ECONOMIC POLICIES IN JAPAN SINCE 2001:
STOCKTAKING OF LESSONS AND OUTSTANDING ISSUES

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ABSTRACT

The economic polices implemented in Japan since 2001 were intended to restructure the economy and promote robust recovery from the prolonged depression and deflation after the bubble economy (the ‘lost decade’). However, they were also a set of unprecedented policies and gave rise to heated controversies. The five years of policy implementation and economic development provides us with an opportunity to review the controversies, draw lessons, and identify outstanding issues to be researched in the future. A provisional discussion made in this paper provides a number of tentative conclusions: (i) Prolonged depression and deflation was caused by both supply-side and demand-side factors, but would never have been overcome if not for structural policies, particularly prudential policy to resolve the NPL problem: (ii) Prudential policy were successful in shifting the regime and providing strong incentives to the banks to dispose NPLs, while efforts to reconstruct the troubled firms facilitated the disposal by minimizing its costs: (iii) The new monetary policy framework was effective in supporting the recovery from depression and deflation. In particular, ZIRP succeeded in keeping interest rates low, and QEP in providing enough liquidity to stabilize the financial system: (iv) Fiscal situation could be better judged by gross government long-term debt, whose projection shows that further efforts are necessary to recover sustainability. A number of outstanding issues that awaits future research have also been identified.

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1. Introduction

Japan had been suffering from a depressed economy ever since the burst of the bubble-economy in 1991. While there were two recovery phases in the 1990s, they were always short-lived\(^2\). Even worse, prices dipped into deflation, and financial system became unstable in the late 1990s. In response, the government introduced four emergency economic packages during 1998-2000, which included not only increases in public works but also a permanent cut in personal income tax. The Bank of Japan (BOJ) also reduced short-term interest rate to zero, or introduced the so called ‘zero interest rate policy’ (ZIRP) in February 1999. Some relief was felt when recovery gradually gained strength in 1999, resulting in a withdrawal of ZIRP in August 2000.

The recovery, however, was vulnerable to the burst of the IT bubble in the U.S. The economy plunged into a recession in late 2000. The economy was soon at the a verge of a “deflationary spiral,” a vicious cycle between recession and deflation. Immediately after the turn of the millennium and the restructuring of government ministries and agencies, Japan embarked on initiating a set of unprecedented and controversial economic policies under Mr. Junichiro Koizumi as the Prime Minister\(^3\).

His policies placed emphasis on structural policies, as the symbolic phrase “no gains without reform” states. It meant that counter-cyclical macroeconomic policies that had played an active role during the 1990s will no longer be taken\(^4\). Structural problems were identified as the main culprit of the poor performance of the Japanese economy, and the understanding was that, unless they were resolved, the economy would never become active. Moreover, counter-cyclical measures were regarded to have only a temporary effect leaving wider deficit and higher government debt to be dealt with\(^5\). Structural policies, or supply-side policies, were actively pursued even though there were doubts expressed about the nature of the poor performance and arguments in favor of the demand-side policy.

\(^2\) It is a popular misconception that Japanese economy had been in recession throughout the 1990s, when in fact there were two recovery phases during the period. The main features of the business cycle after 1991 are discussed in Saito (1998).

\(^3\) The restructuring of the government organization in January 2001 lead to a creation of the Council of Economic and Fiscal Policy, and the Cabinet Office. Mr. Koizumi, who became the prime minister in April 2001 made use of the new organs to a full extent in order to pursue his economic reform agenda.

\(^4\) This statement should not be taken too rigidly. The phrase was often followed by a sentence stating that “when required, bold and flexible measures will be taken.” Even in 2001, after Mr. Koizumi took office, two supplementary budgets were introduced in order to bring a halt to the deflationary spiral.

\(^5\) Views are sometimes expressed that counter-cyclical measures implemented in the 1990s did not include “real water”, or measures that actually had fiscal implications. The magnitude of fiscal implications, which covers not only expenditures but also revenue measures, can be gauged by estimates of structural fiscal balance. An estimate in Cabinet Office (2006b) shows that, after turning deficit in FY1992, the deficit had widened throughout 1990s, except for a brief period in FY1997. It confirms the expansionary stance of the fiscal policy during the period.
On top of the list of structural policies were financial policies designed to overcome the NPL problem in the major banks. A timetable was set for the disposal of NPLs, and reinforced bank supervision was introduced to provide incentive. To cope with inadequate capital of a major bank, injection of public funds to the banks were made. While there were views criticizing that the policy was not aggressive enough to solve the problem, there were also opposing views that argue that NPLs would not be cleared unless the economy recovers.

Meanwhile, the Bank of Japan (BOJ), who had already eased the monetary condition to an extent where short-term interest rates were virtually zero, introduced in March 2001 a new monetary policy framework in which quantitative easing policy (QEP), in addition to zero interest rate policy (ZIRP), was implemented. It intended to stimulate the economy so that collapse of the economy could be prevented and recovery from depression and deflation would be achieved. While ZIRP was seen to have had an effect, the effect of QEP was not that apparent. Some were of the view that it couldn’t have been effective from the first place, while others claimed that it was not aggressive enough, leading some to propose more ambitious measures.

On the fiscal front, efforts were concentrated in turning the primary balance of the central and local governments combined to a surplus. It was pursued by cut in expenditures rather than increase in taxes. It was implemented in spite of the complaints from certain areas, such as the construction industry and local governments, who claimed that they were unfairly treated in the process. Some advocates stressed that, in view of the pressures on the social security system expected from aging of the population, tax measures have to be taken up in order to make fiscal situation sustainable. On the other hand, a challenge was made by a view that the Japanese fiscal situation was not that serious when assets held by the government was taken into account.

The economic developments since 2001 shows that an economic collapse was prevented. In fact, there was a dramatic turnaround in the performance of the economy after 2002, accompanied by an impressive improvement in the resilience of the corporate and financial sectors. While exogenous factors certainly made a contribution to the improvement, economic policies can also claim themselves as a well-deserved nominee for a major contributor. This paper aims to assess the contribution of the economic policies implemented during the period by discussing what can be said about the controversies regarding the economic policies in light of the actual economic outcome. In addition to drawing lessons from the controversies, outstanding issues will also be identified in order to aid future research.

The organization of the paper is as follows. Following this introduction, section 2 will overview the economic polices that had been taken since 2001. The policies taken up will be prudential, monetary, and fiscal policies. It will be followed by section 3 in which economic development witnessed during the period will be summarized. Against this backdrop, the controversies about the policies will be assessed in sections 4 to 7. Section 4 will discuss the two
opposing views about the diagnosis of the poor performance of the economy since early 1990s, namely whether they were demand-side or supply-side factors. The controversy about the importance of NPL disposal will also be examined in this section. Section 5 will discuss prudential policy to address the NPL problem. The opposing approach to the NPL will be discussed. The reason for the limited negative impact of the NPL disposal on the economy will also be examined. Section 6 will take up monetary policy. The extent to which the new monetary policy framework was successful is the main focus of the discussion. In this connection, why money supply was so unresponsive to monetary policy will also be examined. Section 7 will be devoted to fiscal policy. What should be the appropriate indicator of fiscal situation and how should sustainability of the fiscal deficit be assessed will be examined. Finally, section 8 provides a summary and some concluding remarks.

2. Economic Policies since 2001

In this section, economic policies implemented since 2001 will be summarized. It is intended to provide background to the discussions in sections 4 to 7 where the controversies about the policies will be taken up.

2-1 Prudential Policy

The focus of prudential policy during the period was the disposal of NPLs and enhancing financial sector stability (Table 1-A).

Insert Table 1-A here

After the collapse of some major financial institutions in 1997, the government made decisions to commence special public management of a couple of banks in 1998 and 1999. It was not until 2001, however, that the government finally decided to dispose NPLs in a more decisive manner. Emergency Economic Measures, announced in April 2001, requested the banks to remove NPLs from their balance sheet within 2 fiscal years for existing NPLs, and within 3 years for new ones. After Mr Koizumi came into office, his first major reform initiative, the Basic Policies for Economic and Fiscal Management and Structural Reform of the Japanese Economy (Basic Policies 2001) announced in June 2001, gave NPL disposal the highest priority in his reform agenda.

One of the new arrangements that were introduced in October 2001 was the special inspection by the Financial Services Agency (FSA). It was introduced after the collapse of a large retail company, Mycal Corporation, in the previous month which raised doubts in the market about
the adequacy of asset classification and loan-loss reserves by the banks. Special inspection focused on the major borrowers whose market valuation saw a significant decline, and the banks were instructed to reflect the market signal to asset classification and loan-loss reserves. It forced the banks to increase their loan-loss reserves and, as a result, financial statements for FY2001 recorded a net loss.

The disposal of NPLs was further accelerated by the appointment of Mr. Heizo Takenaka as the Minister in charge of the FSA in September 2002 and announcement of the Program for Financial Revival in October 2002. It aimed to halve the major banks’ ratio of NPL to total credit (NPL ratio) by the end of FY2004, and also declared tightening of assessment of assets, enhancement of capital adequacy, and strengthening of banks’ governance. Special inspection was decided to be continued and supervision was tightened to monitor banks’ efforts to improve profitability.

A turning point came in May 2003 when the government decided to inject capital to Resona Bank which was created only three months ago by merger of two relatively weak banks. Some saw this as a manifest of government’s policy of ‘too-big-to-fail’ principle. The stock prices, which were at their record low, finally saw a reversal of the trend and rose to recover the loss since early 2001 within a year.

2-2 Monetary Policy

After the premature withdrawal of ZIRP in August 2000, the BOJ faced increasing pressure to ease monetary policy again in front of the economy sitting at a verge of a deflationary spiral. After reducing official discount rate from 0.5 percent to 0.25 percent, and reducing the target for the call rate from 0.25 percent to 0.15 percent in February 2001, the BOJ finally introduced a new monetary policy framework in March 2001, to assist the economy in recovering from depression and deflation (Table 1-B).

The essence of the new monetary policy framework was as follows; (i) the operational target of monetary policy will be shifted from uncollateralized overnight call rate to banks’ outstanding current account balance (CAB) at the BOJ and the latter will be supplied in excess of required reserves; (ii) the new regime will be maintained until the rate of change of CPI (nation-wide index excluding fresh food) becomes zero or positive in a steady manner; and (iii) in order to achieve the target level of CAB, purchase of long-term Japanese government bonds (JGB) will be increased. In other words, it consisted of ZIRP, which was reinforced by a commitment in terms of its duration, and QEP, which was implemented by raising the target level of CAB at the BOJ, and the...
amount of JGB purchase by the BOJ.

The CAB target level, which started off in March 2001 with 5 trillion yen (the level of required reserves was 4 trillion yen at that time), was raised eight times since then. The last increase took place in January 2004 when it reached 30-35 trillion. The JGB purchase amount was also raised four times between March 2001 and October 2002. The amount was raised from 0.4 trillion yen to 1.2 trillion yen per month during the period.

While the BOJ implemented QEP with an aim of opening-up new transmission mechanism to stimulate the economy, it was also of the view that the transmission mechanism will only work when NPL problem was resolved. It was therefore emphasized that prudential policy and monetary policy need to make progress side by side during the period.

During the early years, instability in the financial markets forced BOJ to accept overshooting the target to accommodate liquidity demand. The directive in February 2002, for instance, made room for supplying ample liquidity to meet surge in precautionary demand towards the end of the fiscal year. In the later days, in contrast, the BOJ’s funds-supplying operations sometimes faced “under-biddings” due to ample liquidity already in the market. The directive was amended in May 2005 to allow CAB to fall short of the target in such cases.

While the BOJ remained doubtful of the usefulness of inflation targeting, they did extend the projection period of the Outlook for Economic Activity and Prices by a year in May 2005, in order to enhance accountability.

