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Bank of Japan

What the Lost Decades Left for the Future

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Held by the International Association of Deposit Insurers,
Asia-Pacific Regional Committee

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Introduction

Ladies and gentlemen, it is my pleasure to address the distinguished audience attending the International Association of Deposit Insurers (IADI) Asia-Pacific Regional Committee (APRC) International Conference held here in the historic city of Kyoto.

Today, I want to trace history a little bit in an attempt to find out what can be learned from the so-called Lost Two Decades in Japan.

The ordeal that Japan's economy has undergone since the bursting of the asset bubbles in the early 1990s was initially dismissed as a uniquely Japanese experience with limited implication for the rest of the world. But the subsequent global economic and financial development suggests it was, in fact, in no way unique. The challenges that the Bank of Japan faced during the Lost Decades in endeavoring to restore financial stability and overcome deflation have provided significant lessons, some of which have created the guideposts for the future. Among the insights obtained, I want to pick up on three issues that I think are of particular relevance in the current context and for the audience in this room.

These are the mission to overcome deflation, the mechanism to contain a financial crisis, and the role of a central bank as the Lender of Last Resort.

I. Overcoming Deflation

Zero Lower Bound on Nominal Interest Rates and Deflationary Equilibrium

The first issue is the mission to overcome deflation. Since the financial crisis in the 1990s, Japan's economy is said to have fallen into *deflationary equilibrium*, in which prices decline gradually and persistently. Let me start with a look at this deflationary equilibrium.

Prices continued to decline principally because a large shock brought by the financial crisis affected Japan's economy and the output gap widened. Nowadays, there is no need to explain how a financial crisis damages the real economy through erosion of financial intermediation. However, at the time, this mechanism seems to have been grossly underestimated. After entering the 2000s, the downward pressure was compounded by a

new shock of a declining labor force, and this has been putting further downward pressure on the economy.

However, deflation ought not to continue if a central bank is able to sufficiently lower nominal interest rates in the face of such large shocks. In this regard, the critically important factor is whether a central bank faces the zero lower bound or not. Chart 1, which I borrowed from a paper by President Bullard of the Federal Reserve Bank of St. Louis, shows this in a simplistic manner.[1] In the chart, the nominal interest rate and the inflation rate in a steady state will be determined when the line describing the Fisher relation -- which shows the relation among nominal interest rates, real interest rates, and inflation rates -- crosses the line representing the central bank's policy reaction function. A central bank's policy reaction function would have a positive slope as the central bank would react to a declining inflation rate by lowering interest rates. However, as the central bank cannot lower nominal interest rates below 0 percent, the reaction function becomes horizontal when nominal interest rates are at 0 percent, as shown in the chart. Then, the two lines cross twice, creating *inflationary equilibrium* on the right side of the chart and *deflationary equilibrium* on the left side. When strong downward pressure is added to the economy, an inflationary equilibrium might shift down toward a deflationary equilibrium. If actual figures for Japan, the United States, and Europe are plotted on the chart, one can see that Japan's economy has been hovering around deflationary equilibrium (Chart 2).

These topics of the zero lower bound on nominal interest rates and deflationary equilibrium were initially considered unique to Japan and taken up as the subject of intellectual curiosity by only a fraction of academics. However, since the Lehman crisis, as central banks in major advanced economies have come to face similar problems, these issues have prompted the policymakers to refocus on Japan's experiences, from which they sought to draw practical lessons.

[1] Bullard, J. (2010): "Seven Faces of 'The Peril'," *Federal Reserve Bank of St. Louis Review*, September/October, pp.339-352.

Escaping from Deflationary Equilibrium

Another lesson is that, once the economy falls into deflationary equilibrium, it is difficult to overcome that situation. In order to get out of deflationary equilibrium, a sufficient *escape velocity* needs to be provided to the economy. What is extremely important in this regard is to employ all policy measures in the arsenal. As for monetary policy, the Bank of Japan introduced a decisive measure of quantitative and qualitative monetary easing in April last year. At the same time, as for fiscal policy, the government launched an expansionary policy partly through a supplementary budget while taking due account of long-term fiscal sustainability. In escaping from deflationary equilibrium, in my view, monetary and fiscal policies that were independently conducted under inflationary equilibrium need to be pursued with a different approach. In this regard, the joint statement of the Bank and the government announced in January last year may have been playing an important role as a *coordination device* that enables the collective conduct of monetary and fiscal policies. Thanks to these measures taken, the latest figures in Chart 2 suggest that Japan's economy has gradually but steadily been escaping from deflationary equilibrium.

Having said that, we are only halfway to achieving the 2 percent inflationary equilibrium. In view of this, what warrants attention are effects of the consumption tax hike from this April. While there are some goods, like automobiles, that seem to face a larger increase in demand ahead of the tax hike compared with the previous consumption tax increase in 1997, we would like to wait for an accumulation of data to judge the overall effects on private consumption (Chart 3). Personally, I believe that Japan's economy as a whole is resilient enough to absorb the effects of the consumption tax hike. The major reasons for this are continued improvement in employment and income conditions and the absence of problems that existed in the previous 1997 tax hike. In particular, the critical difference is that, while the financial intermediation function that supports economic activity was broken due to the domestic financial crisis, which was at its peak in 1997, the financial system is in sound, robust shape this time around. Put differently, the absence of a financial system problem corresponds to the fact that problems such as debt overhang, excess capacity, and excess employment that had haunted the economy at that time have been resolved thanks to subsequent efforts by firms (Chart 4).

