

# Japan's Fiscal Policy and Fiscal Reconstruction

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by

Toshihiro Ihuri<sup>1\*</sup>  
Atsushi Nakamoto<sup>2</sup>

## Abstract

This paper investigates macroeconomic effects of fiscal policy and fiscal reconstruction movement in Japan. We first summarize Japan's fiscal policy in the recent years and discuss merits and demerits of government deficits. Then, we investigate the macroeconomic effect of Japanese fiscal policy and evaluate the plausibility of the non-Keynesian effect. We also analyze the possibility of crowding-in effect of fiscal policy and investigate the spillover effect of deregulation. Finally, we discuss political constraints in the fiscal reconstruction attempts and propose some measures for the successful fiscal reforms in the near future.

1\*: corresponding author. Graduate School of Economics, University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113, Japan, (phone) 03-5841-5502, (fax) 03-5841-5521, E-mail: [ihori@e.u-tokyo.ac.jp](mailto:ihori@e.u-tokyo.ac.jp)

2: Graduate student, University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113, Japan

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## 1. Introduction

Public finance in Japan is a shambles. Central and local governments will owe more than a total of ¥700 trillion – a sum more than 50 percent larger than the nation's gross domestic product (GDP) – at the end of fiscal 2004. In addition, these government entities have huge budget deficits. The central government's general-account budget is based on scheduled marketing of ¥ 36 trillion in new bonds in fiscal 2004. This will bring the year's combined budget deficit for central and local governments to about ¥40 trillion, representing 8 percent of GDP. That is an extremely high ratio among the industrialized nations.

The government has poured a lot of money into wasteful projects. The most obvious example is public works spending, which still remains high. Furthermore, spending for social programs continues to rise, reflecting the accelerated aging of the population. At this rate, Japan's public finance will eventually be bankrupt. Balancing the budget requires both cutting spending and increasing taxes. These reforms are painful. But the budget gap will widen if hard decisions are put off to avoid the pain. The administration of Prime Minister Koimumi, who says a "full-scale economic recovery cannot be achieved without structural reform", is committed to administer painful prescriptions that in the long run will cure the ailing economy. However, the speed of fiscal reform is not so high. Bold political action is the key to deficit reduction and structural reform.

The purpose of this paper is to analyze macroeconomic effects of fiscal policy and fiscal reconstruction movement in Japan. This paper considers the following points. 1) What caused a rapid increase in fiscal deficits? 2) What are the macroeconomic effects of government deficits and fiscal reconstruction attempts? 3) How could the government stimulate private demand without relying on the traditional Keynesian measures? 4) Why would the speed of fiscal reform be so low in Japan? 5) What would be the crucial point of attaining successful fiscal reconstruction in the future?

Based on theories in macroeconomics and public economics, this paper investigates theoretically and empirically these questions using Japanese fiscal data. We intend to incorporate the political aspect of fiscal policy into these analyses. This paper will thus evaluate the growing dependence on government bonds for covering financial deficits and Japan's fiscal reform attempts.

This paper consists of six sections. In Section 2, we summarize Japan's fiscal management in the recent years. In Section 3 we discuss merits and demerits of government deficits. In Section 4, we investigate macroeconomic effects

of Japan's fiscal policy in the 1990s, and analyze the plausibility of the non-Keynesian effect. Then, we analyze the possibility of crowding-in effect of fiscal policy and investigate the macroeconomic effect of deregulation in Section 5. Finally, Section 6 discusses political constraints in the fiscal reconstruction attempts and proposes some measures for the successful fiscal reforms in the near future.

## **2. Japanese Fiscal Management**

### **2.1 Fiscal policy and government deficits**

Traditionally, the Japanese government has followed a balanced budget policy. The balanced budget was maintained until 1965, when national bonds were first issued in the postwar period. The gap between government expenditures and tax revenues, which corresponds roughly to fiscal deficits, began to expand rapidly at the outbreak of the first oil shock in 1973. Asako et. al. (1991) presented good description of the rise and fall of deficits in the 1970s and the 1980s in Japan. They interpreted that the increase of deficits in the second half of 1970s as a combination of several factors. The larger fiscal deficits resulted from the major burst of new spending on social welfare programs in the first half of 1970s and on public investment in the second half of 1970s and the lack of tax revenues reflecting the slowdown of economic growth. Also, understanding of Keynesian fiscal policy became popular since 1960s.