As the recovery of the economy gained strength, trend in prices slowly changed. The CPI (CY2000=100) eventually began to show increase after November 2005. The BOJ, judging that the necessary conditions to lift the QEP had been met, decided to withdraw QEP in March 2006. It was soon followed by another decision in July 2006 to withdraw ZIRP. The extraordinary monetary policy implemented in Japan came to an end after five years.

2-3 Fiscal Policy

Implementation of a series of fiscal stimulus measures in the 1990s, and the lack of success in vitalizing the economy, had left the economy at the turn of the millennium with large deficit and huge government debt. The overall deficit of central and local government combined in FY2001 amounted to 7.3 percent of GDP. The primary deficit for the same period was somewhat smaller, due to the exclusion of net interest payments, but still stood at 4.6 percent of GDP. As a consequence, outstanding gross long-term government debt was as high as 106.2 percent of GDP at the end of FY2000.

Mr. Koizumi came into office with fiscal consolidation high on the reform agenda (Table 1-C). One of the commitments he made during his campaign for office was to restrain bond issuance

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6 The debt figure is on Cabinet Office basis. The definition will be made clear in Section 7.
by the general account of the central government to 30 trillion yen. *Basic Policies 2001* announced in June 2001 set as a medium-term target achievement of surplus in the primary balance of central and local government combined. The target was made more specific in January 2002 when *Structural Reform and Medium-term Economic and Fiscal Perspectives* set the deadline for achieving primary surplus at early 2010s. In order to achieve the target, it was committed that the ratio of expenditure by the general government to GDP will not be allowed to become larger than the FY2001 level, and public investment will be reduced to early-1990s level.

The severe economic situation, however, did not allow fiscal consolidation to proceed easily. Two economic policy packages, each accompanying a supplementary budget, were implemented in FY2001 to issue additional 2 trillion yen worth of bonds, bringing the total bond issuance from 28 to 30 trillion yen. While the initial budget for FY2002 restrained bond issuance to 30 trillion yen, a supplementary budget which accommodated increase in expenditures and downward revision in tax revenues forced additional 5 trillion yen worth of bonds to be issued. Amount of bond issues in initial budget had to wait until FY2006 to fall below 30 trillion yen.

The efforts were mainly made in the expenditure side where restrain on expenditures was made possible by reduction in discretionary expenditures such as the public works program, which was cut by 33 percent during the five years to FY2006. Compulsory expenditures, such as social security expenditures, were restrained by going through a series of reform in pension, nursing care, and health care\(^7\). On the revenue side, abolishment of a part of income deduction for spouses and aged people and phased withdrawal of proportional income tax cut took place.

By FY2006, deficit in the primary balance has been more than halved since FY2002, coming down from 5.7 percent to estimated 2.4 percent in FY2006. The *Basic Policies 2006* announced in July 2006 declared that the primary surplus will be achieved by FY2011, and detailed plans to cut government expenditures by 11-14 trillion yen by the target year has been outlined. The *Basic Policies 2006* also emphasized the importance of making further efforts to bring down the debt to GDP ratio by mid-2010s. The final plan to achieve fiscal consolidation is yet to be determined.

2-4 Complementarity among the Economic Policies

It is important to note that there were complementarity among the economic policies during the period, which helped to reinforce the effectiveness of individual polices.

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\(^7\) One of the most important reforms in the pension system was made in 2004 when ‘macroeconomic indexation’ (adjustment of benefits according to the decline in insured persons) was introduced together with scheduled increases in premiums and state subsidy to basic pensions.
Prudential policy had the important task of resolving the NPL problem that had prevented the banks to increase lending and firms to undertake productive investment. By encouraging disposal of NPLs and clearing up the transmission channel, banking sector policies assisted the effectiveness of monetary policy. The direct and indirect effect of the prudential policy in supporting the economic recovery contributed.

Monetary policy which supplied ample liquidity into the system helped to calm down the anxiety over the availability of liquidity, and, together with prudential policy, contributed in stabilizing the financial system. Monetary policy also assisted fiscal policy by keeping low interest rate, which helped to keep debt servicing cost low, and by purchasing JGBs from the banks, which made JGB issuance easier.

3. Economic Developments since 2001

Economic trend have shown a dramatic turnaround since 2001. In this section, an overview of the economic developments during the period will be made so as to facilitate the discussion of the sections to follow.

2-1 Real GDP Growth

The recession that started in November 2000 was accompanied by a negative real GDP growth and decline in prices (Table 2). The real growth rate for FY2001 was minus 0.8 percent, while CPL fell by 1.0 percent in the same period. The business trend, however, showed a turnaround in January 2002. Real GDP growth not only returned positive but also started to pick-up gradually. After recording 1.1 percent in FY2002, the real GDP growth rate rose to 3.2 percent in FY2005.

There were three features about the recovery that should be noted.

First, the main contribution came from domestic demand, rather than net exports. While net exports contributed 0.7 percentage points or more than 60 percent of the growth achieved in FY2002, it gradually fell to 0.5 percentage points or less that 20 percent of the growth in FY2005.

Second, within domestic demand, it was private sector demand that was the driving force of growth. Private sector gradually increased its contribution form 0.4 percentage points in FY2002

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8 The overview of the Japanese economy in this section will have to be brief. A more detailed description can be found in the Annual Report of the Japanese Economy and Public Finance published by the Cabinet Office. See for instance Cabinet Office (2006b).
to 2.5 percent in FY2005. In contrast, public demand, which used to make a significant contribution to growth, showed only a negligible contribution, often becoming negative. It was due to decline in public investment which declined by more than 26 percent between FY 2001 and FY2005.

Third, the increase in private sector demand became more evenly balanced between corporate sector and household sector. The recovery was originally led by the corporate sector that enjoyed sharp increase in profits. Business investment recovered in FY2003 and contributed to real GDP growth by about 1 percentage points between FY2003 and FY2005. But the improved business prospects gradually fed into increase in employment, and later on to stabilization of wages. The improvement in income prospects as well as the stronger consumer confidence was the major factor behind the recovery in private consumption. Its contribution rose to 1.3 percentage points in FY2005.

2-2 Prices

The developments in prices also reflected improvements in real growth, albeit with a lag. The decline in Domestic Corporate Goods Prices (DCGPI) peaked in FY2001 and after a gradual improvement, turned positive in FY2004. Consumer Price Index (CPI, CY2000=100) followed a similar trend, recording the largest fall in FY2001 but gradually turning to a recovery trend. CPI also eventually turned positive, but it had to wait until November 2005. The main reason for the recovery was in the improvement in real GDP growth, which led to smaller GDP gap. It should be bear in mind that increase in oil prices and other special factors had also contributed in the increase. The revision of CPI (CY2005=100) that took place in August 2006 lead to a downward revision of the historical rates of change in the past but still shows an increase after May 2006.

In comparison, GDP deflator has been slow in recovery. It is still showing a drop by 1.3 percent in FY2005 over the previous year. GDP deflator being an indicator of value added per unit of products, the slow recovery can be explained by a combination of rapid increase in oil prices and slow pass-through of oil prices to domestic prices that result in a squeeze of value added per unit of products. It shows that pricing has not yet returned to normal. But it is expected to normalize when oil prices are stabilized and costs-ups appropriately reflected in prices.

As for asset prices, stock prices had been on a declining trend since early 2000. The trend, however, was reversed in mid-2003 when capital injection was made to the Resona Bank, and it has been on a rising trend since then. Land prices have been declining since 1991 and it still is in rural areas, but there are also signs that in major cities it has stabilized and even started to increase.

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9 The rate of change of domestic demand deflator turned positive in the 1st quarter of 2006, consistent with the developments in CGPI and CPI.
2-3 Private Sector

2-3-1 Corporate Sector

Although the corporate sector had carried excess debt, capacity, and employment since the burst of the bubble, restructuring to adjust their level to one that is more in line with the medium-term growth prospects has been postponed in a hope that economic environment would soon improve. The attitude seems to have changed significantly in 1997 with the outbreak of a financial crisis. Companies started to restructure their business in a serious way, and business investment was constrained to stay within the cash-flow. Employment and wages have also been shed and unemployment rate soared. By bringing down break-even point of sales, profitability gradually improved and the fruit of restructuring has been directed to repay debt. By the end of FY2005, the excesses in debt, capacity, and employment were finally dissolved.

2-3-2 Banking Sector

In response to the tougher inspection and supervision by the FSA in order to comply with the government’s target of halving the NPLs ratio by the end of FY2004, banks accelerated their efforts of reducing NPLs. The target was achieved when the ratio fell from 8.4 percent at the end of FY2001 to 2.9 percent at the end of FY2004. It was further reduced to achieve 1.8 percent by the end of FY2005.

At the same time, banks continued their efforts to strengthen their capital position through raising capital in the market as well as improving profitability by reducing cost and develop new business field. Improvement in the macroeconomic environment also benefited the banks. Banks achieved positive net profits in FY2004 and was increased by more than fivefold in FY2005. As a result, banks’ capital base has strengthened, enabling them to repay about a half of capital injection. Overall capital adequacy stands at more than 12 percent at end-FY2005.

2-3-2 Household sector

The recovery in the household sector lagged behind the general improvement of the economic situation. It was due to slow improvement in household income that resulted from the ongoing restructuring in the corporate sector. Not only did employment continued to decline but also employment mix saw a dramatic change. Regular full-time workers fell while non-regular part-time workers increased. As a result, average wages fell because of the change in employment mix in favor of low wage workers, as well as the pressure to cut basic wages. As a consequence, the share of labor income in national income, which remained high after the burst of the bubble, fell after FY2001.

The recovery in numbers of employment, being a lag indicator, started to pick up only in FY2003, when regular full-time workers increased, but the steady increase since then reversed the rising trend in unemployment rate. After peaking in April 2003 at 5.5 percent, it has come down to
4.1 percent in July 2006. Wages also increased after FY2005 with recovery of bonuses as well as increased overtime payments.

The recovery in household income was accompanied by an improvement in consumer sentiment as the recovery became firmer\textsuperscript{10}. Real growth in private consumption recovered from a low of 0.8 percent in FY2003 to 1.3 percent in FY2005.

2-4 Monetary Situation

Monetary policy stance was extraordinary relaxed. Because of the intension of the BOJ to keep uncollateralized overnight call rate at zero, with a commitment of maintaining the stance until rate of change of CPI (nation-wide index excluding fresh foods) becomes zero or positive in a steady manner, long-term interest as well as short-term interest rate remained low throughout the period.

Increase in the target of bank’s CAB held at BOJ, which was another commitment made by the Bank, raised the monetary base significantly. At its peak in the 2002:Q2, monetary base grew by 31.2 percent over the previous year. Money supply, however, did not respond to the increase; money supply only grew by 3.6 percent even at its peak in 2002:Q1. As a consequence, monetary base resulted only in lower money multiplier. Similarly, nominal GDP have been irresponsive to increase in money supply. Nominal GDP during the period fell by 2.1 percent and 0.7 percent in FY 2001 and FY2002, respectively. Velocity of money seemed to have declined during the period. Economic impact of QEP had not been so apparent in macroeconomic and monetary variables.

Exchange rate was one of the channels through which QEP was expected to work. In nominal terms, yen has shown appreciation since 125 yen/ US dollar in March 2001. In real effective terms, however, current level is the lowest in 20 years. Even compared to March 2001 level, it has depreciated by nearly 20 percent.

2-5 Fiscal Situation

Primary deficit of the central and local governments combined has been halved from 5.7 percent of GDP in FY2002 to estimated 2.4 percent in FY2006. Of the 3.3 percentage points improvement, the contribution came mainly from expenditure whose cut contributed by 2.2 percentage points during the period. The remaining 1.1 percentage points was due to tax reforms as well as increase in tax revenue owing to the economic recovery.

