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Roles for a Central Bank
— Based on Japan's Experience of the Bubble, the Financial Crisis, and Deflation —

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the Japan Society of Monetary Economics

Masaaki Shirakawa
Governor of the Bank of Japan

I. Introduction

I am honored to be invited today to address the Japan Society of Monetary Economics.

As most of you know, the Bank of Japan has kept a close relationship with the Society, and has owed a lot since the foundation of the Society in 1943. I think many of you here remember that, in 1996-97 when the debate on the revision of the Bank of Japan Act (BOJ Act) attracted public attention, some members of the Society established the "Study Group on the Independence of the Bank of Japan" under the leadership of Dr. Ryoichi Mikitani, who served as a professor at the Kobe University for a long time and President of the Society at that time, and published its position papers.[1] The BOJ Act was revised in 1997, and became effective in 1998, supported by those who had a deep understanding of the importance of a central bank. Twelve years have passed since then, and thus the twelve signs of the Oriental Zodiac have taken a round.

We experienced many economic and financial events after the implementation of the new BOJ Act, and the most striking event seems to be the emergence of the global credit bubble in the 2000s and the economic and financial crisis in the aftermath of its burst. At the moment, advanced economies have emerged from the sharp economic contraction after the failure of Lehman Brothers, and are taking a mild recovery path. Nevertheless, since the magnitude of the global credit bubble was so large, we have realized that it will take some time before advanced economies restore the full-fledged recovery path. In the meantime, on the macroeconomic policy front, policy interest rates in major advanced countries have come down to virtually zero, and, at the same, fiscal balances have worsened significantly. Such developments have diminished room for taking further policy measures. Under such very difficult circumstances, what is at issue globally is what roles a central bank can and should play. I will talk about my recent thoughts on the roles of a central bank in the light of our experience of the bubble, the financial crisis, and deflation.[2]

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[1] See the Study Group on the Independence of the Bank of Japan (1996, 1997).

[2] For issues related to the philosophy behind central bank policy and the future of central banks, see Shirakawa (2010a, b), respectively.

II. Institutional Reforms of Central Banks in the 1990s

Looking back, the second half of the 1990s was a period in which many countries, including Japan, made major revisions of the institutional arrangements for their central banks.

On the monetary policy front, central bank independence was strengthened considerably. For example, the United Kingdom moved the authority on monetary policy decisions from Her Majesty's Treasury to the Bank of England (BOE) in 1998. The European Central Bank (ECB) started its operations in 1999, and the Maastricht Treaty required all countries that joined the European System of Central Banks to assure the independence of their central banks. After the East Asian Crisis, many emerging economies also changed their institutional arrangements for their central banks to strengthen central bank independence.

On the financial regulatory and supervisory front, quite a few countries shifted the authority of financial regulation from a central bank to a newly established regulatory and supervisory institution. For example, in the United Kingdom, the authority on financial regulation and supervision was moved from the BOE to the newly established Financial Services Authority (FSA) almost concurrently with the BOE's establishment of monetary policy independence. Some countries, such as Australia and China, made similar legislative revisions. Those developments, so to speak, can be described as the trend toward "purifying" a central bank as an organization to implement monetary policy.

Since then a dozen years have passed, and public interest in institutional arrangements for their central banks and, eventually, the policy philosophy have changed on the back of considerable changes in the economy and financial system, just I mentioned. First, policy concerns have shifted from the containment of inflation to the prevention of a bubble and a financial crisis as well as the overcoming of deflation.

Second, deeper thinking on the roles of a central bank and a government have been called for. In the midst of the recent financial and economic crisis, central banks in many countries, including the Bank, took aggressive measures. Most measures were actually central banks' undertaking of counterparty risk and credit risk, rather than pure liquidity provisions, thus implying that monetary policy was approaching the territory of fiscal policy. As a result, many countries have become increasingly concerned about the roles of a central bank and a government in a democracy.

Third, macroprudential policy attracts more attention regarding its importance, and thus the roles played by a central bank in macroprudential policy are well understood. In fact, in response to the recent crisis, we see the trend toward assigning a macroprudential role to a central bank, and wide-spread movements of assigning the financial regulatory authority to a central bank in some countries, including those which recently took such authority from a central bank.[3]

III. Review of Prevailing Views before the Global Financial Crisis

I will come back to the details on the changes in institutional arrangements for a central bank. Before discussing such changes, I will explain the prevailing view before the recent global financial crisis, which provided a basis for the revisions of institutional arrangements for a central bank in the second half of the 1990s. Put simply, the prevailing view was comprised of three pillars.

