# Masaaki Shirakawa: Future of central banks and central banking

Opening speech by Mr Masaaki Shirakawa, Governor of the Bank of Japan, at the 2010 International Conference, hosted by the Institute for Monetary and Economic Studies, Bank of Japan, Tokyo, 26 May 2010.

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## I. Introduction

Good morning. I am very pleased to address the Bank of Japan international conference. On behalf of my colleagues at the Bank of Japan, I welcome all the participants from central banks, international organizations, and academia.

The global financial crisis which started in the summer of 2007 poses a renewed but fundamental question on the role of a central bank. This year's conference focuses on this timely theme of "Future of Central Banking under Globalization."

In exploring the future of central banks, I set my benchmark at the monetary and financial system and the environment surrounding central banks at the time when I started my career at the Bank of Japan in 1972. In those days, on the Monetary policy front, central banks did not obtain sufficient understanding and support about their primary objective of achieving price stability from politicians and the public at large. In the mid-1970s, shortly thereafter, double-digit inflation became a crucial challenge for central banks in major countries. And many central banks were yet to establish their independence. The foreign exchange rate system for the advanced countries was in a transition period from the adjustable peg under the Bretton Woods system to the floating rates. As for the financial system, the banks" activities were still highly regulated, and the memory of a financial crisis became faded just as a remote past event.

The situation changed significantly after that.[1] Macroeconomic performance improved considerably. Many central banks established their independence, and succeeded in improving the understanding on their role from politicians and the public. "Quiet Revolution" called by Alan Blinder can be understood along such a trend.[2] The theory of monetary policy also advanced considerably.[3]

Just when we feel comfortable with the positive developments, which just I mentioned, the situation has already been changing gradually, thereby posing a new challenge for central banks. That is, asset-price and credit bubbles and subsequent economic stagnation and financial crises after the burst of bubbles. Japan faced that challenge first, and then countries in various parts of the world experienced similar challenges one after another.

In view of the current global financial crisis, we clearly know that we are facing the new challenge. But, to what extent did central bank policymakers predict the current situation a couple of decades ago? Instead of venturing into a long-term future, I will rather narrow my focus on a near-term future.

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1 Cagliarini, Kent, and Stevens (2010), Caruana (2010), and Crockett (2010) provide excellent reviews on development in the macroeconomy, the financial system, and the international currency system, respectively.

2 See Blinder (2004).

3 Clarida, Galí, and Gertler (1999) say that research on monetary policy reaches a stage of a "science of monetary policy" by establishing a number of useful principles for optimal monetary policy with fairly general applicability.

## II. Performance of central banks

Central banks in the world do not play the exactly same roles, reflecting their historical backgrounds. But to consider the nature of modern central banking, we need to focus on three aspects. First, a central bank provides central bank money with ultimate safety and liquidity and operates payment and settlement systems. Second, a central bank conducts monetary policy to guide the level of interest rates for achieving price stability. Third, a central bank plays a key role in maintaining financial system stability. About the third role, a central bank has a unique role as a lender of last resort, and, more or less, it shares the important role of financial regulation and supervision. I begin by reviewing the performance of central banks in the three areas.

### *Central bank money and payment and settlement systems*

First, speaking of central bank money and payment and settlement systems, large-value payments settled through central bank accounts have increased significantly, reflecting the growing financial market transactions. At the same time, the settlement methods have also changed drastically. In the early 1970s, only the Fedwire, run by the US Federal Reserve System, employed the real-time gross settlement (RTGS) system, which immediately settles funds transfer instructions between central bank accounts on an instruction-by-instruction basis. Most of the remaining systems employed the deferred net settlement (DNS) system, which settles funds transfer instructions between central bank accounts on a netted amount basis at fixed points in time. The Bank of Japan carried out most of settlements either at nine o'clock in the morning, one or three o'clock in the afternoon.[4] However, most of the central banks in the world, including the Bank of Japan, have moved to RTGS systems.[5]

As for foreign exchange transactions, Continuous Linked Settlement (CLS) started its operation in 2002. The system settles foreign exchange transactions in 17 currencies on a payment-versus-payment (PVP) basis between seven o'clock in the morning to noon, central European time. Those fixed hours, which were enabled by the extension of operating hours of central bank systems, are often called the "five-hour window" linking settlements on the globe.