Net lending of the central and local governments combined (including net interest payments) in ratio to GDP has also improved because of the improvement in the primary balance and low interest payments thanks to QEP. The government debt to GDP, however, rose during the period.

\textsuperscript{10} It is consistent with the fact that savings rate (SNA basis) during the period had declined. Savings rate in SNA terms has fallen from the recent peak of 11.5 percent in FY1997 to 2.7 percent in FY2004. It should be noted that it includes the impact of increased number of aged people who has lower (negative) savings rate than the others.
period from 123.1 percent of GDP at end-FY2002 to more than 140 percent at end-FY2006.

The economic developments since 2001 which we have reviewed, can shed some lights on the controversies about the economic policies implemented during the period. In the following, the main controversies will be taken up in turn and discussed.

4. Causes of the Prolonged Depression and Deflation

4-1 Were the Causes Demand-Side or Supply-Side Factors?

a. Summary of the Controversy

The most fundamental controversy that took place during the period was on the causes of the prolonged depression and deflation. There were sharp confrontation between those who emphasized demand-side factors as the causes (demand-siders) and those who argued that they were supply-side factors (supply-siders).

The demand-siders consisted of those who emphasized the failures in macroeconomic management in the 1990s, and those who focused on the sharp decline of certain demand components.

Those who emphasized failures in macroeconomic management include Kuttner and Posen (2001), who suggested that Japanese economy behaved as macroeconomic textbook would have predicted and argued that both monetary and fiscal policies should have been more active. Many identified the failure in monetary policy as the main culprit\(^\text{11}\). While interest rate in 1990s appeared to be low, they claim that it was not low enough compared to the interest rate suggested by the policy rules. After the interest rate reached zero, they argued that that introduction of non-traditional measures, such as the QEP, should be made earlier. Those who blamed the failure in fiscal policy considered fiscal stance to have been too restrictive after 1997 when consumption tax rate hike and public investment reduction took place\(^\text{12}\).

Among the decline in demand component, drastic decline in business investment attracted attention. Bayoumi (1999) and others saw this as a result of a “credit crunch,” or reduction of supply of bank lending especially to small and medium sized enterprises. It was explained to have taken place because of the need to conform to the newly introduced capital regulation by the Bank for International Settlement (BIS) and/or of the need to respond to the lower risk tolerance of the banks.

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\(^{11}\) Others who claimed that the failure of monetary policy was the culprit include Harada and Iwata (2002), Hamada and Harada (2004), Okada and Iida (2004), and Harrigan and Kuttner (2005).

\(^{12}\) See for instance Yanbe (2004).
due to NPL problem\. Others explained the decline in business investment by the efforts of the corporate sector in trying to reduce excess capacity that had accumulated during the bubble period, as well as to suppress investment in order to give priority to debt-repayment\. Private consumption was also claimed to have been depressed because of lower disposable income and increase in uncertainty\. On the other hand, supply-siders took note of the decline in potential growth rate. The main reason for the decline in the potential was attributed to the fall in the rate of increase of total factor productivity (TFP), which was analyzed by Hayashi (2001) and Hayashi and Prescott (2002). Lower growth of TFP, in turn, was claimed to be a result of a number of factors. Many pointed out the implications of inefficient resource allocation by the ailing financial intermediaries. Banks during the period made efforts to keep amounts of NPLs as little as possible and abide by the BIS regulation by ‘oigashi,’ rolling over of loans to those heavily indebted firms (the ‘zombies’) to keep them afloat. The lending was concentrated to the three problem industries, namely construction, real estate and retail industries. It was also claimed that the consequent fall in productivity lead to the fall in land prices, thereby lowering the value of collateral and increasing NPLs further.

Labor market factors were also considered to have an important effect. Lack of mobility in the labor Market that lead to inefficient allocation of labor was considered to be one of the factors that lead to the decline in TFP. Shorter working hours that were gradually introduced in the 1990s also seemed to have contributed negatively to labor inputs, and hence potential GDP growth.

The difference in the understanding of depression was also reflected in the difference in policy recommendation. Demand-siders who emphasized the failure of macroeconomic policies claimed that active counter-cyclical macroeconomic policies, not only monetary policy but also fiscal policy, should be taken in order to fill the gap between potential GDP and the actual. From their point of view, supply-side policies would only help to raise potential growth rate and, as a result, widen the gap. On the other hand, supply-siders argued for or supply-side policies, or structural policies, in order to raise the potential growth rate. They emphasized policies such as resolving the NPL problem, labor and financial market reforms, and deregulation.

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13 Others include Ogawa (2003). Empirical research tends to detect evidence of credit crunch in different periods; Miyao (2004) claims that it took place in 1992-93 and 1997-98 (more significant effect observed in the latter), while Motonishi and Yoshikawa (1999) and Hayashi and Prescott (2003) claimed that it took place only in 1997-98.
14 See for instance Sugihara and Ota (2002).
16 See for instance Sakuragawa (2002), Hoshi and Kashyap (2005), and Miyao (2006).
18 See for instance Hayashi (2001) and Hayashi and Prescott (2002).
**b. Lessons Learnt and Outstanding Issues**

While there were sharp differences in their stance, the factors that have been suggested by both sides as the causes of depressed economy and deflation were not necessarily mutually-exclusive: They both could be seen to have been more or less in effect. It also cannot be denied that demand-side factors and supply-side factors affected each other. Miyao (2006), for instance, show that productivity shock had affected not only potential growth but also aggregate demand by altering future growth prospects. It suggests that simple distinction between supply-side and demand-side factors is misleading. A couple of comments can be made in this regard.

First, the decline in real growth rate during the period cannot all be explained by supply-side factors. An estimate by the Cabinet Office shows that potential real GDP growth rate did fall in 1990s (Chart 1). But it is also true that average actual real GDP growth rate was lower than the potential growth rate during the same period. As a result, there remained a significant GDP gap after 1993, except for a short period prior to the consumption tax rate hike in 1997.

If the average actual real growth was the same as the potential in the medium-term, and slacks in employment and capital can be expected to cancel-out on average, low growth can be addressed by supply-side factors, and resolved by implementing supply-side policies. But if the above estimate is true, it implies that it is not only important to investigate the reasons for the decline in the potential growth rate from the supply-side, but also important to look into the reasons why average actual growth rate did not converge to the potential growth rate for such a long period from the demand-side as well.

Second, if the reasons why actual GDP did not converge to the potential GDP are examined, it could be realized that they are not simply demand-side factors which can be eliminated by macroeconomic policies. Private domestic demand has been subject to structural constraints that limited its growth. Such structural constraints include; NPL problem that destabilized the banking sector; excess debt, capacity, and employment burdens that baffled the corporate sector; and restructuring pressures that daunted the household sector. In this respect, private domestic demand was weak because of structural, or supply-side, factors. In such a circumstance, problems cannot be solved by macroeconomic policies. An important channel for transmitting their impact is interrupted by the NPLs so that it would prevent macroeconomic policies to have the intended multiplier effect. It would be necessary to implement structural policies in order to remove the structural constraints that limited demand growth, and structural factors that weakened the effectiveness of macroeconomic policies.

19 Similar view was shared by Horioka (2006).
Observations such as above suggest that posing such a question as “Are the causes of the prolonged depression and deflation are demand-side or supply-side factors?” is not appropriate. Rather, the question asked should be “Should the solution to the prolonged depression and deflation be macroeconomic policies or structural policies?” Demand-siders tend to argue for demand-side macroeconomic policies and supply-siders for supply-side structural policies, but the discussion made above implies that such dichotomy may not always hold. Future research should disentangle the interrelation between supply-side and demand-side factors, and provide a more comprehensive picture of the problem faced by the Japanese economy.

How, then, can the question “Should the solution to the prolonged depression and deflation requires macroeconomic policies or structural policies?” be answered.

The answer is suggested in the recent economic development. The problem of depressed economy seems to be behind us at last, and the problem of deflation is in its last stage of being overcome. The important lesson to be learnt is that these positive developments materialized without taking macroeconomic policies that demand-siders had prescribed: Fiscal stimulus was not provided like in the 1990s. In fact, structural primary deficit was reduced throughout the period. Monetary policy, on the other hand, was eased to a considerable extent, but it was not as much as the demand-siders wanted it to be.

Why, then, is the problem of prolonged depression and deflation being resolved? Why has the GDP gap narrowed? It is because structural policies taken during the period has contributed in raising the potential growth rate and to remove structural constraints that limited growth in aggregate demand. One of the most important initiatives taken during the period was the disposal of NPLs: We turn to this issue in the next sub-section.

4-2 Was NPL Problem the Cause or the Consequence of the Depression?

a. Summary of the Controversy

There had been a wide consensus with regards the severity of the NPL problem.

First, there was a general consensus on the causes of the NPL problem. The liberalization and internalization of financial sector during 1980s and 1990s opened up new channels for the large enterprises in raising funds, leaving them less dependant on borrowings from the banks. This provided pressures on banks to increase lending to non-traditional areas as construction, real estate, and retail industries. They were safely able to do so in an environment of rising land prices which enabled them to secure adequate collateral. But the burst of the bubble in the early 1990s and the consequent fall in asset prices, especially land prices, turned loans to non-performing ones.

Second, there was also a general consensus on the seriousness of the impact NPL problem

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20 A comprehensive analysis has been made in Hoshi and Kashyap (1999), and Ogawa (2003).
exerted on the banking business\textsuperscript{21}. If situation allowed, banks should have liked to dispose NPLs because, after all, it lowered profitability and bear risk of increasing loss. The situation such as the introduction of BIS regulation, however, prevented banks from taking actions that may run the risk of lowering capital adequacy ratio significantly and drive them out of business. Such an attitude, however, only raised anxiety in the investors and the general public. Increased uncertainty surrounding the financial status of banks lead to fall in banks’ shares prices; to increased premium on borrowing by Japanese banks overseas (the ‘Japan premium’); and, eventually, to difficulty of the financial institutions in raising fund in the market. After the banking crisis in 1997 and 1998, public fund were injected to the banks and some became state owned. The general perception at the beginning of the 2000s, was that financial system still remained unstable.

The wide consensus in its cause and its impact, however, did not mean that there was a consensus on the way NPLs should be dealt with.

On one hand, there were advocates who gave the highest priorities in disposing NPLs. In most cases, they were the ones that considered NPLs as exerting a large negative impact on the macroeconomic situation so that credit-crunches and ‘oigashi’ had to be eliminated before the economy emerges from the depressed economy. It was also claimed that positive impulse from improved business environment or macroeconomic polices were hindered from being transmitted to other parts of the economy because firms were engaged in adjusting the excess debt, capacity, and employment to appropriate levels. In such a circumstance, there would never be a sustained recovery or a successful injection of stimulus from macroeconomic policies.

On the other hand, there were arguments for a more cautious approach. They were of the view that economic recovery should precede NPL disposals because NPLs were a result of the macroeconomic factors such as the decline in asset prices, and without economic recovery disposal of NPLs would not be successful. If disposal of NPLs were insisted, bankruptcy and unemployment would significantly increase and would exert a large negative impact on the macroeconomic situation. It was considered only to worsen the situation.

\textbf{b. Lessons Learnt and Outstanding Issues}

Recent development shows, as we have seen earlier, that the target of halving the NPL ratio set by the \textit{Program for Financial Revival} in October 2002 was achieved by the end of FY2005. Significant progress has been made in resolving the NPL problem, particularly in the major banks.