The first pillar corresponds to the idea that macroeconomic stability can be achieved by monetary policy with the aim of pursuing price stability, i.e. the low and stable rate of inflation. The second pillar stays at the idea that financial system stability can be achieved by proper implementation of financial regulation and supervision on each

[3] The United States and the European Union have established a new organization in charge of macroprudential policy (Financial Stability Oversight Council, and European Systemic Risk Board, respectively), and the U.S. Federal Reserve (Fed) Chairman, and the ECB President and member central banks' governors will be member of such organizations. The United Kingdom plans for establishing Financial Policy Committee within the BOE, which is responsible for macroprudential policy. As for financial supervision of individual financial institutions, the United States plans for assigning the Fed as a consolidated supervisor for all systemically important financial institutions, and many European countries, such as the United Kingdom, France, Belgium, Ireland, and Germany, move toward concentrating financial supervisory function into a central bank.

individual financial institution, i.e. microprudential policy. The third pillar concerns the governance mechanism for policy implementation, that is, the idea of independence and accountability.

To achieve the two objectives of price stability and financial system stability, the policy authorities responsible for one of the two objectives are given independence and need to be properly accountable for explaining their decisions. On the monetary policy front, a central bank is given independence with its objective as price stability stipulated by law, and, at the same time, a central bank needs to be properly accountable.

The prevailing views just I mentioned are all basically correct even now when decomposing them into individual elements. Nevertheless, a large-scale bubble occurred this time mainly in the United States and European countries, and a crisis starting in the United States spread to various parts of the world. Then, what was wrong with such prevailing views? Of course, the causes of a bubble and a crisis are fairly complicated, and it is inappropriate to attribute the causes solely to the failures of institutional arrangements and policymaking. I should point out that the following problems have arisen in three elements of the prevailing views.[4]

Downgraded imbalances in other forms than inflation

The first problem lies in the fact that economic imbalances appeared in other forms than general prices were paid little attention to. The success of containing inflation provided a basis for improving economic performance since the 1980s. Such success, however, led to a gradual loss of the conventional idea, so to speak, that economic imbalances possibly appeared in other forms than inflation and that the conduct of monetary policy considerably influenced the emergence of such imbalances.

A prolonged benign macroeconomic condition, comprised of low interest rates, low

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[4] Looking at the discussions on inflation targeting, while most speeches and papers discuss the success of inflation targeting before the recent crisis, increasing number of speeches and papers argue for inflation targeting in a more defensive tone, like inflation targeting itself was not a direct cause of the recent crisis. See, for example, Bean *et al*. (2010) and Svensson (2010).

inflation, and high growth, tends to make economic agents bullish. Financial institutions and investors gradually find it difficult to earn sufficiently high returns under prolonged low interest rates, and thus are likely to expand their leverage as well as maturity mismatches, by taking an investment strategy of short-term funding and long-term investment. At the same time, they expand investment in assets with higher risk and lower liquidity. As a result, a bubble emerges.

As for policy responses to a bubble, we heard the heated debate even before the recent global financial crisis. The prevailing view in that regard among academics and policymakers in the United States and European countries can be summarized into three points. First, monetary policy management needed to take account of asset price inflation, to the degree that those movements affected near-term projections on economic activity and prices, and needed not to put further emphasis on asset price inflation. Second, policy responses to a bubble should be covered by financial regulation and supervision. Third, swift and aggressive monetary easing would enable a central bank to minimize the severe economic contraction after the burst of a bubble.

Through the experience of the recent crisis, the third point, just I mentioned, that is, the optimistic view that swift and aggressive monetary easing would enable a central bank to minimize the severe economic contraction, was considerably challenged. Regarding policy responses to a bubble, based on the first and second points, it is certainly true that financial regulation and supervision plays an important role, but that expectations of the continuation about low interest rates also promote the emergence of a bubble. A bubble does not emerge just from easy monetary policy alone, and, at the same time, it does not emerge without expectations about the continuation of easy monetary policy.

