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Bank of Japan

**Building a More Robust Financial System:
Where Are We after the Global Financial Crisis and
Where Do We Go from Here?**

Speech at the DICJ-IADI International Conference

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Introduction

It is a great pleasure for me to be invited to the DICJ-IADI International Conference and to address all of you. Thank you very much for this opportunity.

It is almost ten years since the onset of the Global Financial Crisis. At this juncture, I would like to look back on the efforts and results at the global level with the aim of preventing the return of the Crisis, and offer my thoughts on the challenges ahead if we are to maintain the stability of the global financial system.

In retrospect, the Global Financial Crisis was triggered by problems in the U.S. subprime mortgage market. Initial losses incurred by financial institutions and investors in that market led to a severe liquidity shortage through loss of confidence among market participants. Subsequently, following the collapse of Lehman Brothers in September 2008, we had a full-blown crisis that destabilized the whole global financial system.

Responding to the ever worsening situation, economies around the world unleashed aggressive macroeconomic measures, injected massive liquidity into financial markets, and provided taxpayers' support to financial institutions, including capital injection, and these measures prevented a contagious amplification of the Crisis. These efforts were complemented with measures developed through international cooperation so as to prevent the incidence of another crisis. As a result, the robustness of the global financial system has been greatly enhanced by, for example, higher capital and liquidity reserve levels at financial institutions, more options for liquidity provisioning by central banks, better legal frameworks for resolving financial institutions, and enhanced communications and cooperation among authorities.

In the meantime, many central banks in the developed economies are pursuing extremely accommodative monetary policy, including unconventional policy measures, in order to extricate economies from low growth and low inflation. While these measures themselves are utterly essential responses to the conjunctural macroeconomic challenges, the resulting "low for long" environment is eroding lending margins, which are the sources of profits for financial institutions. Considering that financial institutions in the developed economies have faced increasing pressures on their revenue streams, reflecting structural changes in

the financial system, the low profitability of financial institutions has become a global problem to be reckoned with.

Building on these observations, for the rest of the time that I have today, I would like to explain how I understand the efforts aimed at strengthening the financial system following the Global Financial Crisis and what the remaining issues are, from three perspectives: (a) international financial regulation, (b) macroprudential policy, and (c) the "lender of the last resort" function of central banks. I will then conclude by offering my views on an emerging challenge regarding the stability of the financial system; that is, the profitability of financial institutions.

Stronger International Financial Regulations

Let me start with international financial regulations (Chart 1). In the period leading up to the Global Financial Crisis, the financial sector, especially in Europe and the United States, took on excessive leverage and the quality and level of capital were in decline. At the same time, many financial institutions depended on short-term market funding, which was also a contributing factor to the Crisis. These experiences led to the adoption of the Basel III set of rules, the main thrust of which was to oblige internationally active financial institutions to enhance their capital levels and to hold safe liquid assets. The final details of the framework are still being worked out.

Furthermore, from the lesson of the dangers of moral hazard emanating from implicit public support of systemically important financial institutions, the so-called too-big-to-fail problem, these institutions are now required to hold additional capital to maintain total loss-absorbing capacity (TLAC) and to draw up recovery and resolution plans (RRPs) in case they face financial difficulties.

These enhanced rules I have just described clearly have made the global financial system more robust. For example, looking at capital levels of financial institutions, the capital ratios of major European and U.S. banks have increased significantly (Chart 2).

Japanese financial institutions, while they did not directly suffer much from the Crisis, also have increased their capital levels, in line with the stricter requirements at the global level.

Under the powerful monetary easing by the Bank of Japan, they are actively taking risks in lending and securities investment, thereby positively influencing the Japanese economy and prices, which reflects in part their increasingly robust capital base. This clearly shows that the stability of the financial system is essential for monetary policy to be fully effective.