How was it achieved? The main reason for the disposal of NPLs was not the economic recovery, but rather active joint efforts by the banking and corporate sectors to reconstruct the indebted firm (the details will be discussed in Section 5). It was achieved without relying on such

\textsuperscript{21} This is in contrast with the wide difference in views on how NPL problem affects the economy, as we will see later on.
macroeconomic policies as suggested by those who argued for more cautious approach. To the contrary, policies to encourage disposal of NPLs were implemented even though the negative impact it might exert on the macroeconomic situation was acknowledged. The actual outcome showed that NPL disposal was successfully accomplished without having adverse effect on the economy. It seems to justify the argument that gave priority to NPL disposal.

Of course, it would be unfair to say that macroeconomic policies had no role in the NPL disposal. The positive role played by macroeconomic policies in NPL disposal during the period should be acknowledged. In particular, monetary policy, by introducing QEP, provided ample liquidity into the system. While its effect of stimulating economy is still subject to debate, as we will see later on, it contributed in reducing the uncertainty surrounding the bank by securing adequate liquidity. It created an environment that supported NPL disposal by the banks. Such a contribution made by monetary policy should not be overlooked.

An important fact that made NPL disposal easier than expected was that the negative impact exerted by NPL disposal turned out to be smaller than expected. We will examine the reasons for the overestimation in the next sub-section.

5. NPL disposal and Prudential Policy

5-1 What was the appropriate policy toward NPL disposal?

a. Summary of Controversy

The disposal of NPLs required two steps. First step was to make a strict assessment of banks’ assets and make public the amount of NPLs that need to be disposed of. The banks’ announcement of NPLs had long been criticized as being overly optimistic and left the public with great doubt. It was reflected in the poor performance of banks’ stock prices that had been registering record-low. The second step is to strengthen the capital base and make disposal of NPLs. There were concerns that banks’ only had inadequate capital so that, if the NPLs were to be disposed of, many banks would fail. It would not only affect the shareholders, depositors, management, and employees of the relevant banks, but also the borrowers and the regional economy that were already impoverished.

Two different approaches to the problem were suggested.

On one hand, there were traditional view that emphasized the importance of the principle of self help and market discipline. It was the original stance taken by the FSA in 2001 and early 2002. It argued that assessment of assets should be left to the banks’ own assessment process and to the

22 The original stance of the FSA was expressed in the discussions in the Council for Economic and Fiscal Policy and the Cabinet Office in late 2001. See, for example, minutes for the November 20, 2001 meeting of the Council, and for the report by the Economic Development Analysis and Inspection Team which was submitted to the same meeting.
checks by the auditors. It was also argued that loan loss reserves should be on the basis of commercial code and business accounting principles, meaning that loan-loss reserves for large portion of NPLs could not take into account the borrowers individual default risk. They were also reluctant to inject public funds to banks because of the unpopularity of such measures within the general public.

On the other hand, there were views, such as Kashyap (2002) and Hoshi and Kashyap (1999, 2005), that argued for a prompt government intervention in order to strengthen the banking system. Because the banks’ assessment of assets was considered to be too indulgent due to consideration given to the negative impact on the capital adequacy ratio, they argued for an enhanced inspection by the authorities so that amount of NPLs would be determined and banks would set aside adequate loan loss reserves. The disposal of NPLs required, however, not only the efforts on the banking-sector side but also those in the corporate-sector side where firms that should be restructured and those that should exit (the “zombies”) need to be selected. In order to be able to dispose NPLs, the need to improve profitability of the banks that suffered from over-banking as well as competition from government financial institutions was recognized. Downsizing of banks and concentration of their resources to profitable business was called for, as well as proposals for reform of government financial institutions. When injection of public fund to the banks were inevitable, they were considered to be eligible only after distinguishing those banks that should survive from those that should exit from the business, and focused injection only to the former was promised.

b. Lessons Learnt and Outstanding Issues

Government’s policy to encourage NPL disposal was stepped up in April 2001 when scheduled disposal was introduced in the Emergency Economic Measures. NPL disposal was given the highest priority by the Basic Policies for Economic and Fiscal Reform and Management 2001 announced in June 2001. It also recognized that revitalization of financial and corporate sectors were two sides of the same coin. Special inspection was introduced in the Front-Loaded Reform Program in October. More concrete plans to deal with the problem were spelled out in the Program for Financial Revival in October 2002. The program set the target of halving the major banks’ NPL ratio, which was 8.4 percent in March 2002, to be halved by March 2005. For that end, the following were introduced.

First, assessment of assets was to be made stricter. For the large borrowers of major banks, individual loan loss reserves were to be made on discounted cash flow basis. The category of the large borrowers was also to be consistent across the major banks. Another special inspection was to

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23 The views of the Japanese economists were summarized in the “Urgent Recommendations to Reform Financial System in Japan” published in December 4, 2001 (in Japanese), which also emphasized the importance of emergence from deflation. See also recommendations in IMF (2002).
take place (following the first special inspection in March 2002), and the results of the FSA's inspection and banks’ self assessment were to be made public.

Second, capital adequacy was to be strengthened. Treatment of deferred tax assets will be made appropriate by making them subject to audit by an external auditor.

Third, governance would be strengthened. External auditors were to execute strict audit. A guideline on the conversion of the preferred stocks into common stocks was to be introduced. Business improvement order was to be issued to banks which had not achieved plan for sound management, and prompt corrective action was to be reviewed rigorously, and early warning system utilized.

Development since the announcement of the Program showed that disposal of NPLs have made a great progress by achieving halving of the NPL ratio by March 2005 and reducing it further by March 2006. Those banks which had public funds injected are in much better shape, and repayment is on its way. Positive net profit was recorded in all major banks for FY2005.

To see how prudential policy has affected the performance of banks, Omura et Al. (2006) undertook a principal component analysis. First principal component which shows banks’ financial strength, the “core component”, shows that the banks which were bundled together until March 2001, started to disperse by March 2002, and the dispersion became more significant by March 2003.

Such development seems to reflect the change of stance in the prudential policy. The ‘Convoy system’ that was maintained by the regulators until 2001 started to dismantle by the announcement of the initiative to dispose NPLs in April 2001, and by the introduction of special inspection in March 2002. The change was further accelerated by increased pressures provided by the partial introduction of pay-off in April 2002 and the announcement of Program for Financial Revival in October 2002. The policy actions taken during the period had been successful in shifting the financial system where banks formed a convoy under a tight regulation by the government, to a system where banks were allowed more freedom under the principle of self-responsibility and ex post check by the regulators.

The change, however, was not without controversy. In particular, there were concerns that the decision to bailout of Resona in May 2003 might lead to a moral hazard problem in the banks. A piece of evidence which is often cited is the turnaround of stock prices of banks. It showed a dramatic turnaround in May 2003 and it also marked a start of a rising trend of overall stock prices. It shows that public perception of the possibility of bank failures clearly receded.

For some, it only showed that market expressed a renewed confidence after the relief of the last of the ailing banks. Indeed, after the capital injection to Resona, the overall strength of major
banks improved as is also shown in Chart 2. However, for others, it was a confession of a “too big to fail” principle, resulting in only a limited burden sharing by depositors, managers, employees, and shareholders. They were concerned that such a bailout would invite moral hazards among the agents.

First of all, whether it had actually changed the fundamental perception of the possibility of bank failures should be investigated. For instance, according to the bank default rate extracted from credit debt swap (CDS) premium shows that significant improvement took place in end-2001 and not in May 2003. Since banks’ stock prices reflects expectation of banks’ future profitability, the fall in their stock prices between end-2001 and mid-2003 might have reflected pessimistic views about the future macroeconomic growth prospects. If that is indeed the case, the reversal of trend in mid-2003 might have reflected improvement in the perceived prospect.

Second, the degree of seriousness of a moral hazard depends, as Mishkin (2006) suggests, on the bank regulation and supervision that is placed after the relief. For instance, making decision process transparent, especially when exceptions of the rules are introduced, would be a important factor. The incentive structure in place at present should be scrutinized from this perspective.

5-2 Did NPL Disposal have a Large Negative Impact on the Economy?

a. Summary of Controversy

Disposal of NPLs was one of the most important issues that attracted a lot of debate during the depressed and deflationary period. The discussion, however, was based on a common understanding that disposal of NPLs would exert large negative impact on the economy. The main theme of the debate, therefore, was how quickly should NPLs be disposed of in spite of the negative impact.

An example of a prediction that NPL disposal would exert a large negative impact on the economy can be seen in Omura et al. (2002) in which disposal of NPLs amounting to 10.1 trillion yen was expected to force 420 thousand employees to leave their jobs and 140 thousand to remain unemployed during the first year. The prediction was obtained by estimating; (i) total debt of the firm that was subject to NPL disposal by the banks, (ii) total employment of these firms, and (iii) total number of employees who had to leave jobs and remain unemployed by making use of information of labor shedding by liquidated and reconstructed firms.

b. Lessons Learnt and Outstanding Issues

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24 See Box Chart 1 in Bank of Japan (2006).
25 The presumption that bank failure would have a great adverse effect on the economy may also be examined. Hori (2002), for instance, analyzed empirically the impact of the failure of Hokkaido-Takushoku Bank in 1997 and reached a conclusion that it was not as large as was expected it to be.
The development in bankruptcy and unemployment betrayed the prediction in a favorable way. The number of bankruptcy peaked in 2001 and declined since then; the number of unemployed peaked in 2002 and also declined since then. The general situation in bankruptcy and unemployment improved just at a time when NPL disposal was accelerated. The negative impact of NPL disposal had clearly been overestimated.

The clue to the overestimate can be seen in the breakdown of NPLs disposal by reasons (Table 3).

Insert Table 3 here

A notable fact is that “reconstruction of borrowers etc.” has a larger contribution than “liquidation of borrower.” “Liquidation of borrower” means that the firm will be dissolved after selling off all of its assets and using its proceeds to repay debt. While it is a once-and-for-all solution to the problem, it implied that accumulated physical capital stock, human capital, know-hows, and managerial resources would all have to be scattered. The employees would be 100 percent shaved. Such cost can be avoided by choosing “reconstruction of borrower,” which only included actions such as sales of unprofitable operations or reduction of labor force under rehabilitation or reconstruction plans. It enables the firms to be kept intact, and to minimize shedding would be minimized.

Even if reconstruction of the firm is chosen, there is a further choice between legal bankruptcy and out-of-court workout. Although they both are methods to reconstruct the firm, there is a difference in its implication on the business. When firms restructure under legal bankruptcy, their business may be eroded by deterioration of the brand image and reduction in marketing power. In comparison, out-of-court workouts, which mostly involve debt-waivers, allow firms to achieve turnaround while preventing business resources from scattering. The difference seems to explain the popularity of out-of-court workout. Even though legal bankruptcy has been made easier through legislative changes, out-of-court workout has attracted more applications.

Another category that has a large share is “sales of loans.” It includes sales to the market, bulk sales, and sales to the Resolution and Collection Corporation (RCC). Since the purchasers in most case intended to reconstruct the firm, list it in the stock exchange, and sell the shares, they also can be considered as a counterpart of intended reconstruction of the indebted firm.

In contrast to the above, “improvement in business” commands only a limited share. It shows that economic recovery was not the main reason why NPL disposal was made possible.26

In sum, larger share of NPL disposal took the form of reconstruction-oriented disposal that

26 It should be noted that improved economic condition should have also contributed to the disposal of the NPLs by keeping newly emerging NPLs low.
allowed larger work force to be kept in the firm, rather than the form of liquidation-oriented disposal that left the work force without job. This fact seems to explain the gap between the prediction and the actual outcome. Revised estimate of the impact of NPL disposal on employment by Kato et al. (2003), which took account of the above fact, shows that while actual amount of NPL disposal reached 11.7 trillion yen, the resulting increase in number of job-leavers was only 100-150 thousand employees, and that of unemployed 50-70 thousand. NPL disposal that emphasized reconstruction enabled NPL disposal to be achieved without impeding economic recovery.