Weak macroprudential viewpoints

The second problem stems from weak macroprudential perspectives. Microprudential perspectives of soundly regulating and supervising an individual financial institution are certainly important, but the importance of macroprudential perspectives of grasping overall risks in the financial system is confirmed through the recent crisis.[5]

In that regard, first, the “viewpoint of cross-sectional dimension of risks” is important. Put differently, that viewpoint corresponds to the interaction between portfolios of financial institutions or risks associated with various financial products. If a financial institution concentrates its loan and investment portfolio on a specific industry, such a financial institution will entail a significantly large amount of risk. A classical example can be seen in a concentration of loan portfolios on the real estate sector. Even though risk exposure to a specific industry is limited at each financial institution, the financial system as a whole is likely to entail a significantly large amount of risk, if many financial institutions take similar investment positions.

Second, in assessing risks in the financial system as a whole, the “viewpoint of time dimension of risks,” which concerns dynamic changes in risks inherent in the financial system, is also essential. In the run-up to a crisis, a benign economic environment with stable inflation and high growth continues for a while, and such environment changes the risk perception of economic agents in a laxer direction, and heightens their risk tolerance. As a result, the risk-taking behavior of economic agents becomes aggressive, and an expansion in leverage and an increase in asset prices are likely to occur, thereby making their risk-taking behavior further aggressive. That is the process of interaction between the real and financial sides of the economy.

A macroprudential approach attempts to grasp risks in a system-wide manner, and such approach is fundamentally inconsistent with the view that completely separates price stability and financial system stability. The two stabilities are not necessarily exactly the same, but are closely interconnected with each other.

Balance between rule and discretion

The third problem lies in the fact that the principle of policy authorities’ behavior has changed in a subtle way, reflecting a higher requirement for transparency. Let me

[5] See Shirakawa (2009b) for the discussions on macroprudential perspectives.

explain that point by taking inflation targeting as an example. Inflation targeting has achieved remarkable results in the process of ending high inflation and establishing price stability. The success of inflation targeting is attributable mainly to its "simple and clear nature" that the conduct of monetary policy can be explained in terms of the targeted, observed and expected rates of inflation.

The "simple and clear nature" has the advantages in improving accountability, but it can turn into disadvantages, since such nature makes explanation difficult when attempting to deal with the imbalances in other forms than inflation. Under certain conditions, it is a fairly persuasive approach in which monetary policy is explained by relating to the targeted, observed, and expected rates of inflation. However, once new "rules of the game" are understood in the way a central bank will maintain low interest rates unless inflation starts rising, the human behavior will change. Complicated factors exist behind the expansions in leverage and maturity mismatches, and one but important factor seems to be expectations about the continuation of low interest rates under such "rules of the game."

To deal with such problem, "flexible inflation targeting" has been emphasized in recent years, rather than strict inflation targeting. The real issue seems to have shifted to how to put the adjective "flexible" into practice. As I will explain the details later, monetary policy management of major central banks, including the Bank, is becoming similar whether they adopt inflation targeting or not. In that context, the Bank examines its monetary policy from the "two perspectives," with clarifying the numerical definition of price stability as "understanding of medium- to long-term price stability," which can be regarded as an innovative approach of implementing "flexible" elements of inflation targeting in a systematic manner.

To generalize the issues just I discussed, the question we should ask here is how an independent central bank needs to put accountability into practice. As long as a central bank holds its independence, monetary policy management needs to be accountable enough. However, if pursuing "clear and simple" aspects results in paying less attention to new changes that cannot be grasped with conventional models, a central bank will be unable to achieve the stability of prices and economic activity in the end. I always stress that a central bank must be "an organization to keep learning," and it is an enormous challenge of striking a balance between rule-like elements and discretionary elements.

IV. Assessment of the BOJ Act in the Light of Lessons from the Financial Crisis

As I have discussed so far, the recent global financial crisis has posed various issues for discussion on the institutional arrangements for central banks and financial regulatory and supervisory authorities. In fact, such arrangements in the United States and European countries have been reviewed. By contrast, Japan's situation seems somewhat different. That is because Japan's major legal revisions related to the currency and financial systems in the second half of the 1990s, Japan already experienced severer circumstances stemming from the burst of the bubble and the financial crisis, and, in retrospect, such revision incorporated the elements into the current institutional reforms triggered by the recent global financial crisis in advance. I will focus on three provisions in the BOJ Act from a viewpoint of foresighted aspects as a central bank law.