Having said this, I also should stress that stronger regulation ought not to lead to excessive restrictions on financial intermediation. As I said, details of Basel III are still being worked out, and I recognize that the discussions should be wrapped up as soon as possible so as to minimize uncertainties over the business environment surrounding financial institutions. Any final agreement on the level of required capital, however, needs to balance the need to maintain the stability of the financial system and the functioning of financial intermediation. Keeping this in mind, the Bank of Japan will participate in the international deliberations leading to the finalization of Basel III.

If and when there is an international agreement, the main thrust of international efforts will turn to evaluating the effects of the strengthened rules, ensuring that such rules are working as initially envisioned and there are no unintended consequences -- for example, whether liquidity in financial markets is impaired as a result of stricter rules such as the leverage ratio, and whether entities beyond the scope of regulation in the "shadow banking" sector are expanding. In addition, it is important to review whether the whole set of rules has not brought about overregulation or inconsistency, notwithstanding the desirability of individual rules. Whenever it becomes apparent through these assessments that there are problems in the rules, it is appropriate to make necessary adjustments.

Developing a Macroprudential Policy Framework

I will now move on to macroprudential policy (Chart 3). During the Global Financial Crisis, the issue of procyclicality became evident; i.e., the interactions between the financial system and the real economy amplifying the instability of the financial system. In response, macroprudential policy instruments have been introduced; for example, the countercyclical capital buffer (CCyB), which adjusts the level of required capital in accordance with the degree of excesses in the financial system, and the loan-to-value (LTV) regulation, which regulates the level of the minimum haircut for real estate collateral according to the state of the real estate market.

Moreover, we also see the development of institutional frameworks for the implementation of macroprudential policy. For example, in jurisdictions with multiple regulatory and supervisory authorities involved in the safeguarding of financial stability, there has been establishment of interagency committees that aim to coordinate the views of relevant authorities, to make policy decisions, and to implement any decisions. In this regard, in Japan, the Financial Services Agency and the Bank of Japan created the "Council for Cooperation on Financial Stability" in 2014 and have been holding semiannual meetings since then. In the meetings, the two authorities have been exchanging views on the state of the financial system and financial markets, and through such interactions, the Financial Services Agency and the Bank of Japan are reinforcing their ties regarding macroprudential policy.

As I have just noted, we are now seeing the development of macroprudential policy tools and institutional frameworks, but ensuring effective and timely implementation of policy measures in real life would be challenging. For that to happen, supervisory authorities and central banks must first be able to properly observe the signals that point to excessive activity or inactivity in the financial system. Once moving into action, there are still unresolved issues, such as the following: the lag between the imposition of measures and the manifestation of the effects of those measures; leakage of the effects into sectors that are outside the scope of macroprudential measures; and the necessity of taking into account other public policy areas, such as residential tax policy, in the case of the real estate market. All in all, the effects of the newly introduced macroprudential policy measures have not been fully verified, and we need to enhance our understanding through application and review.

In any case, supervisory agencies and central banks charged with macroprudential policy must make every effort to improve their analyses of macro-level risks in the financial system and be on the lookout for any symptoms of financial instability evident in the activities of individual financial institutions. In this regard, the Bank of Japan will be enhancing its micro- and macro-level diagnostic capabilities through its on-site examinations and off-site monitoring of financial institutions and analyses published in the *Financial System Report*.

A New Horizon for the "Lender of the Last Resort" Function

As the third perspective regarding developments since the Global Financial Crisis, I would like to touch upon the "lender of the last resort" function of the central bank (Chart 4). Traditionally, the "lender of the last resort" function of the central bank has been a tool to be used when systemic risk manifests itself through contagion; in other words, the deteriorating health of one financial institution tainting other financial institutions through inferences made by depositors and/or links in payment networks. Generally, it was regarded as an operation to provide domestic currency funding to "solvent but illiquid" financial institutions.