It is important, at this conjuncture, to note that reconstruction of the firms had been made easier by legislative and other changes that took place before and during the period. Legal bankruptcy had become easier by enactment of Civil Rehabilitation Law in April 2000, and amendments to Corporate Reorganization Law in April 2004. In order to provide guidelines for out-of-court workouts, Guideline for Multi-Creditor Out-of-Court Workouts was agreed by the representatives of financial and non-financial industries, under the auspices of the government in September 2001. In order to facilitate the Guideline, Rapid Corporate Restructuring Guideline was published in February 2003. Industrial Revitalization Corporation of Japan (IRCJ) was also established in May 2003. It shows that the progress in NPL disposal in a way that lead to minimal negative effect was made possible by the joint efforts of the private sector and the government.

Finally, it would also be fair to say that the final impact of NPL disposal would not be known until reconstruction actually bears fruit. If it turns out to be unsuccessful, it only implies that liquidation was only postponed for the time being. In this regard, the reconstruction process should be closely monitored.

6. Quantitative Easing and Monetary Policy

6-1 Was Quantitative Easing Policy Effective?

a. Summary of the Controversy

The new monetary policy framework introduced in March 2001 consisted of ZIRP and QEP components. While the former was once introduced during 1999 and 2000, the latter was a new initiative intended to achieve further impact in a zero interest rate environment. There were mixed views expressed about the new framework even after its introduction.

On one hand, there were arguments for further strengthening of QEP, in view of the still weak performance of the economy and/or the existence of liquidity trap. It included such suggestions as further increasing the target of CAB at the BOJ, further increasing the amount of JGB purchase by

[27 For a discussion of reform measures to rectify the structural problems faced by the Japanese economy, with focus given to the corporate sector, see Saito (2004).]
the BOJ, and initiating purchase of more risky assets such as stocks, land, and foreign exchange.

On the other hand, there were skeptical opinions about such suggestions. Their arguments were based on the understanding that, under ZIRP, monetary base and short-term government bonds become perfect substitutes, so that operation to exchange them would not affect banks’ balance sheets. They were also against holding large amount of risky assets and expanding the size of the BOJ’s balance sheet, which might negatively affect the credibility of the monetary policy.

The BOJ itself, while increasing the target of CAB at the BOJ, and increased the amount of JGBs purchased by the BOJ during the period of QEP, did not purchase risky assets as a part of monetary policy operation.

b. Lessons Learnt and Outstanding Issues

The economic effects of the new monetary policy framework, which was in place between 2001 and 2006, have just started to be examined, so it is still too early to provide an accepted conclusion yet. However, tentative conclusion can be summarized as follows.

First, ZIRP had a positive effect on the economy. In particular, the commitment to its duration (i.e. continue the new policy framework until rate of change of CPI becomes zero or positive in a steady manner), which was newly introduced to reinforce the effect of ZIRP, had an effect of enhancing the reduction of long-term interest rates as well as the short-term ones.

Second, QEP had an effect of providing ample liquidity into the system and freed the banks from fear of having insufficient liquidity. It had contributed in stabilizing the financial market.

Third, no consensus has been reached as to whether QEP provided stimulus to the economy. Even when positive effect was observed in a macroeconomic analysis, specific transmission mechanism was hard to identify. Among a number of transmission channel, balance sheet portfolio rebalancing (inter alia, changes in bank lending) initiated by an increase in CAB at the BOJ, or macroeconomic portfolio rebalancing (inter alia, changes in stock prices) initiated by increased purchase of JGBs by the BOJ seems to have had no effect at all, or only a limited effect even if there were any. The remaining transmission channel, i.e. the effect through changes in expectations, is a strong candidate, but the result is also ambiguous.

In sum, ZIRP, especially when they are reinforced by a duration commitment, has been confirmed to have positive effect on economic activities. On the other hand, QEP seems to have had no significant effect other than the liquidity effect of stabilizing the financial market. Studies showed

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28 The BOJ did purchase stocks from the banks between November 2002 and September 2004. Its purpose, however, was to alleviate the banks from market risk arising from stock holding of banks, and to stabilize the financial market. The maximum amount was initially set at 2 trillion yen and was later increased to 3 trillion yen.

29 Our own contribution to the empirical analysis of the effects is in Mihira et al.(2006).

that it had been difficult to find, in general, the QEP’s effect of stimulating the economy; even when they were found to be statistically significant, they tend to be small.

Research on the subject, however, is still to be done. The following are some of the consideration that should be taken into account when further research is to be made.

First, more explicit analysis on the QEP’s effects on the balance sheets of the banks should be made. If the effect of QEP is to be examined with due consideration given to its transmission mechanism, it is natural to analyze banks’ balance sheets. They are, after all, the starting point of the transmission of the policy’s effect. Whether it be a change in CAB target level or JGB purchase amount, changes must take place in the banks’ balance sheets and induce portfolio rebalancing. However, banks’ balance sheets have, so far, seldom been analyzed. It is important to add analyses of this kind in order to deepen our understanding of the effect of QEP.

Second, the motivation for the banks to hold CAB should be analyzed. It is important to note that it is not only the major banks but also local banks and foreign banks that held CAB at the BOJ (Chart 3). Moreover, motivation could be different for each of the categories of banks. When the financial system was still unstable, all the banks had a common motivation to built-up liquidity in order to prepare for the uncertainty in the market. ZIRP also allowed banks to keep liquidity without opportunity cost. But in other periods each category of banks seems to have had different motivation to hold CAB at the BOJ.

For instance, major banks seemed to hold CAB at the Bank because, in return, they were able to liquidate less transferable government bonds without negatively affecting the market. There were also merits for foreign banks since they were able to raise additional profit without risk by depositing at the BOJ’s CAB the funds raised in the foreign-exchange swap market at negative interest rate. Thus, these two categories of the banks held CAB from there own will. In contrast, local banks were forced to hold CAB at BOJ. Local banks, which used to supply funds that they were unable to invest in the region to the call market to major banks, were no longer able to do so because the major banks had ample liquidity already.31. When the effect of QEP is analyzed by looking into banks’ balance sheet, different motivation of the banks to hold CAB should be bear in mind.

31 It is interesting to find that money-market dealers (the tanshi companies) also held CAB by a considerable amount. It was because they tried to shelter local banks from the pressure of ample liquidity by absorbing funds offered by the local banks on their own account. But it lead to worsening of the companies’ financial situation. Analysis of the tanshi companies during the QEP period, particularly to what extent their action was rational, seems to be an important area for future research.
Third, the negative effect that might have been exerted by NPLs should be controlled for. There is a possibility that the reason why positive effect of QEP had not been detected was because financial intermediaries were unable to function properly and/or corporate restructuring was still on its way. In particular, the period of QEP coincided with the period of disposal of NPL problem so that it is natural to think that NPL might have restrained banks from taking more risks. Nevertheless, the possibility was seldom taken explicit account of in the analyses. In order to isolate the effect of the QEP, the negative influence of such factors should be taken into account32.

6-2 Why didn’t Money Supply respond to the Quantitative Easing Policy?

a. Summary of Controversy

It was an established fact that money supply had a long-term relationship (cointegration) with prices until the 1990s, and that Granger causality was running from money supply to prices. If this still holds, QEP should have an effect of raising the growth rate of nominal GDP and prices: Increase in CAB should have an effect of raising the growth rate of monetary base and eventually, if money multiplier was also stable, of raising the growth rate of money supply. Higher growth rate of money supply, in turn, should feed into that of nominal GDP and prices in the long-term when velocity of money is stable. Those who supported strengthening of QEP usually had such an effect in mind and argued for a significant increase in CAB.

On the other hand, those who were skeptical of such a view noted that the long-term relationship between monetary base and money supply, and money supply and nominal GDP had broken down in the recent years. It implies that even if monetary base increased, money supply or nominal GDP need not increase in response. They emphasize that money supply has lost importance in monetary policy, and that the focus of the interest of central banks had moved to interest rates33.

b. Lessons Learnt and Outstanding Issues

The development since the introduction of QEP shows that while monetary base had witnessed a higher growth rate, money multiplier and velocity of money had declined so that money supply and nominal GDP did not show any clear response to the policy action34 (Chart 4).

32 It is also interesting to see what kind of effect the asset-liability management (ALM) had on the transmission of effects of monetary policy. Standard ALM quantifies risks for each of the categories of risk and allocates capital to each of the departments in order to keep the total exposure to credit, market and operational risks within the limits of capital. In such a system, the flexibly with which the system operates determines the responsiveness of bank’s portfolio to changes in its environment. If the system was not so flexible, and capital allocation reviewed only after a long interval, it might have delayed the impact of QEP from showing-up. This again seems to be an area of future research.

33 See for instance BOJ (2002).

34 It is interesting to note that not only did money supply refuse to respond to the increase in monetary base, it was relatively stable (at around 1-3% on y-on-y basis) despite the dramatic changes in the economic environment during the period.
The decline in money multiplier was due mainly to; (i) fall in relative return on deposits and partial-introduction of pay offs that raised households’ preference for cash relative to deposits; and (ii) decline in risk tolerance of banks due to NPL problem, coupled with increasing default risk in the corporate sector, prevented the banks to increase bank lending and initiate credit creation process.

The decline in velocity of money can be explained by; (i) increase in precautionary money demand due to instability in the financial market; and (ii) reluctance of the corporate sector to investment in productive use because they were overwhelmed by excess capacity and debt.

In order to improve the understanding of the role of money supply, the following could be considered.

First, it should be examined whether such an unstable relationship is a temporary phenomenon, returning in the near future to a relationship seen in the past, or whether the relationship has seen a structural change and the relationship has changed altogether. If the unstable relationship after 1990s were brought about by NPL problem, corporate restructuring, and financial market instability, clearing-up of these problems should revive the traditional relationship. If it is a permanent change, the causes for the change – financial liberalization and technological changes in payments and settlements are obvious candidates - also need to be clarified.

Second, It may be useful to see the relationship in a wider perspective. In particular, it might be rewarding to examine the relationship in a general equilibrium framework of wide spectrum of assets. For instance, King (2002) proposes to integrate monetary theory and portfolio theory by considering the effect of money on transaction costs. This may also bring light to the portfolio rebalancing effect of QEP.

One of the interesting issues that is related to money supply is the effectiveness of the exchange rate channel of QEP. One of the advocates’ popular channels of transmission mechanism for quantitative easing was that through exchange rate which was expected to depreciate and stimulate the economy.

The exchange rate, when seen in real effective terms, had depreciated since mid-1990s so that the level in August 2006 is still around the level in mid1980s. Such depreciation of the exchange rate, however, cannot be explained by the standard monetary approach because money supply was irresponsive as was mentioned earlier. To explain the depreciation in the context of QEP remains an unsolved question.

One idea has been put forward by Terai, Iida, and Hamada (2004) which explains
yen-dollar rates by growth of monetary base in Japan relative to that in US (resembling the famous “Solos Chart”). Relative growth of monetary base is shown to be significant in explaining the exchange rate and is suggested that it is so because it works as a proxy for expected money supply growth.

While interesting, it needs to be reinforced by explaining why the explanatory power of the relative monetary base growth variable increased in the 1990s. This is because it was during this period that the relationship between monetary base and money supply had become unstable as we saw earlier. It need to be explained why the role of monetary base as a proxy for money supply had increased in such a period.

7. Sustainability of Government Debt and Fiscal Policy

7-1 What is the Appropriate Indicator of Fiscal Situation?

a. Summary of Controversy

One of the most cited indicator of fiscal situation in Japan is the government debt to GDP ratio. The indicator used by the Council for Economic and Fiscal Policy (CEFP) consists of central and local long-term government bonds plus borrowings by the local reallocation tax special account. According to this indicator (hereafter referred as ‘gross long-term government debt’), the outstanding amount at the end of FY2006 is expected to be 737.2 trillion yen (or 143.5 percent of GDP). It is the highest in OECD countries. Without further efforts to consolidate the fiscal situation, not only the absolute amount of the debt but also its ratio to GDP is expected to rise. It is considered to be an evidence of the serious situation faced by the Japanese public finance.