Objectives for monetary policy

The first element of the foresight stays in the fact that monetary policy objectives are stipulated with assuming the emergence of a bubble and a financial crisis. In Japan, fairly wide-ranging objectives have been pointed out from time to time, and from person to person, as the rationale behind monetary easing, such as an economic recovery, conquest for deflation, the stability of long-term interest rates, restraints of the yen's appreciation, boost-up of stock prices, and job security.[6] Nevertheless, it goes without saying that a single policy measure of monetary policy is unable to achieve all of those objectives simultaneously. Article Two in the BOJ Act stipulates the objective of

[6] Although the Fed has "maximum employment" as one of its policy objectives in the Federal Reserve Act, the Fed explains its policy goals to the public by saying that "stable prices in the long run are a precondition for maximum sustainable output growth and employment as well as moderate long-term interest rates."

monetary policy as “the Bank of Japan shall be aimed at achieving price stability, thereby contributing to the sound development of the national economy.” In the meantime, in the cases of the ECB and the BOE, the monetary policy objective is stipulated solely as price stability, without economic activity mentioned at all, at least from a legal standpoint.[7]

In the light of recent experiences at home and abroad, I believe that legal treatments in the BOJ Act have advantages. Once the emergence of a bubble is left unchecked, while prices remain stable, subsequent economic contraction is likely to be extremely severe, thus finally undermining price stability itself. The BOJ Act enables us to pursue sustainable price stability in the medium- to long-term with consideration for various possibilities, including a bubble.

Roles and responsibilities of a central bank in the financial system

The second element of the foresight lies in the fact that the BOJ Act formally stipulates the roles and responsibilities of a central bank in the financial system. A central bank plays a crucial role in staving off a crisis. In that respect, Article One Section Two in the BOJ Act defines the objective of the Bank as “the Bank of Japan’s purpose is to ensure smooth settlement of funds among banks and other financial institutions, thereby contributing to the maintenance of stability of the financial system.” In addition, from a viewpoint of engaging in the role as “lender of last resort,” the Act also formally stipulates that the Bank is allowed to conclude contracts with financial institutions concerning on-site examinations.[8] On-site examinations started based on the experience of the financial crisis after the World War I, and the revised BOJ Act formally stipulates that the Bank is allowed to conclude contracts with financial institutions concerning on-site examinations.[9]

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[7] The ECB and the BOE stipulate their objectives as “the primary objective of the European System of Central Banks shall be to maintain price stability” in the Treaty on the Functioning of the European Union, and “the objective(s) of the Bank shall be to maintain price stability” in the BOE Act, respectively.

[8] See Article 44 in the BOJ Act.

[9] For the background for the introduction of the Bank’s on-site examinations after the World War I, see The First Hundred Years’ Editing Committee (1983).

Looking at other countries, quite a few countries do not stipulate financial system stability as an objective for their central banks in their central bank law. In addition, a central bank without being involved into financial regulation and supervision does not have direct access to micro information for financial institutions, including the details on their assets. In that regard, I do not think it is possible to assess macroeconomic developments in a swift and appropriate manner without such micro information on financial institutions. It is essential to make a cross-check between micro information and macro perspectives. Of course, the Bank has not always made proper and prompt assessments of developments in the financial system and the economy, and made some mistakes. However, I believe that accurate assessments of the economic and financial conditions would have been delayed further without micro information on financial institutions. In fact, looking back at my personal experience, the earliest channel in realizing the macroeconomic problems of the bubble and the devastating effects of its burst was timely micro information on the changes in the behavior of financial institutions.

I think it is difficult to deny that the trend toward "purifying" a central bank as an organization to implement monetary policy had something to do with the outbreak of the recent global financial crisis. That is because the inability to access micro information on financial institutions delayed the assessments of the macroeconomy, and, in addition, the wide-spreading dichotomous way of thinking about price stability and financial system stability easily results in losing interest in and sensitivity to the issues related to the financial system. Fortunately, I am sure that the Bank safely avoided such tendency. That was partly because the Bank had fully grasped the conditions of financial institutions via on-site examinations and daily off-site monitoring.