The Bank will steadily pursue quantitative and qualitative monetary easing to make sure we put an end to this deflation. As we have said repeatedly, should the outlook for economic activity and prices change due to some risk factors, the Bank will make adjustments as necessary.

While overcoming this deflation is the Bank's manifest mission, for Japan's economy to move to a sustainable growth path, it is crucial to inspire private economic entities' entrepreneurship and dynamism in order to reinforce the growth potential of the economy. In this regard, I strongly expect that the government's growth strategy will be steadily implemented.

Now let me bring you to the second issue: the mechanism to contain a financial crisis.

II. Mechanism to Contain a Financial Crisis

Financial System Stability and the Role of a Central Bank

Smooth financial intermediation under a stable financial system is a prerequisite for achieving sustainable economic growth with price stability. Stability of the financial system is also needed to secure the effectiveness of monetary policy. This is because the financial system is a major policy transmission channel, in that monetary policy is carried out through measures such as open market operations that have financial institutions as their counterparts.

In the Bank of Japan Act, contributing to the maintenance of stability of the financial system is stipulated as the Bank of Japan's purpose, along with achieving price stability. Against such a backdrop, through its on-site examinations and off-site monitoring, the Bank has been striving toward accurately gauging the business conditions of financial institutions. In addition, while utilizing the information of individual financial institutions obtained through such processes, the Bank seeks to gain a holistic view on the soundness of the entire financial system. The points to be checked include whether there is a widespread accumulation of financial imbalances such as an excessive expansion in credit aggregates or leverage as well as an excessive rise in asset prices, which are assessed from a

macroprudential perspective.[2] The examination of financial imbalances has become one of the important exercises under the current monetary policy framework in Japan.

Lessons Learned from Japan's Experience

The efforts to secure financial system stability from the micro- and macro-perspectives I have just mentioned aim at early detection of a source of crisis and preempting its materialization. Despite such efforts, we cannot eliminate the probability of a crisis. Therefore, it is critical to establish an effective mechanism that can minimize the spread of damage in case a crisis occurs. In this regard, Japan's experience of the financial crisis of the 1990s may provide many lessons, because it was a painful case that allowed seeds of problems to grow into a full-scale systemic crisis, during which about 180 depositary institutions failed. There were multiple reasons why this had to be the case. In what follows, I want to point to three basic causes, acknowledging the fact that wisdom came only after the event. Hopefully, these will provide those countries that are in the process of designing and establishing a mechanism to contain a financial crisis with valuable insights.

a. Delay in authorities' recognition of the situation

The first cause was a delay in authorities' recognition of the situation. In 1992, the size of nonperforming loans announced by the government was 8 trillion yen in total for 21 major banks. At the time, the effects of nonperforming loans on the financial system were not considered to be so serious. For example, a 1992 Economic White Paper stated that nonperforming loans were not a critical problem for banks' management as those were only a part of banks' total loan amount of 351 trillion yen and accounted for a small portion of their total assets, and as banks had about 17 trillion yen of unrealized gains on securities. This statement ultimately diverged significantly from the actual figure of the banking sector's cumulative losses in the ensuing 10 years, which turned out to be as much as 100 trillion yen, or about 20 percent of GDP (Chart 5). This example was not limited to Japan. Concerning losses associated with the U.S. subprime mortgage problem, which triggered

[2] The Bank of Japan publishes the *Financial System Report* semiannually, with the objective of comprehensively analyzing and assessing the stability of Japan's financial system and facilitating communication with concerned parties in order to ensure such stability.

the recent financial crisis, the U.S. authorities initially announced that these totaled about 50 to 100 billion dollars. Ultimately, the amount bloated to several hundred billions. Amid the vortex of a crisis, authorities tend to yield to wishful thinking. We need to bear in mind again the need to expect the worst and plan for the best when the financial system faces preliminary tremors.

A delay in recognition also held true in terms of the gravity of the effects that nonperforming loan problems had on the economy. After the bursting of the bubble, the authorities were aware of the possible impact of a decline in real estate prices on management of individual financial institutions. However, macroeconomic consequences of eroded financial intermediation and the resultant tighter monetary condition -- in recent terminology, a negative feedback loop between the financial system and the real economy -- had been underestimated, if not disregarded.

b. Lack of recognition of the nature of systemic risk

The second cause was a lack of recognition regarding the nature of systemic risk. Japan's financial crisis in the 1990s took hold with the resolution of two Tokyo-based credit cooperatives in December 1994. At the time, a wide range of financial institutions were perceived to be facing the common problem of mounting nonperforming loans. Therefore, even though these two credit cooperatives were small in size, there was a risk that the failure could drive the entire financial system into turmoil, as the problems with the failed institutions were easily associated with those faced by the surviving ones -- for example, people would ask themselves, "if those credit cooperatives failed, why can't others?" Then came November 1997. In a single month, now remembered as Dark November, as many as four financial institutions including internationally active ones failed in succession. Sanyo Securities, a middle-ranking securities firm, was among those that failed. It defaulted on borrowing from the call market, the core of the interbank market. The amount of the default by this non-depositary financial institution was only about 8.3 billion yen -- a fraction compared with the market size. But as that was the first-ever default in the call market, it sent a shockwave through market participants, and every one of them had a gnawing suspicion that those to whom they lent money might fail anytime. As a result, the call market contracted sharply and the market intermediation function was lost.