Such a view was challenged by Broda and Weinstein (2003) where they argued that the seriousness of the fiscal situation is exaggerated. Their preferred indicator is the net debt, which deducts the financial assets of the government, mainly consisting of reserve funds in the social security fund adjusted for band loans, from the debt figures. Their estimated figure is 64 percent in FY2002, which is not that high compared to OECD standards.

b. Lessons Learnt and Outstanding Issues

The main criticism by Broda and Weinstein (2003) was that assets held by the government should be subtracted from gross figures in order to obtain an appropriate indicator to assess fiscal situation. At the outset, it should be recognized that gross log-term government debt figures are

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35 An alternative indicator published by the Ministry of Finance has almost the same definition as the one adopted by the CEFP but also includes such debts as central government bonds other than ordinary bonds (see Table 4). The amount according to this indicator at the end of FY2006 is expected to amount to 775 trillion yen or 151 percent of GDP,
obtained by partially deducting assets from gross government debt figures (Table 4): The
government figures do not include short-term government bonds. They are not included because they
have their counterparts as financial assets in the foreign exchange special account, and if they are to
be repaid, they can be done by drawing down the assets on the account. The basic principle in
obtaining gross long-term debt figures is that debt figures should only include those debts that would
have to be repaid by tax. 

Still, it is true that the debt figures do not subtract other financial assets. It is because of the
following reasons.

First, the figure is intended to show the fiscal situation of the central and local government
(on the SNA basis) with the intention of identifying the magnitude of the potential increase in taxes.
Social security funds are not included because social security funds are, in principle, to be funded by
accumulated funds and premiums and not by taxes. Therefore, even the gross government debt
figures do not conform with the OECD’s gross figures which are for the general government,
including the social security fund.

Second, if we were to include social security funds in the calculation, we should include
not only assets but also liabilities. If the assets in the social security funds are used to fund the debt
of the central government, soon or later social security fund would have to raise premiums in
principle. Fiscal situation have not by any means improved: Fiscal situation just looks better in
appearance for the time being when in fact it is not the case. It is only when social security funds’
liabilities are included that including assets can be justified because then unfunded liabilities could
be identified.

Third, loans to government financial institution should not be included. That is because; (i)
they belong to the fiscal loans special account which is a part of public financial enterprises (not part
of the central government), and (ii) they are counterpart of liabilities to postal savings and others
which are not included in the gross debt figures.

On the other hand, it may be appropriate to subtract the amount of salable tangible fixed
assets held by the central and local governments. Such assets include government-owned land and
buildings other than those which function as social infrastructure. If they can be sold, the proceeds
could be used for repaying debt. The problem is that there is a considerable uncertainty surrounding
the possibility of a successful sales and the price of the assets so that it is difficult to actually take

\[ \text{The convergence criterion of the Maastricht Treaty on government debt was also defined in terms}
\]
\[ \text{of gross debt (to be below 60 percent of GDP).} \]

\[ \text{The following view is shared by Doi (2006).} \]
them into account.

7-2 Is Government Debt Sustainable?

a. Summary of Controversy

The majority looks at the government debt as currently being unsustainable. There is a growing pressure to spend for social security which is estimated to grow much higher than the growth of nominal GDP. Unless significant new initiatives are implemented, fiscal deficit is to grow and government debt to GDP ratio to rise. An estimate shows that, without further effort other than the reform measures that have already been decided upon, primary balance would remain around 2 1/2 percent of GDP and government debt to GDP ratio would rise to more than 150 percent of GDP\textsuperscript{38} in FY2011.

More formal analysis of sustainability of government debt is summarized in DOI, Ihori, and Mitsui (2006) among others. They conclude that fiscal situation in late 1990s suggest that conditions for sustainability were not met.

Acknowledging the situation, the government announced in the Structural Reform and Medium-Term Economic and Fiscal Perspectives of January 2002 a target of achieving primary surplus of the central and local government combined by early 2010s. The emphasis was on the expenditure side; total government expenditure relative to GDP was to be kept below that in FY2001 and public works program was to be reduced to the level in the early 1990s, i.e. level before the increase by stimulus policy packages.

There were strong arguments against such efforts. It was claimed that cut in expenditures, particularly public works program, would seriously hurt the economy which was already in depressed state. The negative effect was considered to be felt especially in the regional economy where public investment supplemented the lack of industrial base\textsuperscript{39}.

b. Lesson to be Learnt and Remaining Issues

Since 2001, government restricted expenditures in line with the principles set out in the Basic Polices 2001 as well as introducing somewhat smaller measures on the revenue side such as the withdrawal of proportional income tax cut. As a result, between FY2001 and FY2006, primary deficit was halved to 2.4 percent of GDP from 5.7 percent, an average improvement of more than 0.6

\textsuperscript{38} See Cabinet Office (2006a).
\textsuperscript{39} Broda and Weinstein (2003) also argued that fiscal situation was not that serious. It was based on simulations of the level of net government debt figures, discussed above, in the future. It also assumed that population would not decline as much as the estimate by the Japan National Institute of Population and Social Security Research, and had not taken into account recent deterioration of the fiscal situation. The implications of them are discussed in Doi (2006).
percentage points a year. So far, it is on the track towards surplus in FY2011.

According to one of the test examined in Doi, Ihori, and Mitsui (2006)\(^\text{40}\), sustainability requires primary balance (in ratio to GDP) to increase with gross government debt (in ratio to GDP). The recent developments indicate that after diverging from the condition in the late 1990s, it is showing improvement after FY2001. It is consistent with the conditions for sustainability (Chart 5).

Insert Chart 5 here

The discussion on fiscal consolidation was intensified after the appointment of Mr Kaoru Yosano as the Minister in charge of economic and fiscal policy in 2005. A program for further cuts has been announced in the Basic Policies 2006. It provides prescription for more than two thirds of the required efforts to make primary balance surplus in FY2011. The immediate agenda therefore, is to clarify what kind of further effort needs to be made in order to achieve primary surplus. To achieve steady improvement of the fiscal situation and secure fiscal sustainability, it is also important to set the policy target for the 2010s, after achieving primary surplus\(^\text{41}\).

In determining the policy target after achieving primary surplus, expected growth rate and interest rates have important implications. While interest rate has stayed low so far thanks to ZIRP, it is natural to expect that interest rates would rise as economic recovery and emergence from deflation take hold. As the Domar’s theorem tell us, if the government bond rate stays lower than the GDP growth rate, achieving balancing the primary account would be enough to bring down government debt to GDP ratio. On the other hand, if the government bond rate becomes higher than the GDP growth rate, balancing the primary account would not be enough and relevant surplus would be required to bring the ratio down\(^\text{42,43}\).

Theory tells us that unless the economy is dynamically inefficient, rate of return should be higher or equal to GDP growth rate. How to apply the theory to actual situation needs to be

\(^{40}\) The test is the one suggested by Bohn (1998).

\(^{41}\) Separate target for the central and local governments might also be needed. This is because the primary balance of the local government is already in surplus, while central government suffers from a considerable deficit. The difference would become more marked in the future if the balance of local allocation tax special account, which is entirely included in the central government under SNA classification, is adjusted so that the part of the debt that should be repaid by the local government is shifted to local government. Since surplus needs to be generated in order to repay the debt in the near future, the adjustment implies for the future figures a shift of surplus from the central to the local governments.

\(^{42}\) It should be noted that even in cases where interest rate become higher than the growth rate, if the bulk of outstanding debt bears lower interest rate, the average effective interest rate payable to government debt would be lower so that there is a possibility of government debt to GDP ratio to come down. This happens to be the current situation in Japan where interest rate was held low by ZIRP.

\(^{43}\) A set of simulation of fiscal situation under different macroeconomic assumptions were presented to the Council of Economic and Fiscal Policy on March 16, 2006.
discussed further. If the historical data is examined, government bond rates have generally been higher than nominal GDP growth rates after 1980. However, until 1970s it was the nominal GDP growth rate that had been on average higher than the government bond rate. More recently, in US for instance, nominal GDP growth rates have also been higher than nominal government bond rates. In order to provide firmer basis for setting targets, the conundrum needs to be explained.

8. Summary and Concluding Remarks

Economic policies since 2001 were a set of unprecedented and controversial ones. It gave rise to controversies in wide area of society, not only in politicians and media but also in the academia as well.

Five years of policy implementation and economic development have provided us with an opportunity to review the controversies and examine them in light of the experience. The provisional attempt to this end by this paper reached the following tentative conclusions:

First, prolonged depression and deflation was caused by both the supply-side and demand-side factors. For the recovery, however, it was essential to undertake supply-side policies, or structural polices, in particular prudential policy to resolve the NPL problem. Second, prudential policy had succeeded in changing the regime and providing incentives to banks to dispose NPLs. The disposal was facilitated by the efforts to reconstruct, rather than liquidate, the troubled firms, which helped to minimize the negative impact of the disposal on the economy. Third, the new monetary policy framework had served to assist the economic recovery. In particular, ZIRP contributed in stimulating the economy by lowering interest rates and QEP in providing liquidity to help stabilize the financial system. Fourth, fiscal situation would be better judged by the gross long-term government debt. The projection of the future trend shows that further efforts are required to recover and maintain sustainability of the deficit.

This paper, at the same time, identified some suggested areas for future research. They include the following:

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44 Standard growth theory shows that, when the economy is dynamically efficient, $g + \delta \leq r$ should be satisfied, where $g$ stands for real GDP growth rate, $\delta$ for depreciation rate, and $r$ real rate of return. If $r = r^G + \rho$, where $r^G$ stands for government bond rate, and $\rho$ for risk premium, the inequality becomes, $g + \delta \leq r^G + \rho$. Furthermore, expressing growth rate and interest rate in nominal terms leads to $g^N + \delta + (\pi^t - \pi) \leq r^G + \rho$, where $g^N$ stands for nominal GDP growth rate, $\pi^t$ expected inflation rate, $\pi$ actual inflation rate, and $r^G$ nominal government bond rate. Additional assumptions are required to draw implications on the relative magnitude of $g^N$ and $r^G$.
First, interactions between supply-side and demand-side factors should be examined in order to draw up a comprehensive picture of the prolonged depression and deflation during the ‘lost decade.’ Second, current prudential policy could be examined from the point of view of preventing moral hazard in major banks. Meanwhile, follow up of reconstruction of firms should be made. Third, effects of QEP in stimulating the economy should be made with due consideration given to; (i) its effect on banks’ balance sheets; (ii) motives of the banks to hold CAB; and (iii) negative factors that might have offset the positive effects of the QEP. The reasons for the irresponsiveness of money supply should also be investigated in order to reassess the role of aggregate monetary indicators in monetary policy. Fourth, the relationship between GDP growth rates and government bond rates should be examined in light of the recent developments.

The recent Japanese experience offers an extraordinary and invaluable opportunity to deepen our understanding of the role of some of the unprecedented policies implemented during the period, and of the responses of the economy to such policies. Data are becoming available in longer series enabling empirical assessment of the policies to be undertaken in a more satisfactory manner. Lessons should be learnt and outstanding issues identified as much as possible so that economic policy designing in the future can benefit from them.
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of Asian Economics, Vol.8, No.2.