The observations, just I mentioned, are very limited, but they clearly show a dramatic improvement in the safety and efficiency of payment and settlement systems. That was proven resilient under the current financial crisis, as a result of steady and tremendous efforts to reduce settlement risk by all the parties concerned in the past.

### *Monetary policy*

Next, let me move on to reviewing the performance of monetary policy. Although inflation accelerated from the 1970s to the early 1980s, it then started declining noticeably around the mid-1980s. In the 1990s, inflation came down to a low and stable level where central banks in major countries could declare a victory in the battle against inflation. In parallel, public understanding about monetary policy was enhanced in two points: price stability as the primary objective, and the importance of central bank independence to that end.

However, bubbles have often emerged since central banks just won the battle against inflation. As I mentioned earlier, Japan first experienced that problem in the second half of the 1980s. Around that time, Japan delivered a remarkably good macroeconomic performance, compared with other advanced countries. Real GDP growth reached 5.1 percent in Japan, while the average of other G-7 countries stayed at 3.4 percent. CPI

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[4] The settlement time at five o'clock was introduced in 1993 when the Zengin system moved from next-day settlement to same-day settlement.

[5] See Shirakawa (2009).

inflation came down to 1.1 percent in Japan, while the average of other G-7 countries remained at 3.9 percent. Japan received high marks in performance criteria for inflation targeting, which would prevail later on.

At that time, there was debate about the necessity of exiting extremely accommodative monetary policy in Japan. In fact, all the macroeconomic indicators except for one showed the necessity of withdrawing monetary easing: high economic growth, tight labor market conditions, rapidly growing bank lending, and bloated asset prices. The outlier indicator, however, was exactly CPI inflation. As a result, low inflation stood against the Bank of Japan, and delayed the policy reversal toward tightening. What happened later on was the expansion and burst of an asset-price and credit bubble and the subsequent financial crisis. Since then, many countries had the same experience that price stability would not automatically ensure macroeconomic stability.

To digress a little bit, before the current crisis, a safety margin against the zero lower bound of nominal interest rates was often pointed out as one of the justifications for targeting a small but positive rate of inflation. In the end, major countries found themselves virtually constrained by the zero lower bound under the current crisis. Looking back at the serious economic downturn after the failure of Lehman Brothers, very few think that reducing interest rates by a few percentage points, enabled by having a higher target rate of inflation, would have materially changed a recovery path of the economy.[6] That suggests how devastating damage financial system instability inflicts on the economy.

We have learnt two things from our experiences in the last few decades. First, price stability and financial system stability are both prerequisites for macroeconomic stability. Second, price stability itself is desirable, but it entails a complex mechanism for destabilizing the financial system, if combined with over-confidence in economic agents and unfounded expectations about the prolonged low interest rates.[7]

### *Financial system*

So, I will move on to reviewing the performance of central banks in the third role, the achievement of financial system stability. In the early 1970s, a major financial crisis seemed remote to many countries, including Japan. Of course, some financial crises occurred after that, such as the Secondary Banking Crisis in the United Kingdom and the S&L Crisis in the United States, while they were far from a full-fledged crisis affecting the entire economy and the financial system. Such a situation, however, changed significantly in the 1990s.

First, financial crises have occurred more frequently than before. That is apparent from the recent episodes: Japan's crisis, the Nordic crisis, the East Asian crisis, the LTCM crisis, the Russian crisis, and the current global financial crisis. In addition, financial crises have increased their magnitude.