In contrast, during the recent Global Financial Crisis, systemic risk manifested itself in a different way: increasing concerns over counterparty risk among market participants resulted in a dramatic contraction of market activities. In response, central banks of major economies injected liquidity to financial markets through purchases of commercial paper and corporate bonds, and thus supported the continued functioning of markets. In this regard, the "lender of the last resort" function of central banks morphed into something broader by incorporating the "market maker of the last resort" function.

Meanwhile, it also became evident during the Crisis that liquidity shortages in foreign currencies -- for example, resulting from the freezing of the currency swap market -- were extremely problematic, as the expanding global reach of financial institutions promoted financial intermediation in foreign currencies. Accordingly, in 2007, the European Central Bank and the Swiss National Bank each entered into a swap arrangement with the U.S. Federal Reserve, enabling the two European central banks to supply U.S. dollar funds to financial institutions in their jurisdictions. After the collapse of Lehman Brothers, the Bank of Japan, the Bank of England, and the Bank of Canada also entered into swap arrangements with the Federal Reserve, and in 2011, the individual arrangements evolved into a multilateral arrangement covering not only U.S. dollars but also other major currencies. One can say that, with the development of such a multilateral swap arrangement to supply foreign currency liquidity, the "lender of the last resort" function has developed into a "global lender of the last resort" function.

This quick overview shows that the central bank is playing a bigger role with its "lender of the last resort" function. It could be safely said that we now have a more robust backstop as regards liquidity provision in the major currencies during market turmoil. The challenge ahead is to devise frameworks to deal with the case where a financial institution with a global reach faces foreign currency liquidity shortages for idiosyncratic reasons and the case involving non-major "local" currency liquidity shortages. For the Bank of Japan, potential systemic instability caused by shortages of foreign currency liquidity is an issue that requires prompt attention, in view of the fact that Japanese financial institutions are expanding their global businesses, including in Asia, while these institutions are still broadly enjoying good access to foreign currency funding.

Reflecting on these challenges, the Bank of Japan has decided to provide U.S. dollar liquidity to individual banks facing temporary dollar funding difficulties utilizing the Bank's U.S. dollar-denominated assets. As to local currencies, the Bank established swap arrangements for Australian and Singaporean dollars with the respective central banks last year, which should enable the Bank to supply Australian and Singaporean dollar liquidity secured through these arrangements to Japanese financial institutions facing funding difficulties in these two currencies. Though the Bank must be careful in avoiding moral hazard at financial institutions, it will continue to develop backstop frameworks for foreign currency funding in conjunction with relevant authorities.

The New Challenge of Low Profitability at Financial Institutions

As we have seen today, much has been learned from the Global Financial Crisis and various measures have been put in place to prevent the return of the Crisis. While there are still gaps to be filled in every area, I should say that the global financial system has become significantly more robust than before the Crisis.

However, this does not mean that there are no more areas that require attention regarding financial stability. Over the longer term, it is becoming important to cope with the potential risk of low profitability at financial institutions eroding financial stability.

Faced with low growth and low inflation in the years following the Global Financial Crisis, many central banks of major economies adopted extremely accommodative monetary policy,

including unconventional measures. As I noted at the beginning, such a policy stance itself reflects macroeconomic necessity, but the resulting plunge in nominal interest rates is negatively impacting profits at financial institutions through compression in interest rate margins.

At this very moment, financial institutions around the world are still reporting respectable levels of profits, benefiting from lower credit costs in an improving economy and increased profits from selling securities for which prices appreciated as interest rates fell. Having said this, if the low interest rate environment persists, interest rate margins will be further eroded and the profitability of financial institutions will suffer as a result. In Japan, for example, financial institutions face structural headwinds including an aging and decreasing population (Chart 5). In Europe, low profitability is regarded as a risk to financial stability in the context of a non-performing loans problem at some financial institutions. This shows that the problem is more or less global.