### Table 1: Chronology of Events

#### A Prudential Policy

<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>November</td>
<td>Collapse of Sanyo Securities, Hokutaku Bank, and Yamaichi Securities</td>
</tr>
<tr>
<td>1998</td>
<td>February</td>
<td>Capital injection of 1.8 trillion yen to 21 banks</td>
</tr>
<tr>
<td></td>
<td>March</td>
<td>Commence special public management of Long-term Credit Bank</td>
</tr>
<tr>
<td></td>
<td>October 23</td>
<td>Commence special public management of Nippon Credit Bank</td>
</tr>
<tr>
<td>1999</td>
<td>March</td>
<td>Capital injection of 7.5 trillion yen to 15 banks (later increased to 8.6 trillion yen)</td>
</tr>
<tr>
<td></td>
<td>September</td>
<td>Sales of Long-term Credit Bank to private sector</td>
</tr>
<tr>
<td></td>
<td>October 26</td>
<td>Announce Emergency Economic Measures</td>
</tr>
<tr>
<td></td>
<td>November 14</td>
<td>Collapse of Mycal Corporation</td>
</tr>
<tr>
<td>2000</td>
<td>March 1</td>
<td>Sales of Nippon Credit Bank to private sector</td>
</tr>
<tr>
<td></td>
<td>September 14</td>
<td>Announce Basic Policies for Economic &amp; Fiscal Management and Structural Reform of the Japanese Economy</td>
</tr>
<tr>
<td></td>
<td>October 26</td>
<td>Announce Front-Loaded Reform Program</td>
</tr>
<tr>
<td></td>
<td>November 14</td>
<td>Announce Comprehensive Measures for Structural Reform and Acceleration of Reforms</td>
</tr>
<tr>
<td>2001</td>
<td>April 1</td>
<td>Shift of time deposits to limited coverage under deposit insurance</td>
</tr>
<tr>
<td></td>
<td>April 12</td>
<td>Announce Emergency Countermeasures to Deflation</td>
</tr>
<tr>
<td></td>
<td>April 12</td>
<td>Announce Measures for Developing Stronger Financial System</td>
</tr>
<tr>
<td></td>
<td>July 12</td>
<td>Announce Vision for the Future of the Financial System and Policy</td>
</tr>
<tr>
<td></td>
<td>October 30</td>
<td>Announce Program for Financial Revival</td>
</tr>
<tr>
<td></td>
<td>October 30</td>
<td>Announce Comprehensive Measures to Accelerate Reforms</td>
</tr>
<tr>
<td>2002</td>
<td>January 30</td>
<td>Establish Banks’ Shareholdings Purchase Corporation</td>
</tr>
<tr>
<td></td>
<td>February 27</td>
<td>Announce Emergency Countermeasures to Deflation</td>
</tr>
<tr>
<td></td>
<td>April 1</td>
<td>Announce Measures for Developing Stronger Financial System</td>
</tr>
<tr>
<td></td>
<td>April 12</td>
<td>Announce Vision for the Future of the Financial System and Policy</td>
</tr>
<tr>
<td></td>
<td>October 30</td>
<td>Announce Comprehensive Measures to Accelerate Reforms</td>
</tr>
</tbody>
</table>
### Chronology of Events

**Prudential Policy (Continued)**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003 February 25</td>
<td>Approve merger of Daiwa Bank and Asahi Bank</td>
</tr>
<tr>
<td>March 28</td>
<td>Announce <em>Action Program to Enhance Relationship Banking Functions</em> Submit plan for enhancing functions of relationship banking</td>
</tr>
<tr>
<td>April 4</td>
<td>Announce <em>To Improve Corporate Governance of Capital Injected Major Banks</em> Tightening supervisory actions with respect to &quot;30 percent rule&quot; Clarify criteria for conversion of government-held preferred shares</td>
</tr>
<tr>
<td>April 25</td>
<td>Announce result of special inspections for FY2002</td>
</tr>
<tr>
<td>May 30</td>
<td>Decision to recapitalize Resona Bank under Deposit Insurance Law Capitalization by 1.96 trillion yen</td>
</tr>
<tr>
<td>November 14</td>
<td>Announce results of the follow-up of special inspections for period ending September 2003</td>
</tr>
<tr>
<td>November 29</td>
<td>Decision to place Ashikaga Bank special crisis management operation under Deposit Insurance Law</td>
</tr>
<tr>
<td>2004 April 27</td>
<td>Announce results of special inspections for FY2003</td>
</tr>
<tr>
<td>July</td>
<td>Approve merger of MUFG and UFJ Holdings</td>
</tr>
<tr>
<td>November 12</td>
<td>Announce results of special inspections for period ending September 2004</td>
</tr>
<tr>
<td>December 24</td>
<td>Announce <em>Program for Further Financial Reform</em></td>
</tr>
<tr>
<td>2005 April 1</td>
<td>Shift of current deposits to limited coverage under deposit insurance (leaving only deposits for payment and settlement purposes under full coverage)</td>
</tr>
</tbody>
</table>

"Basic Policies" refers to *Basic Policies for Economic and Fiscal Management and Structural Reform*
### Table 1: Chronology of Events

#### B Monetary Policy

<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
<th>Event</th>
</tr>
</thead>
</table>
| 1999 | February 12 | Introduce of zero interest rate policy  
Encourage call rate to be as low as possible |
|  | April | Announce continuation of ZIRP until deflationary concern recedes |
| 2000 | August 11 | Withdraw zero interest rate policy  
Call rate to move around 0.25 percent |
| 2001 | January | Start settlement of JGBs on real-time gross settlement (RTGS) basis |
|  | February 9 | Introduce Lombard-type lending facility  
Reduce official discount rate to 0.35 percent |
|  | February 28 | Reduce official discount rate to 0.25 percent |
|  | March 19 | Introduce of new monetary policy framework  
Change in operating target from call rate to current account balance  
Continue new policy until CPI registers stably a zero percent or an increase  
Raise current account balance to 5 trillion yen and achieve zero interest rate  
May increase purchase of government bonds |
|  | May 18 | Reduce units of bid rate from 0.01 percent to 0.001 percent |
|  | August 14 | Raise current account balance target to 6 trillion yen  
Increase purchase of government bonds to 600 billion yen per month |
|  | September 18 | Introduce purchase/sale of government securities with repurchase agreements  
Reduce official discount rate to 0.1 percent |
|  | December 19 | Raise current account balance target to 10-15 trillion yen  
Increase purchase of government bonds to 800 billion yen per month |
| 2002 | February 28 | Provide ample liquidity meet surge in demand towards the end of fiscal year  
Increase purchase of government bonds to 1 trillion yen per month |
|  | October 11 | Introduce purchase of stocks held by commercial banks  
(maximum of 2 trillion yen, until end-September 2003) |
|  | October 30 | Raise current account balance target to 15-20 trillion yen  
Increase purchase of government bonds to 1.2 trillion yen per month  
Extend maturities of bills purchased from 6 months or less to a year or less |
|  | December 17 | Accept asset-backed commercial paper (ABCP) as eligible for collateral etc. |
| 2003 | March 25 | Raise current account balance target to 17-22 trillion yen after April 1  
(in order to take into account establishment of the Japan Post)  
Increase maximum of stock purchase scheme to 3 trillion yen |
|  | April 30 | Raise current account balance target to 22-27 trillion yen |
|  | May 20 | Raise current account balance target to 27-30 trillion yen |
|  | June 11 | Introduce scheme to purchase asset-backed securities (ABSs) |
|  | September 16 | Extend period of stock purchase scheme to end-September 2004 |
|  | October 10 | Raise current account balance target to 27-32 trillion yen  
(from 6 months to 1 year)  
Extend maturity for purchase of government securities with repurchase agreements  
Clarify details of duration commitment |
| 2004 | January 20 | Raise current account balance target to 30-35 trillion yen |
|  | September 30 | Expiry of stock purchasing scheme |
|  | April 9 | Introduce governments securities lending facility |
### Chronology of Events

#### Monetary Policy (continued)

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
</table>
| 2005       | **April 6** Extend projection period of *Outlook for Economic activity and Prices* by a year  
              **May 20** Allow cases where current account balance falls short of target |
| 2006       | **March 9** Withdraw quantitative easing policy  
              Change operating target from current account balance to call rate  
              Maintain zero interest rate policy  
              Clarify understanding of price stability  
              **end-March** Expiry of temporary measures related to ABSs and ABCP  
              **July 14** Withdraw zero interest rate policy  
              Raise call rate to 0.25 percent  
              Raise basic loan rate for complementary lending facility to 0.4 percent  
              No change to amount of purchase of government bonds  
              **July 21** Change units of bid rate from 0.001 percent to 0.01 percent |

**Notes:**
1. "call rate" refers to uncollateralized overnight call rate
2. "current account balance target" refers to target for outstanding balance of current account at the BOJ
<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>April 1</td>
<td>Raise consumption tax rate from 3 to 5 percent</td>
</tr>
<tr>
<td></td>
<td>November</td>
<td>Enact Fiscal Structural Reform Act</td>
</tr>
<tr>
<td>1998</td>
<td>April 24</td>
<td>Announce Comprehensive Economic Measures (16 trillion yen)</td>
</tr>
<tr>
<td></td>
<td>May</td>
<td>Amend Fiscal Structural Reform Act</td>
</tr>
<tr>
<td></td>
<td>November 16</td>
<td>Announce Emergency Economic Package (27 trillion yen)</td>
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<tr>
<td></td>
<td>December</td>
<td>Suspend Fiscal Structural Reform Act</td>
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<tr>
<td></td>
<td></td>
<td>Announce tax reform for FY1999</td>
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<td></td>
<td></td>
<td>Personal income tax cut (reduce top marginal rate and introduce proportional tax cut)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Corporate income tax cut (reduce effective tax rate to 40.87 percent)</td>
</tr>
<tr>
<td>1999</td>
<td>June</td>
<td>Announce Emergency Employment Measures</td>
</tr>
<tr>
<td></td>
<td>November 11</td>
<td>Announce Economic Measures for Economic Rebirth (17 trillion yen)</td>
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<td></td>
<td></td>
<td>2nd supplementary budget for FY1999(bond issue of 7.5 trillion yen)</td>
</tr>
<tr>
<td>2000</td>
<td>October 19</td>
<td>Announce Policy Package for New Economic Development toward Rebirth of Japan</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplementary budget for FY2000(bond issue of 3.9 trillion yen)</td>
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<tr>
<td></td>
<td>October 26</td>
<td>Announce Front-Loaded Reform Program</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1st supplementary budget for FY2001(bond issue of 1.0 trillion yen)</td>
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<tr>
<td></td>
<td>December</td>
<td>Announce Immediate Action Program for Structural Reform</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2nd supplementary budget for FY2001 (bond issue of //)</td>
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<tr>
<td></td>
<td></td>
<td>Formulate FY2002 Budget</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reduce expenditures by 5 trillion yen and allocate 2 trillion yen to priority areas</td>
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<tr>
<td></td>
<td></td>
<td>Cut public works program by 10.7 percent</td>
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<td></td>
<td></td>
<td>Restrain bond issue of 30 trillion yen</td>
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<tr>
<td>2002</td>
<td>January 25</td>
<td>Announce Structural Reform and Medium-term Economic and Fiscal Perspectives</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Achieve surplus in primary balance of central &amp; local governments combined by early 2010s</td>
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<td></td>
<td></td>
<td>Reduce public investment to early-1990s level</td>
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<td></td>
<td>December 19</td>
<td>Announce tax reform for FY2003</td>
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<tr>
<td></td>
<td></td>
<td>Introduce R&amp;D and IT investment incentives (until FY2005)</td>
</tr>
<tr>
<td></td>
<td>December</td>
<td>Formulate FY2003 budget</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Accept budget request up to 120 percent of the baseline and allocate to priority areas</td>
</tr>
<tr>
<td></td>
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<td>Cut public works program by 3.7 percent</td>
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<tr>
<td>2003</td>
<td>June 27</td>
<td>Announce Basic Policies 2003</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Restrain government spending by capping potential national burden ratio by 50 percent</td>
</tr>
<tr>
<td></td>
<td>December</td>
<td>Formulate FY2004 Budget</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cut public works program by 3.5 percent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reduce subsidies by 1 trillion yen</td>
</tr>
</tbody>
</table>
### Chronology of Events