When there is increased vulnerability of the financial system, even the failure of a small financial institution or non-depositary financial institution can induce a contagious systemic shock. At the time, there was a general lack of recognition about the mechanism through which a shock develops into a systemic crisis.

c. Lack of effective safety nets

The third cause was a lack of effective safety nets. It would have been more desirable if an effective framework had been in place in normal times that could both contain moral hazard and avoid systemic risk in a balanced manner. However, in reality, the creation of such a framework lagged behind the unfolding crisis. This delayed the resolution of problem financial institutions and resulted in an escalation of the crisis.

In Japan's financial crisis of the 1990s, policy responses were based on the principle that all depositors, including uninsured ones, should be fully protected in order to preclude a depositors' run. To cover the cost of the deposit protection, the failed financial institution's capital would first be used. The residual amount was supposed to be covered by financial assistance from the Deposit Insurance Corporation of Japan (DICJ). However, under the primitive legal framework of that time, the amount of available financial assistance in a bank failure was limited to covering only the insured. Therefore, to collect the cost needed for full deposit protection including uninsured deposits, the only option left was to rely on voluntary contributions from financial institutions -- a method later called the *consortium method*. Although this method worked for a while, it soon reached a limit, as the number of failures soared and the cost of deposit protection consequently bloated. This led to legislation that removed the ceiling of financial assistance from the DICJ. But the source of the enhanced support was deposit insurance premiums collected from the financial industry. This was little different from the *consortium method*, in the sense that it was the financial industry that had to bear the burden anyway. With the financial strength largely exhausted, there was naturally a limit to what the industry could bear. In other words, the crisis had escalated to the extent that injection of public funds, the only remaining financial resource, was considered imminent and necessary. But political difficulties prevented that from taking place in a timely manner. Indeed, the discussion on public funds injection was

not unsealed[3] until Japan experienced the so-called Dark November of 1997, at which point the crisis became visible in the eyes of everyone. This finally paved the way for the use of public funds.[4] However, establishing safety nets amid escalation of the crisis was a painful process. It was only after May 2003,[5] almost six years after Dark November, when we finally felt that the crisis was gradually waning.

Japan's Safety Nets that Evolved while Coping with the Crisis

As a member of the policy authorities at the time, I sometimes wonder what could have been different if public funds had been injected a little earlier. At the same time, however, it should be appreciated that the safety nets for Japan's financial system have developed into solid ones as a result of a series of evolving steps taken while coping with the actual crisis.

The current safety nets in Japan are equipped with a framework of investor protection for each business category. As for depositary financial institutions, a framework is now in place that allows, if a case is judged to be systemic, for exceptional measures to be taken to reinforce the capital position of a bank, including an option for temporary nationalization. In addition, a piece of legislation last year introduced a framework intended to cope with market-induced-type systemic risk that could be triggered by such non-bank institutions as securities firms and insurance companies. Thus, I think I can say that Japan's safety nets have evolved to become comprehensive ones that cover a wide range of financial institutions and can be considered to represent the culmination of past actual financial crisis management measures. In that regard, our safety net arrangements have a lot to offer, and to which countries overseas can make reference. Of course, Japan's system as it stands

[3] The discussion on public funds injection in Japan was sealed in 1995 after an episode of injecting taxpayers' money amounting to 685 billion yen to resolve the housing loan corporation (HLC) problem in 1995 -- the so-called Jusen Problem. HLCs were non-bank financial institutions.

[4] In Japan's financial crisis, there were two major cases of capital injection using public funds. The first case was in March 1998, when capital of 1.8 trillion yen was injected to 21 major banks based on the former Act on Emergency Measures for Financial Functions Stabilization. The second injection took place in March 1999 based on the Act on Emergency Measures for Early Strengthening of Financial Functions. Based on the asset quality assessment, a total of 7.5 trillion yen in capital was injected into 15 banks.

[5] In May 2003, public funds were injected into Resona Bank based on Article 102 of the revised Deposit Insurance Act and, triggered by this, stock prices that had long been stagnant gradually started to rise.

does not fit every country exactly. Needless to say, it is desirable to establish frameworks that suit the financial and legal systems of respective countries while utilizing universal elements underlying Japan's system.

III. Central Bank as the Lender of Last Resort

Scope of the Lender of Last Resort and the Safety Nets

The third and final issue I will address today is the role of a central bank as the Lender of Last Resort. In coping with financial crises, a central bank's Lender of Last Resort function has also played an important role. This is a function in which a central bank provides funds to a financial institution facing a temporary liquidity shortage in order to prevent systemic risk from materializing. In carrying out this function -- through the so-called *special loans* -- the Bank of Japan has required, including during the crisis period, that four conditions be fulfilled. Specifically, first, there must be a strong likelihood that systemic risk will materialize. Second, there must be no alternative to the provision of central bank funds. Third, all responsible parties are required to take clear responsibility to avoid moral hazard. And fourth, the financial soundness of the Bank of Japan should not be impaired.

Of these, the fourth principle entails an inherently difficult problem. As was the case with the failure of Sanyo Securities and many other cases, a financial crisis typically surfaces in the form of liquidity shortage with a solvency problem lurking in the background. What is troubling is that, at an early stage of the crisis, it is quite difficult to differentiate the liquidity problem from the solvency problem. The traditional wisdom is that the Lender of Last Resort support should be confined to "illiquid but solvent" institutions, but in practice this is not easy. This is why a central bank serving as a Lender of Last Resort runs the risk of credit losses. If the central bank's funds become unrecoverable, its financial soundness will be impaired. If, as a result, speculation arises that the central bank's policy judgment might be affected, policy effectiveness could be undermined. Furthermore, losses incurred by the central bank might ultimately lead to taxpayer burden through reduced transfers to the government.