There are various channels through which low profitability at financial institutions could adversely affect financial stability. One channel is the inability of financial institutions to accumulate sufficient capital due to low profitability. That would heighten the risk of banks' capital being eroded when large credit losses occur or when securities investments incur large losses in a volatile market. With thin capital buffers, financial institutions could become too risk averse and not effectively perform their function as intermediaries. On the other hand, if financial institutions try to avoid such a predicament by taking excessive risks to increase revenues, such actions themselves would introduce new sources of instability to the financial system. All in all, in order for the financial system to ensure future stability, it is becoming more and more important in the long term to think about possible responses to low profitability at financial institutions.

The starting point would be to have individual financial institutions accurately recognize the business environment that they are in, and formulate business models that appropriately take account of the environment. Financial institutions have a range of options and can, for example, step up efforts to find new SME and household lending opportunities, take risks in the securities markets, strengthen fee-collecting business lines, and cut costs including extensive restructuring of the branch network. Individual financial institutions must choose

approaches that are best suited to their individual needs. In some cases, mergers or consolidation between financial institutions could be an option.

In order for financial institutions to enhance profitability, authorities would play an important role. In that context, given that the business environment of each financial institution is different, and that forward-looking responses regarding the changing environment are essential, it may not be appropriate to adopt one-size-fits-all regulatory measures. Instead, a "soft" approach through supervision and guidance may be more effective in encouraging financial institutions to apply individually tailored solutions. In view of this, the Bank of Japan, through its on-site examinations and off-site monitoring, aims to encourage financial institutions to step up their risk management efforts in areas where the institutions are taking on increasing risk, and to deepen discussions with institutions regarding profitability enhancement. In addition, the Bank will actively support the efforts of financial institutions through the hosting of seminars targeted at enhancing the value of financial services.

Concluding Remarks

Today, I have taken a look at the efforts and results at the global level in aiming to prevent the return of the Global Financial Crisis, particularly in terms of policy areas that are closely related to the role of the central bank. Specifically, these are international financial regulation, macroprudential policy, the "lender of the last resort" function of central banks, and low profitability at financial institutions. Of course, I must admit that this is not the whole story: laws and regulations to deal with a failure of systemically important financial institutions have been greatly improved, and the international cooperative framework for crisis management has been significantly strengthened. In the meantime, deposit insurance schemes, which will be extensively discussed at this conference, now insure higher amounts under strengthened financial foundations, thereby contributing significantly to a more robust financial system.

All in all, over the last ten years or so, the robustness of the global financial system has been steadily enhanced in many areas. Accordingly, the risk that we could fall into the same kind of crisis as the last one is probably lower to a considerable degree. Having said that, I must point out that the environment surrounding the financial system is undergoing rapid

changes, including the development of FinTech and the rapid growth of the shadow banking sector. In addition, as I just noted, a new challenge has emerged in the form of low profitability at financial institutions. These developments suggest that a different kind of financial crisis could happen in the future. There will always be room for efforts to enhance the stability of the financial system, and authorities must continue to respond to changes in the environment.

Fortunately, we now have a framework for global cooperation built up during the ten years since the Global Financial Crisis, and that framework was successfully applied to enhance the robustness of the financial system. There will be challenges ahead, but we are prepared to meet them with confidence.

Thank you for your attention.

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International Financial Regulations

Basel III

Strengthening the quality and quantity of capital (numerator)

- ✓ Quantity: introducing the Common Equity Tier 1 capital and raising the minimum requirement
- ✓ Quality: adopting a stricter definition of bank capital

Improving risk coverage (denominator)

- ✓ Interest rate risk in the banking book
- ✓ Credit risk
- ✓ Operational risk

$$\text{Capital ratio} = \frac{\text{Bank capital}}{\text{Risk-weighted assets}}$$