Second, financial crises have occurred on a more global scale than before. Japan's financial crisis was an isolated event for the global financial system, albeit a serious event for Japan. However, the subsequent crises strengthened their global nature. The crisis after the failure of Lehman Brothers was truly a global financial crisis.

Third, financial crises have a bit different nature, compared with the past. Financial crises always surface in the form of a liquidity shortage. Under the current crisis, the shortage of market liquidity, in addition to funding liquidity, did matter. In addition, such liquidity shortage became extremely acute in the shadow banking system, which is outside the traditional banking sector.

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[6] Blanchard, Dell'Ariccia, and Mauro (2010) point out that it is necessary to examine costs and benefits of raising an inflation target in light of the current financial crisis.

[7] See White (2006).

## III. New and difficult challenges from success

As the last couple of decades show, central banks have achieved a great success in stabilizing prices as well as economic activity. As a result of such success, central banks seem to ironically face new and difficult challenges.[8] I will next explain such difficult challenges.

### *Changes in the manifestation of economic imbalances*

First, the imbalances in the economy are unlikely to appear immediately in the form of imbalances in general prices. A benign macroeconomic condition tends to make economic agents irrationally bullish, and change their risk perception in a laxer direction. Low inflation, however, tends to delay the reversal of easy monetary policy. Under such a situation, overconfidence, if created by some reasons, ignites an increase in asset prices, expansion of credit and leverage, and extension of maturity mismatches. If the imbalances in the economy had appeared in the form of a rise in general prices, a central bank would have relatively easily been able to respond by orthodox monetary tightening. The imbalances in the economy, however, appeared in the form of financial imbalances. Then, why have general prices become less responsive to the imbalances in the economy?

One reason, often pointed out, lies in the enhanced credibility for a central bank in conducting monetary policy. In that case, firms do not change their product prices immediately, when they perceive general price fluctuations as just temporary. Another reason is related to the tendency toward non-price competition. Firms are concerned that a simple raise in the prices results in losing their customer bases in a low inflation environment, and that a simple reduction in the prices just invites subsequent price reductions by competitors.

Although I basically agree with the analyses, just I mentioned, I conjecture that a more fundamental reason lies in the fact that price measurement itself has become hard in recent years. Of course, in theory, the price index is supposed to trace quality-adjusted prices over time. In practice, however, value added and attendant risk are hard to be identified, as the economy becomes more information-driven, service-oriented, and network-intensive.[9] A case in point is financial services consumers purchase from financial institutions. Financial services are about risk assessment. As our experience of the financial crisis shows, however, such risk assessment turned out to be inadequate. If an ideal quality adjustment method had been available to us, quality adjusted prices of financial services would have increased reflecting their declined quality. Such a statistical treatment has hardly been implemented in practice, and the situation seems to remain the same in the future.

### *Policy responses after the burst of a bubble*

The second difficult challenge is that a policy response, if successful in the short term, does not necessarily imply a success in the long term. Central banks moved swiftly and aggressively, countering a serious economic downturn stemming from the burst of the bubble. We have to be aware that such policy responses could cause other risks, including the emergence of an asset-price and credit bubble. Given the increase in the frequency and magnitude of bubbles since the 1990s, I mentioned earlier, we need to have a longer time horizon to tell whether a policy response will succeed or not.

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[8] Shirakawa (2010) points out a mechanism of so-called the “cycle of confidence” behind the bubble and financial crisis.

[9] See Varian (2001).

### *Central bank in democratic society*

The third difficult challenge is related to the fact that a success in policy responses poses a new problem as to what responsibility a central bank should bear in democratic society.

Confronted with the financial and economic crises, central banks in major countries have all introduced unconventional policy measures. In that regard, the Bank of Japan was the first to experience a financial crisis, and, thus, was the first to employ unprecedented measures. Since the late 1990s, the Bank of Japan has been moving aggressively as a lender of last resort, including the funds provision to the securities firm. The Bank of Japan also launched various unprecedented measures, such as a stock purchase program from financial institutions and the outright purchase of asset backed commercial papers and asset-backed securities. Thus, it is my regret that innovations in the Bank of Japan's policy responses have not been well recognized. In fact, under the current financial crisis, major central banks have also taken unprecedented policy measures, just like the Bank of Japan did.