The problems that I have just mentioned will be even more acute when safety nets are underdeveloped. A central bank will be forced to make the decision of whether to dare take risk and exercise its Lender of Last Resort function in order to avoid a crisis despite the possibility of incurring losses. In Japan, during the 1990s, in the absence of frameworks to cope with systemic risk triggered by non-bank securities firms and with capital shortage of depositary institutions, the Bank of Japan intentionally took on the risk and provided special loans to fulfill its mission to secure stability of the financial system. However, this ended in the painful result of incurring credit losses of more than 200 billion yen.

Today, as mentioned earlier, comprehensive safety nets are installed, and the DICJ has a broadened capacity to provide funds including capital injection. Accordingly, the scope of the Bank of Japan's role has become substantially narrower relative to that in the 1990s, and is basically confined to back financing toward the DICJ. Going forward, it will become important to strengthen coordination among related parties under the new framework so that crisis management measures can be activated promptly in the event of crisis outbreaks.

New Dimensions of the Lender of Last Resort

a. Market Maker of Last Resort

The central bank's Lender of Last Resort function seems to have reached a new stage. During the recent global financial crisis, it has become clear that systemic risk can be magnified through mutually reinforcing declines in funding and market liquidity in light of increasingly deepening and interconnected financial markets. After the market turmoil in the summer of 2007, heightened counterparty concerns among market participants drove the markets to become dysfunctional. In response, central banks embarked on restoring market function by providing liquidity to the markets as a whole through open market operations. Specifically, after the collapse of Lehman Brothers in September 2008, the Federal Reserve (Fed) provided funds to issuers of CP and holders of asset-backed securities (ABS). Meanwhile, in Japan, the corporate sector was directly hit by the crisis because the market liquidity of their funding sources dried up. To address the adverse market condition, the Bank of Japan took the exceptional steps of making outright purchases of CP, asset-backed commercial paper, and corporate bonds. More recently, in response to market fragmentation that became serious in the euro area on the back of the

sovereign debt problem, the European Central Bank (ECB) carried out a large-scale fund provisioning through its three-year Longer-term Refinancing Operations (LTROs) on a full allotment basis, aiming at restoring market function. As these measures substitute for the intermediation function of the markets, we can probably say that a central bank's Lender of Last Resort function has evolved to encompass the role of *Market Maker of Last Resort*.

b. Global Lender of Last Resort

The recent global financial crisis demonstrated that systemic risk can spill over across national borders and have a global dimension. The deepening of globalization had prompted financial institutions to broaden their intermediation activities into non-home currencies. This suggests that home central banks may have to confront the challenges arising from liquidity crises in non-home currencies. In the first place, provision of liquidity in non-home currencies is in no way an easy task for the home central bank to implement in a timely manner given the potential size needed, time difference, and other operational constraints. During the recent financial crisis, U.S. dollar liquidity shortage became an acute concern, especially among European banks, which had expanded their dollar intermediation activities. In response, the ECB and Swiss National Bank each entered into swap arrangements with the Fed at the end of 2007 to obtain dollars to be fed through to financial institutions operating in respective markets. Other major banks, including Japanese ones, had also expanded dollar intermediation. Therefore, the Bank of Japan, the Bank of England, and the Bank of Canada joined the swap arrangements with the Fed after the collapse of Lehman Brothers. Triggered by the sovereign debt problem in Europe, this arrangement was reinforced in 2011 to become a network of bilateral swap arrangements that provides the six participating central banks with access to the yen and major currencies other than the US dollar,[6] should a liquidity crunch occur in these currencies (Chart 6). The arrangement has now become a permanent measure. This provision of non-home currencies under central bank cooperation embodies the role of *Global Lender of Last Resort*.

[6] These six banks are the Bank of Japan, the Fed, the ECB, the Bank of England, the Bank of Canada, and the Swiss National Bank. So far, the arrangements have not been used to provide funds other than in U.S. dollars.

As I have described, while the essential nature of a central bank's Lender of Last Resort function remains unchanged, specific ways of exerting the function have evolved, and new dimensions have been added to it. More than ever, central banks now face the need to enhance collective efforts to improve crisis management skills in order to better withstand future shocks.

Concluding Remarks

Ladies and gentlemen, let me now conclude.

The Japanese experience tells us that a negative feedback between the real economy would come into play once financial stability is undermined, and that, for this reason, we need to have a good set of crisis prevention and crisis management measures in place. Today, I have focused on the latter, but let me reiterate that crisis prevention tools such as financial regulation and macroprudential policies are no less important. In dealing with the financial crises of the recent past, we also have recognized that a central bank's Lender of Last Resort function remains an important tool that needs to be constantly refined to meet the potential challenges arising from globalization.

Two decades may seem a mere instant in history for a city like Kyoto that has survived more than one thousand years with a myriad of historic events. But the past two decades were so eventful that I am sure it will long be remembered in the history of economy and finance. We have learned a lot and may have become a little wiser, but so many things remain to be explored.