Role of a "lender of last resort"

The third element of the foresight can be seen in the explicit provision on the role of a central bank as "lender of last resort" in a financial crisis. Although conceptually, the role of providing liquidity is played by a central bank, and that of providing equity capital is played by a government, it becomes quite difficult to differentiate whether the problem comes from liquidity or solvency in a crisis. In any event, it is necessary to provide liquidity when facing serious concern over systemic risk. In the BOJ Act, neither a unilateral request from the Government, nor a unilateral judgment of the Bank, but their joint judgment with clarified joint responsibility allows the Bank to provide funds even without collateral. I appreciate the advanced aspects of the current legal treatment in the BOJ Act that, upon clarifying where responsibility lies, a resolution scheme for financial crisis is stipulated.[10]

V. Framework for monetary policy management

To grasp a clearer image, I will next talk about the Bank's practice of monetary policy, with consideration for the relationship with the BOJ Act and the comparison with other advanced countries.

Speaking first of a goal of monetary policy, the Bank does not decide it as it likes to, but, as I mentioned earlier, the BOJ Act, established through the Diet debate by the representatives of the people, explicitly stipulates it.[11] The next question we have to ask is what condition we can say as "price stability." The answer seems to differ depending on the inflation environments, either the high inflation period of the 1970s or the current low inflation period. At any event, most countries publish a numerical expression of the desired level of inflation as a target or definition. The Bank also publishes that the Board Members' thinking on price stability corresponds to "a positive range of 2 percent or lower with the midpoint of around 1 percent," using the expression of "understanding of medium- to long-term price stability," and also makes it clear that monetary policy is carried out with consideration for the "understanding." More precisely, the Bank makes it clear that neither deflation nor inflation is desirable.

We should note that the body of setting the target level of inflation or the numerical

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[10] See Article 38 of the BOJ Act.

[11] Fed Chairman Ben Bernanke gave a speech at the international conference sponsored by the Bank in May 2010. In his speech, he emphasized "independence, transparency, and accountability," and pointed out a similar point. See Bernanke [2010] on that point.

definition of price stability varies from country to country.[12] In most countries and economies, it is announced by their central banks themselves, such as the U.S. Federal Reserve (Fed), the ECB, the Bank of Japan, and Sveriges Riksbank, or based on the agreement between the government and the central bank, such as Canada and Australia. In very few countries, including the United Kingdom, it is decided by the Finance Minister. It should be noted that, in 1997 when the institutional reform for a central bank was proposed in the United Kingdom, the then U.K. Chancellor of the Exchequer Gordon Brown made an announcement of the targeted level of inflation in his Pre-Budget Statement with mentioning the necessity of taking account of that target in setting public servants' salaries.[13] It can be said that the government took consistent action to achieve the self-decided target. In any event, since the announced targeted level of inflation provides a basis for people's actions, the target needs to establish credibility in financial markets and the society as a whole regarding that such target will not be altered in a short period of time depending on the change in economic conditions, but will be maintained for a considerable period.

In the conduct of monetary policy, after setting the goal and the target, making an economic projection is needed with consideration for time lags in the transmission of policy effects. In that regard, the Bank biannually releases the Outlook Report to show economic projections over about two years ahead. At every Monetary Policy Meeting, we check economic developments using the incoming data, with consideration for such economic projections released in the Outlook Report. In addition, we also make a comprehensive reassessment of the previous projection at the Monetary Policy Meeting held three month after the release of the previous Outlook Report, and publish its results as the "Interim Assessment."

The Bank examines monetary policy based on the examination from the "two perspectives." The first perspective examines the baseline projections, while the second perspective examines various risks associated to the baseline projections. As the experience of the bubble and its burst shows, we need to consider an event with

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[12] See, for example, Ueda (2009).

[13] See Brown (1997).

low-probability but extremely high cost. In addition, we need to consider the risk factors exceeding the time horizon of two-year projections. I am sure that such examinations of economic and financial developments are becoming increasingly important these days.

Considering the conducts of monetary policy in major countries, as I mentioned earlier, monetary policy practices have become quite similar between inflation-targeting central banks and non-inflation-targeting central banks. On the one hand, inflation-targeting central banks are generally moving toward the direction that they deemphasize the aspects of mechanical policy management, implied by inflation targeting, while they emphasize flexibility in policy management by using the term of "flexible inflation targeting." On the other hand, most non-inflation-targeting central banks, such as the Bank of Japan and the Fed, currently publish their numerical expression of the desirable rate of inflation in the medium to long term. The Bank's monetary policy framework incorporates the advantages of inflation targeting at most, i.e. improved accountability, while dealing with the disadvantages. The Bank is continuing to explore a desirable framework for monetary policymaking, but I have self-confidence that the current framework is a fairly advanced one.