Regulations on large exposure

Supplementary tools:
three new regulatory measures

Liquidity measures

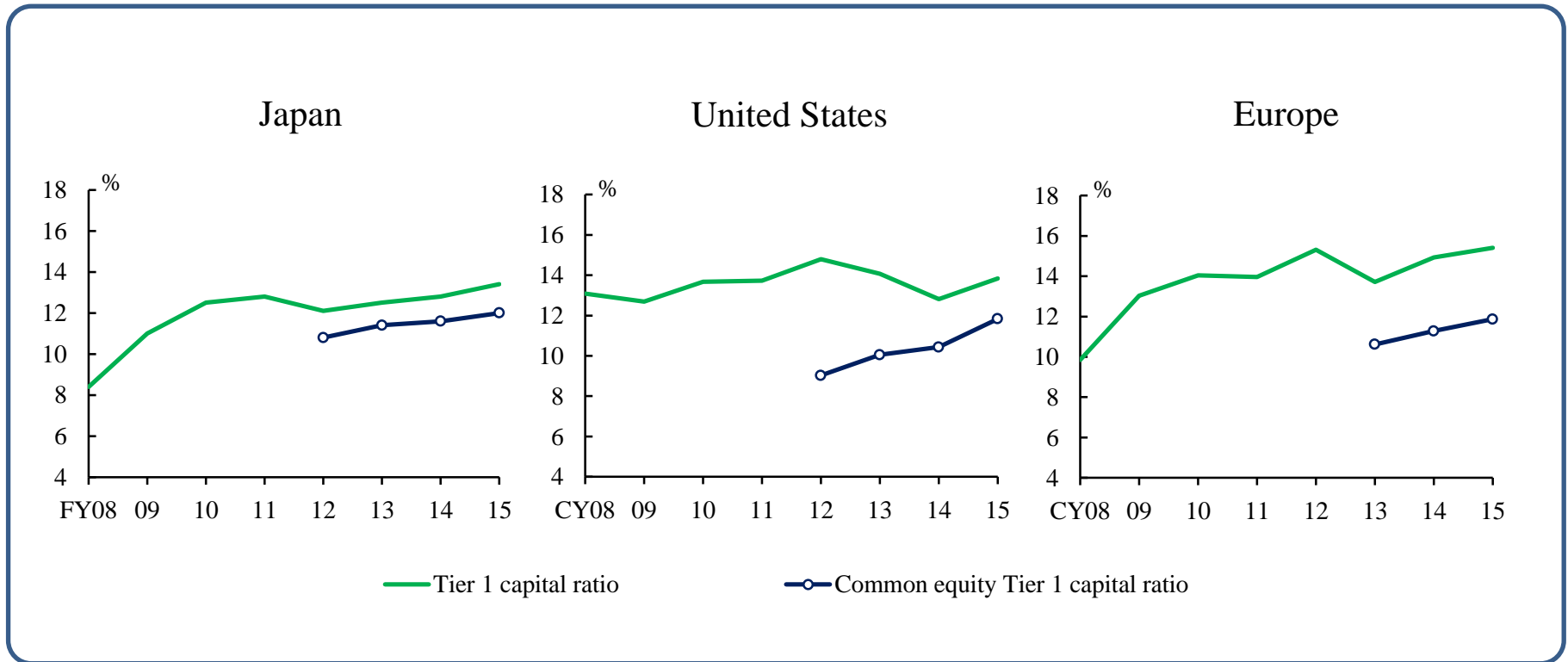
- ✓ Liquidity coverage ratio (promoting the short-term resiliency under stressed scenario)
- ✓ Net stable funding ratio (securing stable funding structure for long-term investments)

Leverage ratio requirement

Dealing with the "too-big-to-fail" problem

- Additional capital charge for G-SIBs (G-SIB surcharge)
- Effective bank resolution framework for G-SIBs
 - Development of legal framework
 - Establishment of recovery and resolution plans (RRPs)
 - Introduction of total loss-absorbing capacity (TLAC)

Capital Adequacy of Financial Institutions in Major Countries



Notes: 1. Figures for Japan are weighted averages of internationally active banks.