We can never regain the two decades that have elapsed. But we can make full use of the insights obtained during the period in fulfilling our mission of bringing the economy back on track toward sustained growth and in contributing to building up effective safety nets to underpin financial stability in Japan as well as in other countries. Only when these tasks are done can we probably say, perhaps with a little bit of relief, that the spell the Lost Decades cast on us is at last broken, and that not everything was lost after all.

Thank you very much for your attention.

What the Lost Decades Left for the Future

April 23, 2014

Speech at the 2014 IADI APRC International Conference

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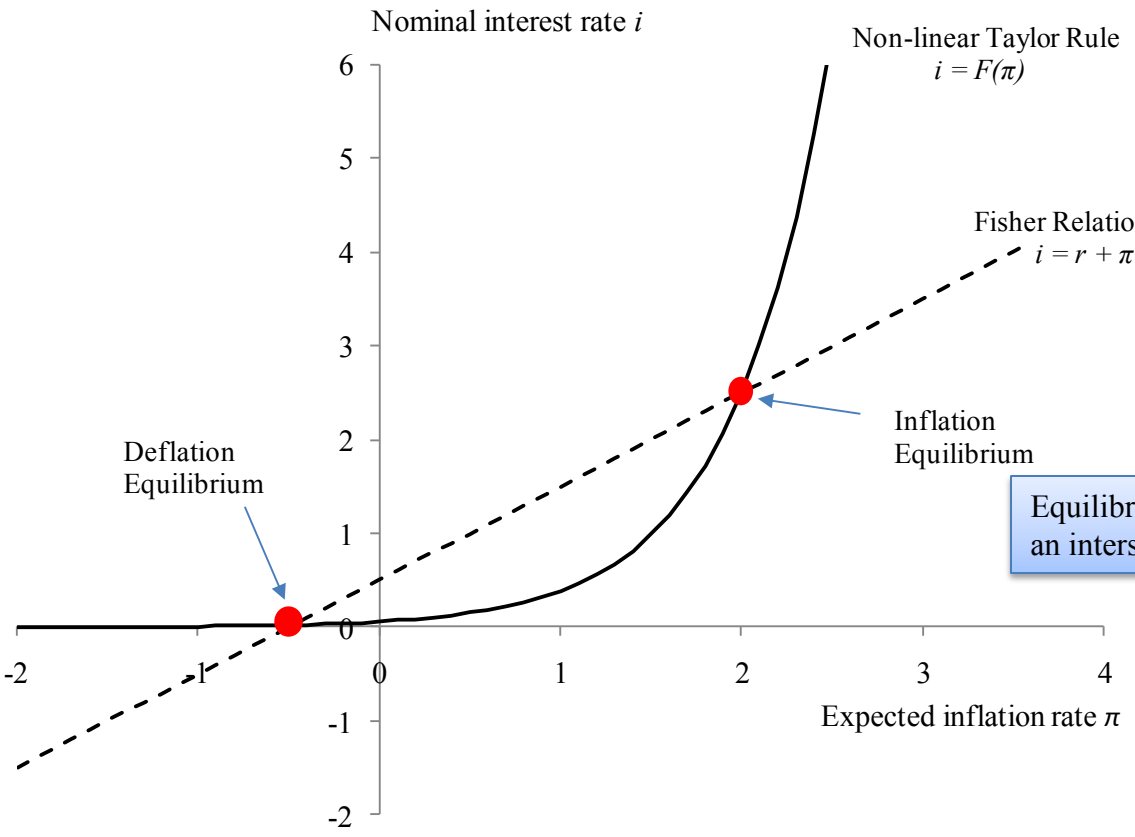
Deputy Governor of the Bank of Japan

(Chart 1)

Inflation and deflation equilibrium (1)



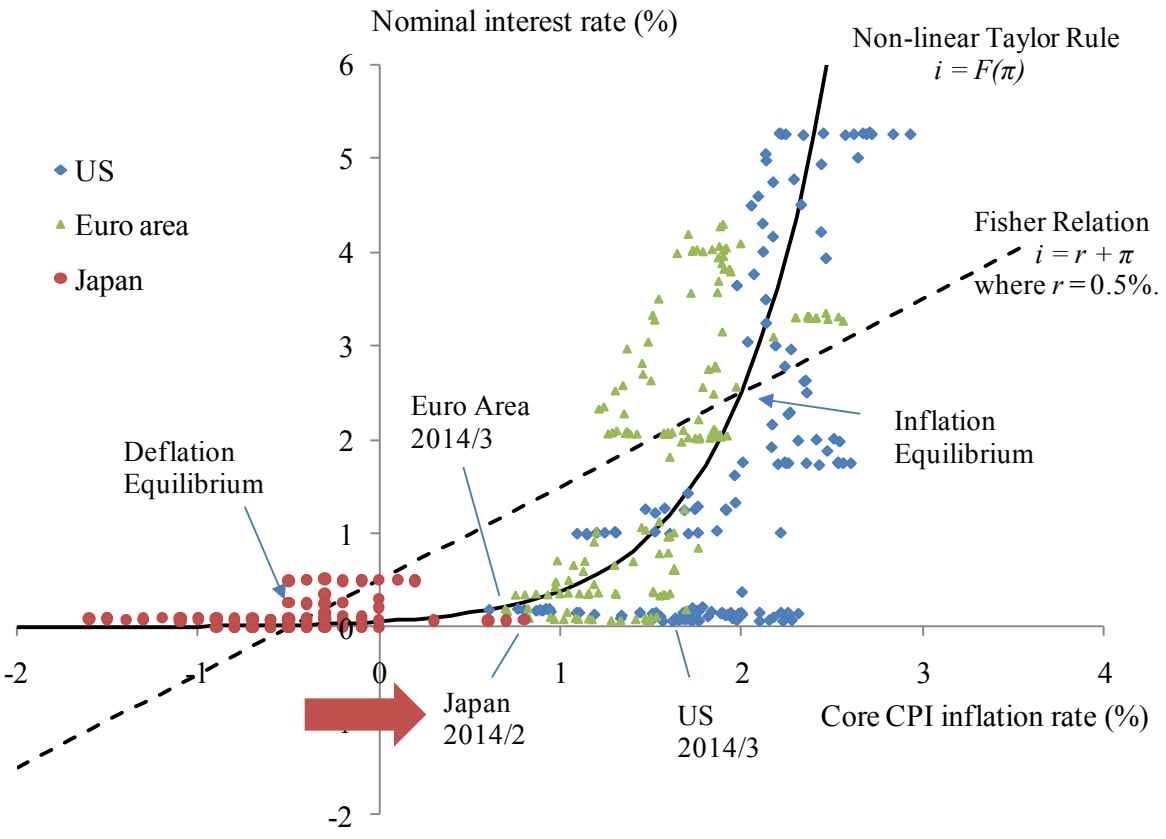
A central bank sets the nominal interest rate i according to expected inflation π, but it cannot lower the rate below zero.