VI. Role of the government in achieving monetary and financial stability

I have so far discussed the framework and practice of central bank policy management. In achieving monetary and financial stability, a government also plays an important role. Thinking about the roles of a government naturally results in thinking about its relationship with a central bank. From a long list of issues for discussion, I will focus on three points.

The first is the importance of maintaining fiscal balances in the medium to long term. After the failure of Lehman Brothers, major countries countered the instability in financial markets and the sharp and sever contraction of economic activity by expanding government bond issuance and employing aggressive fiscal policy. Major countries also carried out various forms of financial assistance, including public fund injections into financial institutions. Without drastic government actions, along with central bank actions, I suspect that the global economy would have fallen into a much more severe contraction. With help from government and central bank actions, the economy and the financial system have restored stability to some extent, while fiscal balances have become significantly worsened.

Consequently, credibility for government solvency attracts public attention as the next focal point. A typical example can be found in the fiscal problems in non-core European countries, including Greece. In that case, government bond yields in non-core European countries increased significantly, and as a result of such increase in sovereign risk, credibility for private financial institutions declines in turn.[14] That is a phenomenon in which declines in credibility for the government and private financial institutions produce interactive effects. Credibility for currency and the financial system is based fundamentally on credibility for a sovereign nation. Credibility for a sovereign nation also depends on its solvency margin, and even a sovereign nation is thus exposed to strict assessment from investors. Therefore, medium- to long-term sustainability of fiscal balance is a fundamental factor that underpins the stability of currency and the financial system.

The second is the relationship between public finance and central bank credit. A government decides its revenue and expenditure upon obtaining approval from the Diet. By contrast, a central bank has its own discretion to purchase financial assets, including government bonds, by issuing bank notes or current accounts. In other words, the risk of inflation stemming from over-issuance of currency is likely to increase, if the government establishes easy access to money-financing. Each country learns such risk from historical experiences, and thus direct financing of government expenditure by a central bank is prohibited in many countries.

Then, how about the central bank purchase of government bonds from markets? Abroad, a central bank's purchase of government bonds is regarded as "unconventional policy" and the pros and cons are heatedly debated. For the Bank, however, the

[14] See Bank of Japan (2010) for the downward interaction between a government and private financial institutions.

purchase of government bonds is regarded as a primary tool for providing currency in circulation that increases according to economic growth. In that sense, government bond purchases are certainly “conventional policy” for the Bank, and an amount of purchases is the largest among G-7 countries.

Central bank purchases of government bonds appear unlimited. However, such purchases are possible because currency, which is non-interest-bearing central bank liability comprised of banknotes and central bank current deposits, is certainly accepted by households, non-financial firms, and private financial institutions. However, if economic conditions change and interest rates resultantly increase, private demand for central bank money will decline. Or, if central bank purchases of government bonds are viewed as financing of government expenditure, i.e. so-called monetization, government bond yields will also increase, reflecting rising inflation expectations. Under such circumstances, a central bank needs to reduce its holding of government bonds accordingly. Sudden and large-scale sales of government bonds are likely to produce an adverse effect on the stable price formation in government bond markets. In that sense, every central bank pays full attention to ensuring smooth operations in money markets over time, with projecting the future course of the economy as well as its own balance sheet size, whenever it purchases government bonds.

The third concerns who should purchase risky assets from the private sector, either a government or a central bank. In the recent financial crisis, the Bank purchased CPs and corporate bonds in response to the malfunctioning of credit markets. The U.S. and European central banks took similar measures. Such measures brought monetary policy to the territory very close to fiscal policy from the viewpoints of the possibility of incurring losses in the end as well as the high degree of intervention to credit and resource allocations at a micro level. In terms of purchases of risky assets and their risk sharing, policy responses vary from country to country after the failure of Lehman Brothers. In fact, in the United Kingdom, the government provided a loss-compensation contract to the BOE in purchasing gilts.

Generally speaking, in a democracy, as the policy nature is approaching fiscal policy, a more appropriate body of implementing policy and undertaking risks becomes a government. However, that is not everything, and we need to ensure flexibility in policy implementation. Thus, we need to consider both requirements in a balanced manner. Such argument on the division of labor between a government and a central bank does not intend to maintain a good appearance of its balance sheet, but is related to a more fundamental issue on policy decisions in a democracy. A central bank is approaching the territory of fiscal policy when pursuing stimulative effects through monetary policy, since policy interest rates in major countries stay at virtually zero. That makes it indispensable to encourage the debate, based on the fundamental issues, just I mentioned.