2. Figures for the United States are simple averages of five U.S. banks (Bank of America Merrill Lynch, Citi, Goldman Sachs, J.P. Morgan, and Morgan Stanley).

3. Figures for Europe are simple averages of six European banks (Barclays, BNP Paribas, Credit Suisse, Deutsche Bank, HSBC, and UBS).

Sources: Bank of Japan; Bloomberg.

Macroprudential Policy

Macroprudential policy tools

- ✓ Countercyclical capital buffer (CCyB)
- ✓ Loan-to-value (LTV) regulation, etc.

Institutional frameworks for the implementation of macroprudential policy

- ✓ Establishment of interagency committees in jurisdictions with multiple regulatory and supervisory authorities, etc.
- ✓ Creation of the "Council for Cooperation on Financial Stability" in Japan

A New Horizon for the "Lender of Last Resort" Function

The traditional "Lender of Last Resort" function

- ✓ Responding to the risk of the deteriorating health of one financial institution tainting other financial institutions through inferences made by depositors, etc.

"Market Maker of Last Resort" function

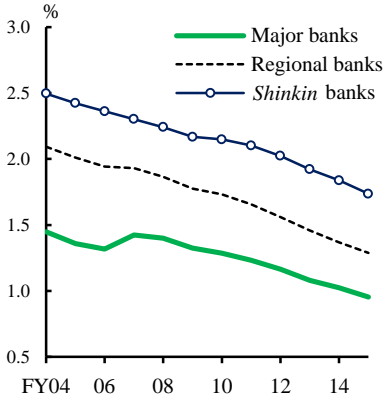
- ✓ Responding to the contraction of market activities resulting from concerns over counterparty risk among market participants

"Global Lender of Last Resort" function

- ✓ Responding to foreign currency liquidity shortages faced by globally active financial institutions

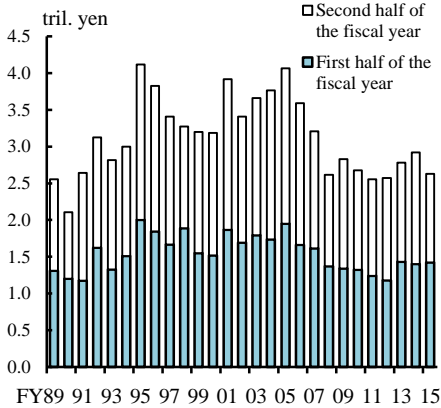
Core Profitability of Japanese Financial Institutions

Lending margins

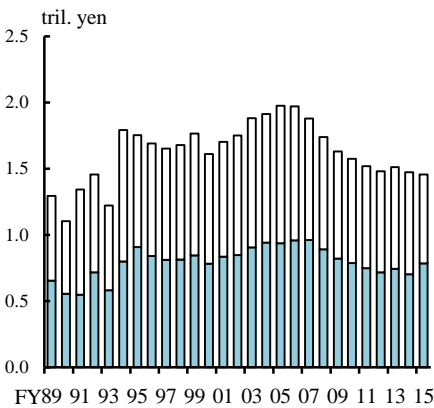


Operating profits from core business

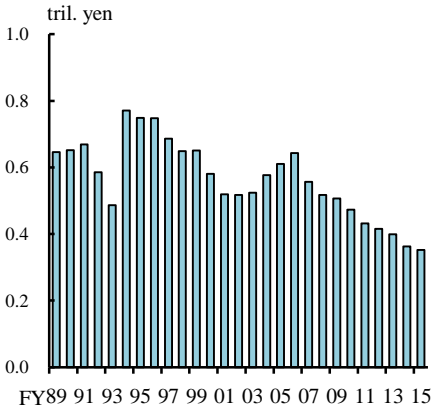
Major banks



Regional banks



Shinkin banks



Source: Bank of Japan.