After the increase in the budget deficit in 1975, deficit reduction has become one of the most important objectives of economic policy. Eliminating fiscal deficits was officially called 'fiscal reconstruction'. The Ministry of Finance (MOF) constantly pressured each ministry of the government to hold down expenditures when drawing up the initial budget. Since 1982, the principle of zero growth requests (zero ceiling) has been imposed on budget requests. The ceiling was sharply tightened to negative increases in the late 1980s.

The substantial amount of natural tax increases has been produced from 1986 to 1991. The abnormal hike of stock and land prices generated a great amount of tax revenues in the form of the corporate tax, the security transaction tax, capital gains tax, etc. Such a large amount of natural tax increases was of great help in reducing accumulated deficits, which in turn achieved the target of fiscal reconstruction by 1991. The sharp rise of tax revenues, caused by a bubble phenomenon, looks like "windfall". "Windfall" tax increases have played a vital role in achieving the MOF's target in the second half of 1980s.

However, after a "bubble economy" was broken in 1991, natural tax decreases were incurred to generate revenue. At the same time, the politico-economic pressures for larger expenditure budgets and counter-cyclical packages of fiscal measures intensified. Responding to them, the MOF employed some measures for stimulating the aggregate demand. It turned out that these counter-cyclical measures were not so effective, resulting in an increase in the fiscal deficit.

Bond dependency ratio rapidly rose in the latter of 1990s. Figure 1 shows bond dependency ratio in the consolidated account, that is, the net total of the General Account, the Special Account for Grants of Allocation Tax and Transfer Taxes, and the ordinary account (net total) of local governments. The figure was 10.9% in FY 1990. In FY 1999, this rose to 40.2%. The deficit on the general government financial balance in FY 1999 was 10.0% of GDP, with a gross debt of over 108%. The inclusion of the surplus on social security reduced that deficit to 7.8%, and even that figure was highest among G7 countries.

Let us compare some fiscal indicators in the 1990s among G7 countries.<sup>1</sup> On general government financial balance as a percentage of GDP, Japan's figure was +2.9% in 1990.<sup>2</sup> But this significantly drops to -7.9% in 2000. In contrast, the figure in other G7 countries almost improved in the 1990s. In the U.S., the improvement is from -2.7% (in 1990) to +0.9% (in 2000). In the U.K., it was -1.5% in 1990 and is +0.8% in 2000. In Germany, it improves from -2.1% in 1990 to -1.2% in 2000. In France, it was -1.6% in 1990 and is -1.7% in 2000. In Italy, it rose from -11.2% (in 1990) to -1.6% (in 2000). In Canada, the improvement is from -4.5% (in 1990) to +1.6% (in 2000).

On general government gross debt as a percentage of GDP in the 1990s, Japan's figure significantly increases from 61.4% (in 1990) to 114.1% (in 2000). The increase of the figure in other G7 countries is smaller than that in Japan. In the U.S., this figure was 55.3% in 1990 and it is 57.1% in 2000. In the U.K., it increases from 39.1% in 1990 to 51.2% in 2000. In Germany, the increase is from 43.2% (in 1990) to 61.7% (in 2000). France's figure was 40.2% in 1990 and is 64.6% in 2000. In Italy, it was 105.4% in 1990 and it is 115.2% in 2000. In Canada, the increase is from 71.5% (in 1990) to 82.5% (in 2000). A comparison of these fiscal indicators for Japan and six other industrialized countries shows the fiscal situation

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<sup>1</sup> The source of these data is OECD (1999).

<sup>2</sup> The general government includes the central government, local government, and social security fund.

in Japan is worse than that in other countries.

## **2.2 “Do everything possible” policy and fiscal structural reform**

Former Prime Minister Obuchi’s administration, which took office in July 1998, adopted a more expansionary fiscal policy to stimulate the economy. The Fiscal Structural Reform Law, which was intended to cap central government bonded indebtedness, was suspended late that year, which was followed the next year by a series of stimulus measures, including income tax cuts and the distribution of cash coupons intended to spur consumer spending. A supplementary spending budget was compiled to provide funding for the measures.