VII. Tasks the Bank is working on

Finally, let me touch briefly upon some tasks the Bank is currently working on.

First, the Bank is continuing to improve the payment and settlement system in accordance with changes in financial markets. Those types of work generally do not attract much attention, but it is certainly the most fundamental task for a central bank. For example, without the real-time gross settlement system, CLS of multi-currency real-time settlement system, and JGBCC of the government bond clearing house in Japan, the turmoil in financial markets and the economy after the failure of Lehman Brothers would have become worse. Although such efforts as a “banks’ bank” rarely hit the headlines and are also rarely discussed at academic conferences, many central bank officials, including myself, are proud of those types of work. The world is changing rapidly, including the development of the Asian economy and financial markets. Thus, the Bank is faced with enormous challenges in the area of the payment and settlement system.

Second, the Bank will make further effort to adequately grasp financial and economic conditions. In that regard, it is a particularly important task to strengthen analyses incorporating macroprudential viewpoints. Japan’s experience of the bubble and the financial crisis over the past two decades suggests the importance of making projections about future financial and economic conditions, and, at the same time, the difficulty of such projections. Since our knowledge of the transmission mechanism of monetary policy and the macroeconomy still remains limited, I thus realized that policymakers need to be humble. Looking back at the past policy failures at home and abroad, such mistakes occurred when policymakers made a fundamental misjudgment on the future economic and financial developments, rather than made slight errors in projecting economic growth and inflation at less than a one-tenth level. I think it is crucially important to make further efforts to make more adequate assessments of financial and economic conditions, without being carried away with milieu. In addition, I think it is also important to make use of outcomes of such analysis in the practice of monetary policy as well as financial system policy.

Third, as an immediate extremely important task, the Bank focuses on escaping from deflation and restoring the sustainable growth path promptly. Since the late 1990s, the Bank has been carrying out various innovative measures. The zero interest rate policy, the quantitative easing policy, and the commitment policy aiming at "policy duration effects" by making a commitment to the future course of monetary policy are all first implemented by the Bank among central banks in the world. Purchase of asset-backed commercial papers (ABCPs) and stocks held by financial institutions were also first carried out by the Bank, which corresponded to "credit easing" in the current terminology.[15] At the moment, the Bank is continuing to maintain extremely accommodative financial conditions. The Bank, with a fresh sense and responsibility as a central bank, will do the right thing at the right time with proper measures, if judged necessary after careful examination of economic and financial developments.

VIII. Closing Remarks

My time is almost up. Let me conclude my speech by touching briefly upon some hope for the Japan Society of Monetary Economics.

When Japan encountered various problems since the 1990s, such as the burst of the bubble, the financial crisis, and deflation, such Japan's problems were generally

[15] See Shirakawa (2009a) for management of credit easing policy in Japan and the United States.

regarded as those just reflecting the failures of Japan's policy authorities or the factors peculiar to the Japanese economy and society. Under the current circumstances, however, we find that the U.S. and European central banks have employed similar policy measures taken by the Bank since the 1990s, and, more recently, we also hear the heated debate on the possibility of falling into the situation like Japan's in those countries.[16] Looking back, we can say that since the late 1980s Japan has experienced common problems for advanced countries in ahead of other countries. Textbooks at that time did not take up issues on a bubble and severe adjustments after its burst as well as a financial crisis and deflation. However, those are exactly the problems we have been faced with over the past 25 years.

Concerning the issues related to deflation, the fundamental factors behind are declining potential growth and declining expectations about future economic growth, as well as resultant declines in demand. In that sense, I think that we need to analyze the real side and the supply side of the economy, such as the declining population and stagnant productivity.[17] Based on Japan's experience, we need to deepen our analysis and develop a theory, thereby proactively delivering information to the rest of the world. In that regard, it goes without saying that the Bank will continue to make efforts, and, at the same time, I sincerely hope that the members of the Society will explore new problems we are facing, based on our experiences at home and abroad over the decades, thereby providing policy makers with stimulating studies.

Thank you for your attention.

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[16] See Shirakawa (2010c) for the similarities and differences between the Japanese economy after the burst of a bubble and the recent global financial crisis.

[17] See, for example, Kimura *et al*. (2010) and Miyao (2006) for the importance of considering the supply side of the economy in analyzing deflation in Japan.

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