A nominal interest i has a real component r plus an expected inflation component π. In this chart, r is fixed and equal to 50 basis points for exposition.

Equilibrium can be obtained as an intersection of two lines.

(Source) Bullard, J. (2010): "Seven Faces of „The Peril"," *Federal Reserve Bank of St. Louis Review*, September/October, pp.339-352.

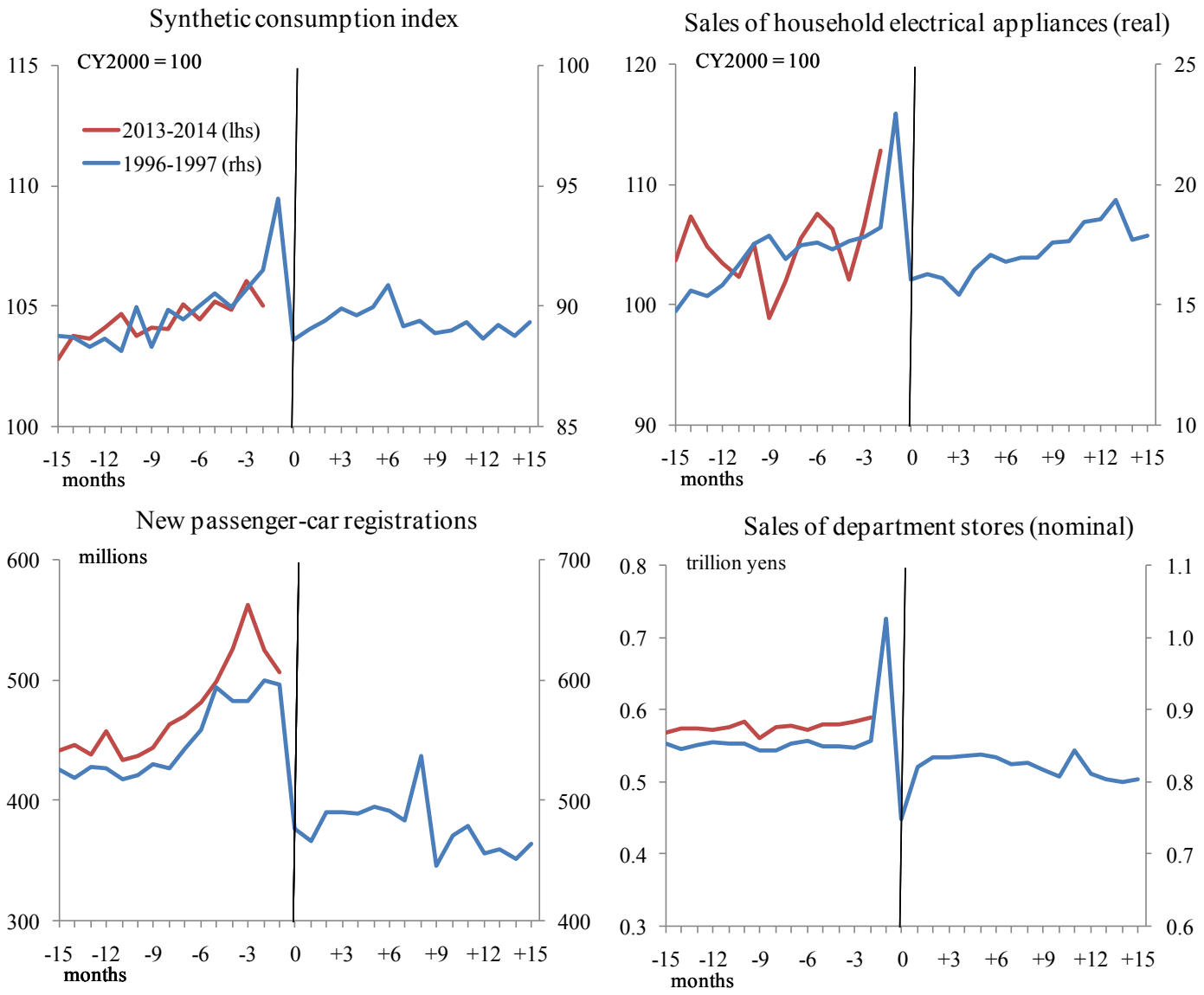
Inflation and deflation equilibrium (2)



(Note) Dots are data plots of nominal interest rate and core CPI inflation rate from January 2002 to February/March 2014. Core inflation, which is a proxy of expected inflation in this chart, is defined as CPI excluding food and energy.