Referring to the ballooning budget deficit, Obuchi called himself “the biggest borrower in the world”. The Obuchi administration’s aggressive public spending policy was carried over into the subsequent administration of former Prime Minister Mori from April 2000. These and other free-spending measures were intended to encourage demand in any way possible to brighten the economic environment. The reasoning was that a policy of “chasing two rabbits at once” – meaning economic recovery and fiscal consolidation – fails to achieve either objective, so the first priority should be on recovery.

However, the “do everything possible” policy, intended to yield quick results, led to the runaway expansion of the budget deficit, raising concerns about the sustainability of the fiscal balance. As one nonessential public facility after another was built across the nation, the cost of maintaining them skyrocketed. The expansionary economic policy pursued by the Obuchi administration through more public works spending and tax cuts raised questions about their macroeconomic impacts.

The stimulus measures created another major problem: a tendency to postpone structural reforms. The consensus at the time was that there was no immediate need for such painful measures as long as government policy prevented the economy from slipping into recession. There was, indeed, a widespread feeling in the private sector that the government would come to its aid if the economic situation worsened. That feeling fostered a certain complacency in the business world, making many corporate managers liable to “moral hazards” – risks stemming from lack of self-discipline. The continuation of the short-term stimulus policy, at a time when the economy needed long-term structural changes, discouraged self-help efforts in the private sector.

The concern for sustainability of fiscal deficits is a background for the fiscal

reconstruction and structural reform movement by the current Koizumi Administration. The "Structural Reform of the Japanese Economy: Basic Policies for Macroeconomic Development" was decided upon after acceptance of the report compiled by the Council on Economic and Fiscal Policy, an advisory council to the Prime Minister. In this report the core of policies for the structural reform of the economic society was made clear. In part of the policies shown, a goal to limit the amount of government bond issues to less than 30 trillion yen in the FY 2002 budget, and afterwards achieve a primary surplus, was set to show that there exists a necessity to take on full-scale measures towards fiscal consolidation. However, in order to cope with the bad situation of macro-economy, 1.8 trillion yen of the advance tax cuts was employed with a view to strengthening the competitiveness of industry, facilitating a smooth transference of assets to the next generation, promoting a shift from "saving to investment", advancing effective land use, and so on. The goal to limit the amount of government bond issues to less than 30 trillion yen in the FY 2002 budget was finally abandoned.

The Japanese government now aims at stopping debt accumulation by early 2010s. The target is to reduce the primary deficit to 1.3% of GDP and to maintain gross debt less than 150% of GDP in 2010. See Figure 2. But, the planned consolidation may not be achievable if lobbying activities of several interest groups are too strong to make the drastic fiscal reforms.

### **3. Merits and demerits of fiscal deficits**

#### **3.1 Gross debt vs. net debt**

The central and local governments, although heavily indebted, also have credits and assets. The total value of the government-held tangible and financial assets – those of the central government, local governments and social security funds - is about ¥900 trillion, far more than the ¥700 trillion government debt. It is therefore argued that government debt is not a great concern because the net asset position is positive.

Public pension funds, in particular, now hold assets of about ¥200 trillion, a sum amounting to about two-thirds of the central government's outstanding debt load. The funds are creating net surpluses because contributions exceed payouts. So, in terms of the general government (the central and local governments plus the public pension funds), the fiscal deficit is not extremely large. The increasing reserves in the public pension funds help to offset, as it were, the increasing government debt. On balance, therefore, Japan's net fiscal position does not look

so serious.

To be sure, the sale of government-held assets translates immediately into government revenue and thus reduces the debt, of the balance of the public bonds. However, the argument that debt is not much of a problem in net terms raises two questions.

One question is just how many government assets could actually be sold. Many government-held tangible assets exist in the form of public infrastructure, such as roads. These would be hard to sell. By the same token, many of the financial assets, held in pension funds, are also unsalable. The pension reserves, of course, are intended to be dedicated to future payments to pensioners. The pension insurance premiums collected from working people must be paid some time in the future, in the same way that public bonds must be redeemed as they mature. The pension fund is thus different from tax revenues, which the government can use freely.