#### Fiscal Policy (Continued)

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Details</th>
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</thead>
<tbody>
<tr>
<td><strong>2004</strong></td>
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</table>
| June 11    | Public pension reform  
Introduce macroeconomic adjustment mechanism  
Fixing schedule for raising premiums  
Raise state subsidy rate for public pension from 1/3 to 1/2 |
| November 26| Agree on trinity reform |
| December 20| Announce tax reform for FY2005  
Halve proportional income tax cut for individuals in CY2006 |
| December   | Formulate FY2005 Budget  
Cut public works program by 3.6 percent  
Trinity reform |
| **2005**   |               |
| December 20| Announce tax reform for FY2006  
Abolish proportional income tax cut for individuals in CY2007  
Streamline R&D tax credit and IT investment incentives (for 2 years) |
| December   | Formulate FY2006 Budget  
Health care reform  
Cut public works program by 4.4 percent  
Restrain bond issuance to 30 trillion yen |
| **2006**   |               |
| July       | Announce Basic Policies 2006  
Achieve surplus in primary balance of central & local government combined by FY2011  
Cut government spending by 11-14 trillion yen by FY2011  
Reduce debt to GDP ratio by mid-2010s/// |

1. "Basic Policies" refers to *Basic Policies for Economic and Fiscal Management and Structural Reform*
2. "Reform & Perspectives" refers to *Structural Reform and Medium-term Economic & Fiscal Perspectives*
### Table 2  Growth, Prices, and Employment

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td><strong>Real GDP</strong></td>
<td>2.8</td>
<td>-0.8</td>
<td>1.1</td>
<td>2.3</td>
<td>1.7</td>
<td>3.2</td>
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<tr>
<td><strong>Domestic Demand</strong></td>
<td>2.7</td>
<td>-0.2</td>
<td>0.4</td>
<td>1.5</td>
<td>1.2</td>
<td>2.7</td>
</tr>
<tr>
<td><strong>Private Demand</strong></td>
<td>2.6</td>
<td>-0.4</td>
<td>0.4</td>
<td>1.6</td>
<td>1.6</td>
<td>2.5</td>
</tr>
<tr>
<td><strong>Private Consumption</strong></td>
<td>0.5</td>
<td>0.7</td>
<td>0.8</td>
<td>0.5</td>
<td>0.9</td>
<td>1.3</td>
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<tr>
<td><strong>Business Investment</strong></td>
<td>1.0</td>
<td>-0.3</td>
<td>-0.4</td>
<td>0.9</td>
<td>0.8</td>
<td>1.1</td>
</tr>
<tr>
<td><strong>Public Demand</strong></td>
<td>0.1</td>
<td>0.1</td>
<td>0.0</td>
<td>-0.1</td>
<td>-0.3</td>
<td>0.2</td>
</tr>
<tr>
<td><strong>Net Exports</strong></td>
<td>0.1</td>
<td>-0.5</td>
<td>0.7</td>
<td>0.8</td>
<td>0.5</td>
<td>0.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>Real GDP</strong></td>
<td>100.0</td>
<td>-100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
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<tr>
<td><strong>Domestic Demand</strong></td>
<td>96.4</td>
<td>-12.5</td>
<td>36.4</td>
<td>65.2</td>
<td>70.6</td>
<td>84.4</td>
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<tr>
<td><strong>Private Demand</strong></td>
<td>92.9</td>
<td>-50.0</td>
<td>36.4</td>
<td>69.6</td>
<td>94.1</td>
<td>78.1</td>
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<tr>
<td><strong>Private Consumption</strong></td>
<td>17.9</td>
<td>87.5</td>
<td>72.7</td>
<td>21.7</td>
<td>52.9</td>
<td>40.6</td>
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<tr>
<td><strong>Business Investment</strong></td>
<td>35.7</td>
<td>-37.5</td>
<td>-36.4</td>
<td>39.1</td>
<td>47.1</td>
<td>34.4</td>
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<tr>
<td><strong>Public Demand</strong></td>
<td>3.6</td>
<td>12.5</td>
<td>0.0</td>
<td>-4.3</td>
<td>-17.6</td>
<td>6.3</td>
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<tr>
<td><strong>Net Exports</strong></td>
<td>3.6</td>
<td>-62.5</td>
<td>63.6</td>
<td>34.8</td>
<td>29.4</td>
<td>15.6</td>
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<tr>
<td><strong>Nominal GDP</strong></td>
<td>1.2</td>
<td>-2.1</td>
<td>-0.7</td>
<td>1.0</td>
<td>0.5</td>
<td>1.8</td>
</tr>
<tr>
<td><strong>GDP Deflator</strong></td>
<td>-1.6</td>
<td>-1.3</td>
<td>-1.8</td>
<td>-1.3</td>
<td>-1.2</td>
<td>-1.3</td>
</tr>
<tr>
<td><strong>Domestic Demand Deflator</strong></td>
<td>-1.1</td>
<td>-1.4</td>
<td>-1.6</td>
<td>-1.1</td>
<td>-0.6</td>
<td>-0.4</td>
</tr>
<tr>
<td><strong>Domestic Corporate Goods Price Index</strong></td>
<td>-0.6</td>
<td>-2.4</td>
<td>-1.6</td>
<td>-0.5</td>
<td>1.5</td>
<td>2.1</td>
</tr>
<tr>
<td><strong>Consumer Price Index (CY2000=100)</strong></td>
<td>-0.4</td>
<td>-0.8</td>
<td>-0.8</td>
<td>-0.2</td>
<td>-0.2</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>Consumer Price Index (CY2005=100)</strong></td>
<td>-0.4</td>
<td>-0.8</td>
<td>-0.8</td>
<td>-0.2</td>
<td>-0.1</td>
<td>-0.1</td>
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<tr>
<td><strong>Employment</strong></td>
<td>0.9</td>
<td>-0.3</td>
<td>-0.5</td>
<td>0.2</td>
<td>0.3</td>
<td>1.2</td>
</tr>
<tr>
<td><strong>Unemployment Rate (average)</strong></td>
<td>4.7</td>
<td>5.2</td>
<td>5.4</td>
<td>5.1</td>
<td>4.6</td>
<td>4.4</td>
</tr>
<tr>
<td><strong>Wages</strong></td>
<td>0.1</td>
<td>-2.0</td>
<td>-2.7</td>
<td>-0.9</td>
<td>-0.3</td>
<td>0.7</td>
</tr>
</tbody>
</table>

(Notes) ‘Consumer Price Index’ is the nation-wide index excluding fresh food.
Chart 1  Potential GDP, Actual GDP, and GDP Gap
(in percent)

(Source) Cabinet Office (2006b)
Chart2
First Principal Component (The Core Component)
(City Banks + Long-term Credit Banks + Yokohama Bank)

(Source) Omura et al. (2006)
(Notes) 1. The 9 financial data analyzed were; capital adequacy ratio, capital to loans ratio, return on assets, operating gross profits, current profit to assets ratio, return on equity, current profit to revenue ratio, interest coverage ratio, and loans to assets ratio.
2. Shinsei and Aozora Banks were created after the purchase by the private sector of state owned banks, Long-Term Credit and Nippon Banks.
### Table 3  Breakdown of NPL Disposal by Reasons

(Trillion yen)

<table>
<thead>
<tr>
<th></th>
<th>FY2001</th>
<th>FY2002</th>
<th>FY2003</th>
<th>FY2004</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sept.</td>
<td>March</td>
<td>Sept.</td>
<td>March</td>
<td></td>
</tr>
<tr>
<td>Newly Emerged NPL</td>
<td>3.0</td>
<td>6.9</td>
<td>2.0</td>
<td>3.0</td>
<td>28.1</td>
</tr>
<tr>
<td>(Off-balancing)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liquidation of borrower</td>
<td>-0.3</td>
<td>-0.4</td>
<td>-0.3</td>
<td>-0.8</td>
<td>-2.9</td>
</tr>
<tr>
<td>Reconstruction of borrower etc.</td>
<td>-0.6</td>
<td>-0.2</td>
<td>-1.8</td>
<td>-1.5</td>
<td>-8.2</td>
</tr>
<tr>
<td>Sales of loans</td>
<td>-0.9</td>
<td>-1.3</td>
<td>-1.0</td>
<td>-3.5</td>
<td>-12.2</td>
</tr>
<tr>
<td>Collection and Repayment</td>
<td>-1.1</td>
<td>-1.4</td>
<td>-1.3</td>
<td>-1.6</td>
<td>-11.5</td>
</tr>
<tr>
<td>Improvement in business</td>
<td>-0.3</td>
<td>-0.4</td>
<td>-1.0</td>
<td>-0.8</td>
<td>-5.0</td>
</tr>
<tr>
<td>Total off-balancing</td>
<td>-3.2</td>
<td>-3.8</td>
<td>-5.4</td>
<td>-8.3</td>
<td>-39.7</td>
</tr>
<tr>
<td>Net Change in NPL</td>
<td>1.1</td>
<td>2.7</td>
<td>-3.1</td>
<td>-3.6</td>
<td>-7.0</td>
</tr>
</tbody>
</table>

(Source)  Financial statements of major banks

(Notes)  1. ‘Liquidation of borrowers’ includes abandonment or write-offs of loans involved in bankruptcy liquidation procedures.

2. ‘Reconstruction of borrowers etc.’ consists of ‘reconstruction of borrowers’ and ‘improvement in borrowers’ performance due to reconstruction.’ The former includes abandonment of loans involved in rehabilitative bankruptcy procedures, debt forgiveness involved in special mediation and other types of mediation, and debt forgiveness for restructuring involved in private reorganization.

3. Figures do not include ‘Partial direct write-offs.’
Chart 3  Breakdown of Excess Current Account Balance at the Bank of Japan
By Types of Financial Institutions
(in trillion yen)

(Source) Bank of Japan

(Notes) 1. The amount shown is outstanding CAB at the BOJ less required reserves for the financial institutions subject to reserve requirement system.
2. ‘Major banks’ includes city banks, trust banks, and Norinchuukin Bank.
3. ‘Local banks’ includes regional banks and regional banks II.
4. ‘Foreign banks’ includes branches of foreign banks in Japan.
5. ‘Other institutions required to hold reserves’ includes shinkin banks (those with deposits over 160 billion yen) and Japan Post.
6. ‘Institutions not required to hold reserves’ includes securities companies, securities finance companies, and money-market dealers (tanshi companies).
Chart 5 Monetary Aggregates
(rates of change in percent)

(Source) Bank of Japan

Table 4 Gross Government Debt
(FY2004)

<table>
<thead>
<tr>
<th>Amount</th>
<th>Ordinary Central Government Bonds</th>
<th>Other Central Government Bonds</th>
<th>Borrowings by Local Allocation Tax Special Account</th>
<th>Other Central Government Borrowings</th>
<th>Short-Term Central Government Bills</th>
<th>Local Government Bonds</th>
<th>Other Local Government Borrowings</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>(trillion yen)</td>
<td>499</td>
<td>6</td>
<td>50</td>
<td>9</td>
<td>96</td>
<td>141</td>
<td>28</td>
<td>690</td>
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<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>733</td>
</tr>
</tbody>
</table>

(Source) Cabinet Office, Ministry of Finance, and Ministry of Internal Affairs and Communications

(Notes) ‘Gross government debt’ includes debt of only central and local governments. It does not include debt of the social security fund or those of the government financial institutions and other public enterprises.
Chart 5  
Sustainability of Government Debt 
(in percent of GDP) 

(Source)  Cabinet Office