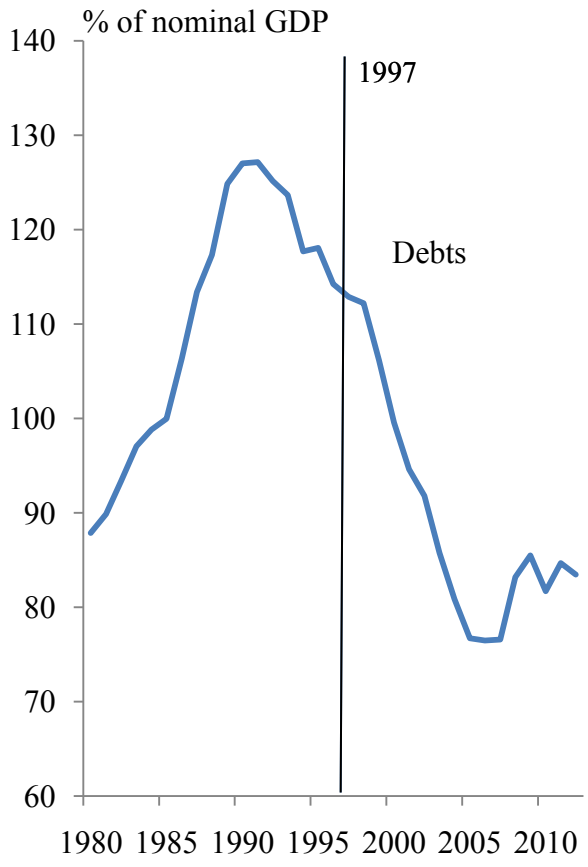
(Chart 3)

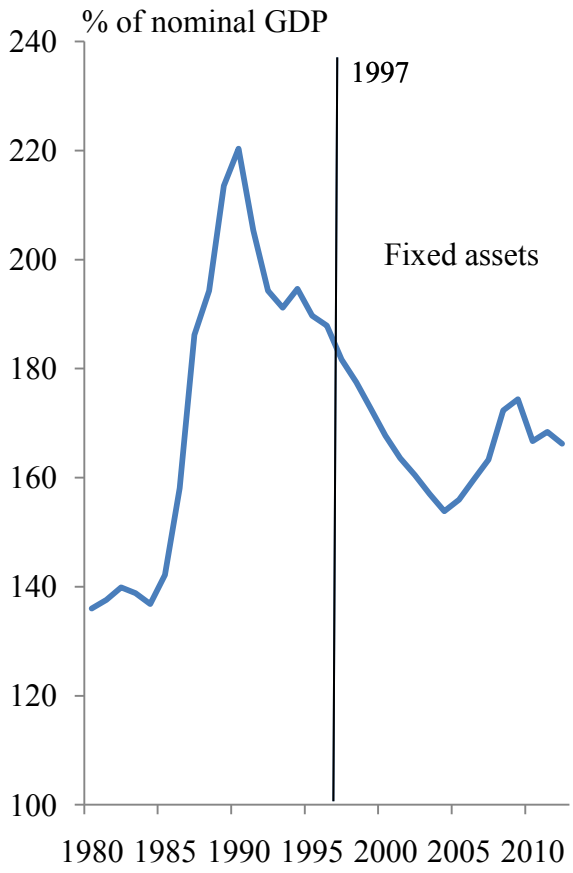
Comparison to 1997 (1): Consumption



(Note) "0" corresponds to the timing of consumption tax hikes (1997 April and 2014 April).