Another question is how these public pension funds will develop over the long haul. The indicators are that balance of pension funds will deteriorate as the birthrate declines and the population ages. Perhaps 15 or 20 years from now, this could lead the overall government deficits to assume even more serious proportions.

### **3.2 Public deficits vs. private surplus**

Although the government-sector debt is large, the nation overall is not in a deficit. In fact, the private sector – households and businesses – has large surpluses. In other words, the private-sector surplus exceeds the government deficit by a large margin, as evidenced by current-account surpluses, which attest to the accumulation of net external assets.

Nations hit by financial crises, such as Mexico and Russia, have had to borrow heavily from abroad because they had large deficits in the domestic-sector balance – a sum of fiscal deficits and the investment-to-savings difference in the private sector. In such nations, the growing fiscal deficit signaled not so much the instability of their governments to pay foreign debts as the lack of viability in their economies. Japan has current-account surpluses on a long-term basis, so it is unthinkable that the nations as a whole will go bankrupt under a massive debt burden.

However, Japan faces two potential problems. First, the current-account balance could tip into deficit in the future. The savings rate will drop if the working population – the mainstream savers – shrinks. The current-account

surplus will also evaporate if the private-sector slips into deficit as a result of recovery in corporate investment demand, unless the huge government-sector deficit is eliminated. Confidence not only in the Japanese government but also in Japan itself could suffer in consequence.

Another potential problem is that the government sector could collapse, even as the private sector remains solvent. This possibility makes it doubtful whether it is appropriate to lump together government- and private-sector balance. The integrated approach may be useful in determining the limits of the government ability to pay debt, because the government – which has the right to taxation – can tap private resources through higher taxes. The catch is that Japanese people and businesses can transfer some of their income abroad or flee to foreign nations. In this globalization and information age, attempts to levy extremely high taxes are likely to fail. So, even if the private sector is in surplus, the government could go bankrupt because of its inability to secure enough tax revenue to pay its debt.

### 3.3 Macro balance equation

Japan's fiscal deficit widened in the 1990s because economic stimulus measures, notably the combination of increased public investment and tax cuts, were implemented under the theory of macroeconomic balance. This theory says that government deficits are necessary to absorb excess savings in the private sector. If the government were to actually balance the budget, the argument goes, GDP would drop, throwing many people out of work and worsening the recession. This is because the market is already glutted with goods, reflecting excess private-sector savings. Fiscal deficits ease recession and reduce unemployment.

Under the system of national accounts, macro balance is shown by the following equation:

$$(1) \quad \text{Private-Sector Saving} - \text{Private-Sector Investment} = \\ \text{Fiscal Deficit} + \text{Current-Account Surplus}$$

But this equation applies only ex post facto. In reality, government-sector deficits can be expected to increase savings in the private sector as a higher fiscal deficit prompts households and businesses to save more in anticipation of higher taxes.

An after-the-fact macroeconomic balance does not in itself determine which of these two views is correct. A corroborative analysis of the Japanese economy shows the truth lies somewhere between these extremes. That is, the



savings-to-investment difference has created a deflation gap (an imbalance in the macro market for goods), but the possibility cannot be ruled out that the gap might have widened in reaction to the fiscal deficit. In other words, the fiscal deficit has shown its effect in slowing the fall of GDP and providing a prop for faltering economy. However, that effect has been rather modest.

### **3.4 Concerns about the accumulated deficit**

There are two long-term concerns about the accumulated fiscal deficits. One is whether such a large deficit can be sustained. The system will be paralyzed if public finance collapses under the weight of massive deficit. As a result, the financial system and the economy as a whole will be seriously affected. An extreme case of inflation, or hyperinflation, could develop.

The question of whether Japan's fiscal policy has been sustainable in the sense of being consistent with an intertemporal budget constraint has been concerned. There have been a few analyses on the sustainability problem in the government debt in Japan. So long as we use the data until 1990, it seems that the government debt has been sustainable in Japan. However, as explained in Section 2, deficits have increased rapidly since 1990. We are not sure if the present fiscal system in Japan may be sustainable in the long run. Ihuri, Nakazato, and Kawade (2002) attempted a standard approach to test the fiscal sustainability condition, using the methodology of Hamilton and Flavin (1986).