Unconventional policy measures taken by a central bank involve quasi-fiscal policy elements, such as potential taxpayers' burden incurred by a loss from such operations, and intervention in resource allocation at a micro level. In the midst of a crisis, a central bank faces growing demand for introducing unconventional policy measures, which involve more or less quasi-fiscal policy elements. Since a central bank generally thinks that such measures need to be decided and implemented by government in democratic society, a central bank falls into a difficult position, when decisions by government are just postponed.

The border between pure monetary policy and quasi-fiscal policy sometimes becomes ambiguous. Looking back at the experiences of various countries since the 1990s, when their central bank law had clauses for making some quasi-fiscal policy measures possible, they decided to carry out such measures after careful consideration. Once a crisis was overcome, with the help of such unconventional policy measures, central banks were criticized for violating the fundamental rule in democratic society. As a result, such a situation is likely to undermine credibility for central banks, and thus affect their policy performance.

## IV. Tasks for central banks

As I discussed so far, central banks face new and difficult challenges at the moment. With considering such difficult challenge, I will point out some tasks in addressing such difficult challenges.

### *Understanding of a primary mandate for a central bank*

The first is the understanding of a primary mandate for a central bank. Without social understanding on that point, central bank independence and, eventually, central bank credibility itself are likely to be undermined.

I think that a primary mandate for a central bank should be to achieve a stable financial environment, that is, a financial environment that is consistent with, and contributes to, sustainable economic growth. Price stability is certainly one important element in achieving a stable financial environment. That is, however, not the sole factor. When a central bank feels constrained by short-term developments too much, that is more likely to amplify macroeconomic fluctuations.

After all, deposit money, which has a major share in broad money, is created as a product of maturity mismatches and leverage of private financial institutions. A central bank needs to adequately monitor the financial environment, including such behavior of financial institutions. Macroprudential perspectives, recently reemphasized in light of the current global financial crisis, should be understood as examining the interactions between the real and financial sides of the economy, considering the behavior of private financial institutions. Such an analysis is an essential task for a central bank, although it is a typical example of "easier said than done." In addition, macroprudential analyses and perspectives are crucially

important in conducting monetary policy as well as designing financial regulations and supervising financial institutions.

### *Financial infrastructure*

The second is the efforts to improve the financial infrastructure. In achieving a stable financial environment, while monetary policy certainly plays an important role, we need to avoid overstating the effectiveness of the fine-tuning policy, given our incomplete knowledge. As is well known, we have difficulty in measuring the output gap and inflation in an accurate manner. It is even more so in projecting such indicators. We also need to pay attention to the risk of destabilizing the economy, due to a recognition lag.

By contrast, we can count more on assured benefits from enhancing the financial infrastructure, as evident from the observation that such efforts are very effective in staving off the aggravation of the current global financial crisis. In that respect, one of the most important tasks is to improve cross-border funding markets.

### *International monetary system*

In discussing the future of central banking, I cannot conclude my speech without touching upon the international monetary system.[10] In that regard, we sometimes hear the arguments for macroeconomic policy coordination to facilitate the adjustments of global imbalances. The current-account imbalances themselves are an adjustment mechanism for the differences in savings and investment patterns due to the variations in the level of economic growth and demographics between countries. So the imbalances themselves are not necessarily evil. What should be adjusted is unsustainable imbalances, but, as the current global financial crisis shows, those imbalances are caused primarily by internal imbalances, reflecting inappropriate management of macroeconomic policy and financial regulations and supervisions. I well understand the necessity of reforming the international monetary system as a long-term task, but I should emphasize the bottom line that each country should make every effort to put its own house in order.