Comparison to 1997 (2): Corporate adjustments

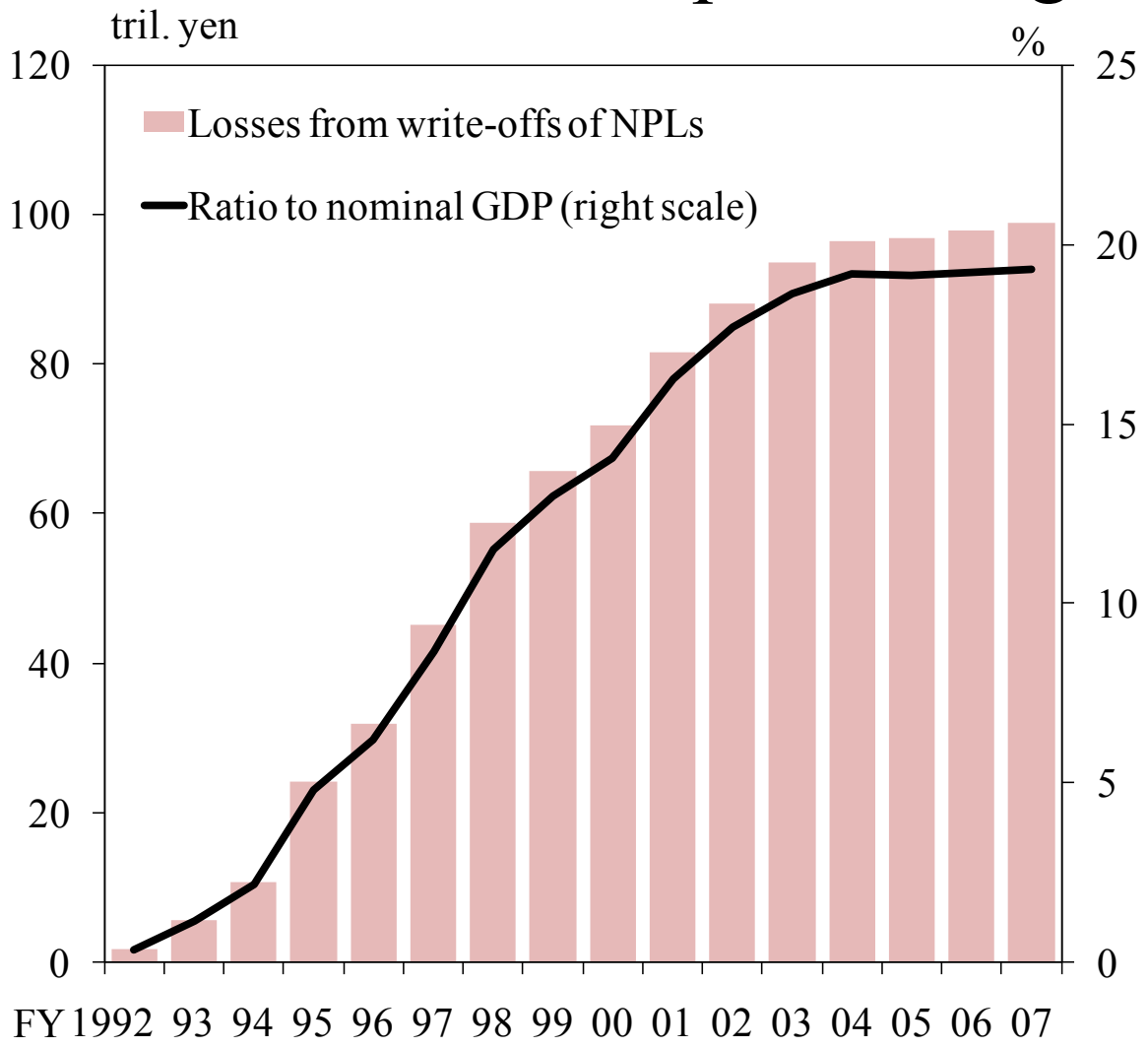




(Note) Debts and fixed assets are those of nonfinancial corporations.

(Chart 5)

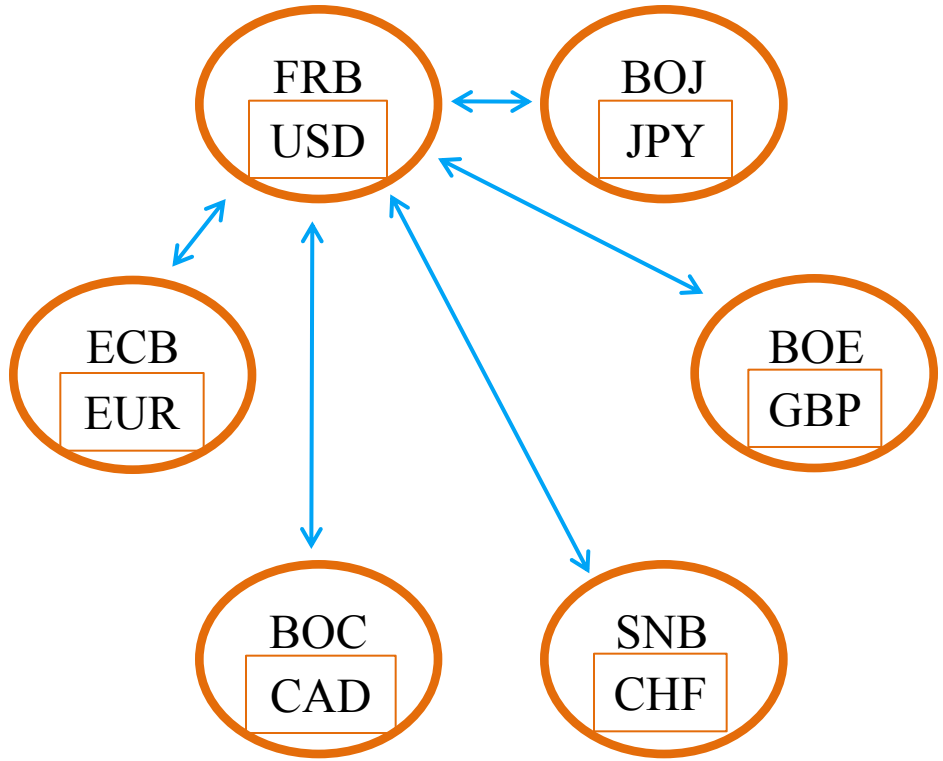
Losses of Major Financial Institutions in Japan from Write-Offs of Nonperforming Loans



(Note) Losses on disposal of NPLs in Japan are the accumulated amount since March 1993.

Swap Network by Six Central Banks

Swap Arrangements after the 2008 Lehman Crisis



Bilateral Liquidity Swap Arrangements since 2011