality of views.

**Inoue <Organizer>**:

・ As we have already used up our allotted time, I would like to conclude today's discussion. Thank you all for a very spirited exchange of ideas.

***