Japan has two serious difficulties in terms of sustainability. First, the Japanese primary surplus is apparently a decreasing function of the debt-GDP ratio since 1990 and hence it does not satisfy the sustainability condition. Second, the rate of interest is greater than the growth rate in Japan in the 1990s. As shown in Ardagna, Caselli, and Lane (2004), government deficits may raise interest rates in the long run. Hence, it is important to reduce the government deficit in the near future.

Another concern, assuming that the financial system will be sustained, is what happens if a considerable deficit accumulates over an extended period of time. Public finance will not collapse even if the debt load grows, unless the ratio of debt to GDP also increases. But if that debt ratio rises, it would have a more restrictive impact upon private investment. Public borrowing – the fiscal deficit – would cut into private-sector savings and private investment would be restricted by that much. If the money raised by borrowing is squandered on public works projects, private investment would be restricted even more. Japan's long-term economic prospects

would dim even more if growth is restricted, even if the deficit is sustainable and a fiscal collapse is averted.

#### **4. Macroeconomic effect of fiscal reconstruction**

##### **4.1 Efficacy of fiscal policy in 1990s**

There exist competing arguments on the efficacy of fiscal policy in the 1990s. One hypothesis is that the effects of fiscal policy were very large and hence recession would have deepened without fiscal expansion. On the contrary, alternative is that fiscal policy did not have an expansionary effect enough to push up the macroeconomic activity and hence unlimited public expenditures simply made the fiscal crisis worse. These opposing arguments, which lead to different policy implications, are mostly due to different understanding of the macroeconomic analytical framework. Namely, the former hypothesis is based on the conventional Keynesian model of liquidity-constrained agents, while the latter is based on the neoclassical model of rational agents.

Although there have been a lot of controversial arguments on the effectiveness of fiscal policy in the 1990s, statistical evaluation has not been done well. Due to limited availability of time series data concerning Japan's fiscal policy in the 1990s, it is difficult to estimate quantitatively how the Keynesian fiscal policy was really effective during the period.

Using the VAR method, Ihori, Nakazato, and Kawade (2002) showed that fiscal policies have generated limited effects on output in Japan. Namely, tax policies did not have a stronger effect than changes in government expenditure. Furthermore, the effect of fiscal policies was too marginal to recover macroeconomic activities, which is consistent with the latter view based on the neoclassical model of rational agents.

Therefore, we may say that the multiplier effect of public works has become very low in recent years, and hence the efficacy of stimulating aggregate demand by using public works is controversial. As the allocation of public works is not appropriately determined, it could not stimulate private consumption or investment. The resulting cost is a huge increase in government deficit in the 1990s. There are some empirical studies on the productivity effect of public capital in Japan; Doi (1998), Yoshino and Nakajima (1999), Ihori and Kondo (2001) and so on. They commonly conclude that public capital was productive but its productivity has declined recently.

## **4.2 Lessons from fiscal reconstruction in the foreign countries**

It will be useful to learn from the recent fiscal reconstruction movements in foreign countries. Firstly, from the experience of the United Kingdom or France's attempts we may say that when the government raises tax revenues during the fiscal reconstruction process it is important to expand the tax base and reduce the marginal tax rate. For example, by reducing corporate income and personal income tax rates, the government could make efforts to vitalize private economic activities.

Similar attempts were actually seen in the United Kingdom as an introduction of "universal testing"; any capital projects will not be approved unless private finance options have been explored. Moreover, in the United States, when taking various tax increase measures, the government extended implementation of a R&D tax credit and expanded the instant inclusion of R&D expenses limit of the investment expenditure for small and medium-sized enterprises. A lesson is that fiscal reform should consider the spillover effect on private sector. When an increase in taxes is needed for fiscal reconstruction, it should also minimize the distortionary burden to the private sector.

Next, let us investigate the efficacy of budgeting rule. The method of deficit targeting, which absolutely aims at the reduction of deficit itself, would not work well. For example, in the case of the U.S. the GRH law was not effective and in Italy the similar attempt did fail too. These experiences suggest that it is difficult to predict a real growth rate, an inflation rate, etc. and hence it becomes infeasible to be committed to the predetermined path of deficit.