Having said that, we need to recognize new challenges we are facing in an international context. As the role of globally operating financial institutions and investors expands, easy monetary policy in one country comes to influence other countries. We thus observe a phenomenon that the insulating effect of the floating exchange system does not always work perfectly, as it is described in textbooks. One example is the growing effects of carry trade. Considering such changes in the transmission channel of monetary policy, I am wondering whether and to what extent we need to alter our way of thinking on monetary policy management for the advanced countries or an international key currency country. That seems to remain an open question.

## V. Institutional culture for a central bank

As discussed so far, central banks are facing wide-ranging challenges. In any event, the fiat money system is a system to control money with wisdom. To that end, the institutional culture and human capital accumulation in such culture are crucially important for a central bank.[11] In closing my remarks today, let me touch upon some aspects of the institutional culture for a central bank I deem important.

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[10] We see some renewed interests in the international monetary system. See, for example, Padoa-Schioppa (2010) for that line of arguments.

[11] Williamson (1999) discusses the governance of public institutions. Oritani (2010) analyzes the governance and organization of a central bank using the institutional economics.

The first aspect in the central bank culture is banking operations. A central bank is not just an ivory tower to discuss the macroeconomy and the financial system in an abstract manner. Rather, a central bank itself is a bank, which implements policy actions through banking operations, as in the case of monetary policy as well as a lender of last resort. Those operations require wide-ranging operational knowledge, such as collateral haircut setting, counterparty selection, payment and settlement of funds and securities, and debt-collection from failed financial institutions.

In addition, such knowledge is also useful in assessing the subtle working of the financial system and its interaction with the macroeconomy. In introductory textbooks, money is described as a mechanical concept just as a product of the monetary base and the money multiplier. Such a way of understanding of money misses the important role played by money. As I noted earlier, money is created as a product of maturity mismatches and leverage in financial transactions. That implies that a central bank is unable to understand developments in the financial system and the macroeconomy without hands-on knowledge on how banks operate. The current global financial crisis clearly shows that point.

The second aspect is to keep learning. The economy, including the financial system and financial markets, is changing all the time. When we have confidence in acquiring knowledge on something, the situation has already started changing before we know it. One such example is financial system instability after achieving price stability.

We are unable to write fully state-contingent rules and contracts. Actual markets are inevitably incomplete markets in economists' terminology. A central bank can be regarded as a device for dealing with such incompleteness. If that is the case, a central bank needs to make use of all the available knowledge in understanding the developments in the economy and their implications, and mapping out necessary policy actions. Thus, a central bank needs to put emphasis on the institutional culture of constant learning.[12]

The third aspect is the integration of wide-ranging areas of knowledge. Taking an example of monetary policy, a central bank generally relies heavily on the macroeconomic theory in conducting monetary policy. The economic theory plays an important role in providing a framework for understanding a complex world. At the same time, we should be careful that sticking to one specific theory potentially distorts our views. Historical knowledge is also useful. Looking back at the history of financial crises, we are stunned by the common mentality of "this time is different."[13] In addition, knowledge on banking operations, just I mentioned, is also indispensable. A central bank needs to make constant efforts to produce synergy effects between monetary policy and prudential policy wings by overcoming some differences in the cultures of the two policy wings.

The fourth aspect is cooperation among central banks. We expect that economic activity and financial market transactions will continue to grow across borders, but we do not imagine that sovereign nations will disappear in the foreseeable future. In that case, cooperation between central banks will become increasingly important in achieving financial system stability. Under the current global financial crisis, central banks have communicated with each other intensively at various levels, from top central bankers to mid-class staffers, which surely becomes considerable wealth for the future of the central bank community.

## VI. Closing remarks

Central bank conferences reflect the institutional culture of central banks, and this conference entails such aspects more clearly with its title of "future of central banking." I am

[12] See King (2005) for the importance of learning for central banks.

[13] See Reinhart and Rogoff (2009).

convinced that the one-and-a-half-day conference will give us profound insights into the future of central banks and central banking.

Thank you very much.

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