On the other hand, several countries controlled government expenditure by imposing the ceiling rule. For example the "control total" was made in the United Kingdom, and the scrap-and-build system was set in Germany. The "cap" and "pay-as-you-go" principles were set in the U.S. These attempts somehow succeeded in fiscal reconstruction.

Since budget deficit is a gap between tax revenue and expenditures, it is more effective to control tax revenue or expenditures directly rather than to target deficits. These attempts have high transparency as a budgeting rule, and satisfy requirements for realistic validity of fiscal reconstruction. Too strict and ambitious targeting or rules would be difficult to follow.

## **4.3 The non-Keynesian effect of fiscal reconstruction**

When we consider the relation between fiscal consolidation and macro economic activities, it is important to evaluate how the non-Keynesian effect

becomes relevant for Japan's case. The so called "non-Keynesian" effect means that cuts in public expenditures and/or tax increases contribute to stimulate private demand under some fiscal situations or macroeconomic environments: that is, when government spending is inefficient, and/or the budget deficit is so large. This seemingly paradoxical effect may occur. If this is the case, it becomes possible to attain simultaneously two policy objectives of fiscal reconstruction and macroeconomic recovery.

As shown in Giavazzi and Pagano (1990) and Perotti (1999), whether the non-Keynesian effect really occurs is dependent on how agents expect future fiscal management based on the fiscal situation in the time of performing fiscal reform and a magnitude of the policy change.

#### (1) Nature of fiscal policy:

Giavazzi and Pagano (1995), and Giavazzi, Jappelli, and Pagano (2000), using the OECD country data, showed that the efficacy of fiscal reconstruction depends on the size and duration of the policy. That is, if the size is small and time is short, the usual Keynesian effect will occur. On the contrary, if the size is large and time is long, the non-Keynesian effect will occur. See also, Drazen (1990).

The fundamental logic is as follows: when fiscal reconstruction is performed by a large reduction of government spending ( $G$ ), consumers will anticipate a reduction of the permanent level of government expenditure ( $G_p$ ), resulting in the decrease in permanent level of tax burden ( $T_p$ ). Namely, if  $\Delta G < -\alpha < 0$  and  $\alpha$  is large, consumers expect  $\Delta G_p = \Delta T_p < 0$ . This will raise permanent disposable income ( $Y_p - G_p$ ), stimulating consumption from the present. When the non-Keynesian effect occurs, the size of reduction ( $\alpha$ ) must be so large that consumers expect a decrease in the permanent level of public spending.

On the other hand, when the magnitude of fiscal reconstruction ( $\alpha$ ) is small, the private sector would likely expect that the government would return to expansionary policy again in the future, and hence private demand would not be stimulated. Namely, if  $-\alpha < \Delta G < 0$ , consumers rather expect  $\Delta G_p = \Delta T_p \geq 0$ .

The length of reconstruction policy attempts can work in the same way. That is, if the duration of policy is long and it would continue in the future, consumers will expect that it does not come back to an expansionary policy, resulting in stimulating consumption.

#### (2) Conditions of fiscal situation

Perrotti (1999) noted that, for countries having brought about the expansionary effect, the government debt had been accumulated too much before the fiscal reconstruction started. He explained this fact by exploring the nonlinear effect of fiscal policy. Moreover, using the cross country data of OECD countries, Perotti (1999) showed that the non-Keynesian effect occurred when the ratio of government debt/GDP was high. Sutherland (1997) and Blanchard (1990) explained theoretically this nonlinear effect.

The fundamental idea is as follows; when an outstanding government bond ( $B$ ) is higher, consumers would more concerned about future distortionary burden ( $D$ ) of fiscal deficits (a huge cut of government spending, a big increase in distortionary taxes, etc.). They would feel better when fiscal reconstruction attempts actually started to retain sustainability of public debt. Hence, their lifetime income become larger to some extent if reconstruction could alleviate those negative factors. Namely, if  $B > \beta \cdot > 0$  and  $\beta$  is large, an increase in taxes and/or a decrease in spending would mean a reduction of the permanent level of fiscal burden ( $\Delta D < 0$ ), so that permanent disposable income increases ( $\Delta(Y_p - G_p - D) > 0$ ).

Overall, it is important to evaluate the macroeconomic effect of fiscal reconstruction attempts by paying attention to the nature of fiscal policy and conditions of fiscal deficits. If fiscal reconstruction has such a stimulating effect on private demand due to "the non-Keynesian effect", it will be wonderful for Japan's fiscal reconstruction. Surely, the accumulated debt balance is still growing and people are concerned with the future burden of tax increases or spending cut. Therefore, some degrees of non-Keynesian effect may be relevant if drastic reform is pursued. However, it does not necessarily mean that the non-Keynesian effect actually becomes relevant in a quantitative sense.

#### 4.4. Empirical study

Nakazato (2002) empirically studied the non-Keynesian effect in Japan, using fiscal data since 1955 till 1998, following the method of Perrotti (1999). Although a reduction in government spending during the fiscal reconstruction period in 1980s could stimulate private consumption moderately, his study did not confirm the non-Keynesian effect strongly.

As an extension of Ihori, Nakazato, and Kawade (2002) we now estimate the impulse effects of fiscal variables by including more recent fiscal data until 2002. First, we decompose time series data using the HP filter. Then, we examine the

impact of fiscal variables of the cyclical component on macroeconomic activities by using vector-auto regression (VAR) and impulse response functions. Since this paper aims to clarify the impact of fiscal policies without prior information, we adopt non-structural VAR estimation. The variables used are private consumption (CP), private investment (IP), public investment (IG), and tax revenue (GR), export (EX) and import (IM). To decide the order of the lags, we use the SBIC criterion.

The estimated impulse responses are shown from Figures 3-1 to 3-4. A 1% increase of public investment would not stimulate private consumption strongly.<sup>3</sup> (See Figure 3-1). Figure 3-2 suggests that the crowding-out effect on private investment was still observed in the recent years. We then estimate impulse responses of tax increase. The impact of tax revenue in the 1990s was marginal as in the 1980s. As shown in Figure 3-3, a 1% increase of tax revenue raised private consumption for the following quarter before the 1990s, and it had similar marginal effects in the 1990s. The effect on private investment was not significant although the effect was sometimes negative in the recent years (see Figure 3-4).<sup>4</sup>

In short, increasing public investment in the 1990s crowded out private investment to some extent and did not increase private consumption much. It seems that the standard Keynesian effect was not observed strongly in Japan. On the other hand, although the adverse (non-Keynesian) effect was often observed, the magnitude was not so large. As in the previous results by Ihuri, Nakazato, and Kawade (2002), our results does not strongly confirm the non-Keynesian effect either. The overall policy implication is that the Keynesian fiscal policy in the 1990s was not effective but we could not strongly count on the non-Keynesian effect. Therefore, when aiming at financial tightening, careful consideration is needed with respect to the timing of fiscal consolidation policy.

## 5. Fiscal policy and crowding-in effect

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<sup>3</sup> Ihuri and Kondo (2001) estimate the effect of public capital on consumption by incorporating public capital into the utility function and point out that it was getting lower since 1965. Kato (2001) estimates the effects of government consumption and public investment based on the structural VAR and points out that they became very low after 1985.

<sup>4</sup> Ramaswamy and Rendu (2000) point that slowdown of private investment was the main reason of recession in the 1990s and fiscal expansion did not have much effect in spite of its scale.

### **5.1. Economics of crowding out effect**

The Keynesian measures are based on the idea that aggregate demand can be stimulated by increasing government spending or reducing tax. However, even if the multiplier effect of government spending is large, it is difficult to use discretionary fiscal policy appropriately. The ideal government may not exist. Moreover, it is difficult to manage a desirable size of stimulus on time with perfect cooperation between politicians and bureaucrats.

However, even if the ideal government may handle these issues appropriately, a question still remains in respect of efficiency. That is, if the private agents behave rationally, a stimulus of fiscal policy will be weakened by the crowding out behavior of these agents. For example, public spending may directly crowd out the similar private spending. Such crowding out behavior will undermine the overall effect that fiscal policy intends to have on the private economy. The validity of fiscal policy becomes restrictive not only due to technical difficulty of discretionary policy but due to the crowding out effect.

Conversely, the stimulus effect of public spending becomes large when it is used for valueless purposes or investment which produces benefits only for the far future. Namely, since useless expenditure at present is not a close substitute with private consumption or investment, this would not crowd out private consumption. In other words, public spending such as investment in basic research, which brings benefits only in the far future, stimulates present consumption rather than future consumption. It is because consumers will get benefits in the future, so they would enjoy private consumption more rather than save more.

The infrastructure investment of the high-growth era in Japan was very productive. Therefore, it did crowd in private demand, and the multiplier effect was also large. However, in the 1990s, when the productivity of infrastructure investment became smaller, the main purpose of public works changed to provide social security benefits. Such a change crowded out private consumption, and it hence reduced the macroeconomic effect of fiscal policy.

### **5.2. Macroeconomic effect of regulatory reform**

As a policy that can produce the crowding in effect, we now consider experiences of deregulation policy for several industries in Japan. In a regulatory reform, merits consist of three aspects: (1) a rise of productivity by introducing more competition, (2) a fall of the price level by reducing costs, and (3) diversification of goods and service, technical innovation, etc. But there are demerits: (4) a short-term

rise of unemployment and (5) progress of monopoly and oligopoly.

There have been some previous works on calculation of the merits. For example, deregulation in the telecom industry began from the privatization of JDD to NTT and then the government permitted free entry to telecommunication industry in 1985. "This became the most changing industry, resulting in the biggest impact among the movements toward deregulation" (Sumitomo-Life Research Institute Inc. 1999) by crowding in the explosively spread use of cellular phones. Table 1 just calculates some merits for the telecom industry. In this table, "the user merit" means the amount of money estimated by "gap of price level assumed when there is no deregulation, and actual price level with deregulation" times quantity demanded each year, and "the demand effect" means an amount of consumption and investment expansion due to deregulation.

### **5.3. Estimation**

While the traditional Keynesian fiscal policy is not feasible in Japan, the government may still stimulate private demand by using microeconomic policy such as deregulation, which would not require a lot of public money. If such micro-based policy crowds in private demand, this is certainly compatible with fiscal reconstruction attempts. Hence, we would like to compare the macroeconomic effect of such deregulation with that of public investment. Namely, we consider the spillover effect to the private investment caused by deregulation using a VAR analysis.

The purpose here is to compare the crowding-in effect of a particular type of private investment due to deregulation with that of government spending as a macro stabilization policy. Here, investment of telecom industry will be used as an alternative index of the direct impact of deregulation. We may assume that investment of this industry was mostly controlled by the degree of deregulation, which is a policy variable as in the amount of public works.

For simplicity, we use investment of the "other transportation and communication" of the "business and investment survey of incorporated enterprises" as a proxy variable of "an investment of telecom business". The "other transportation and communication" is the transportation business, i.e., "service accompanying aviation transportation business, warehousing and carrying charges business, and transportation, mail, and telecom business", except "transportation by land" and "water transport" here.

First, we decompose the time-series data using the HP filter. The variables



used here: Private Consumption (CP), Public Investment (IG), Tax Revenue (GR), Export (X) and Import (M), and "an investment of other transportation and communication" (S) and "private investment minus investment of other transportation and communication" (AS). To decide the appropriate order of the lags, we use the Akaike Information Criterion (AIC) and the Schwarz's Bayesian Information Criterion (SBIC) criteria.

The estimated impulse response is shown in Figures 4 and 5. Figure 4 shows that since the middle of the 70s till the 80s investment of the "other transportation and communication" had stimulated the private fixed capital formation of other industries, while public investment crowded out private investment much.

Figure 5 shows that in the 1990s the negative effect of public investment on private investment was also larger than before, and investment of an "other transportation and communication" had large spillover effects on private investment, too. The above results suggest that the macroeconomic effect of deregulation was larger than that of traditional Keynesian fiscal policy. As long as the crowding-in effect on private investment is concerned, deregulation could be more effective than public works.

## **6. Fiscal reform and political constraint**

### **6.1 Delay of structural reforms**

As to the political constraints to the fiscal reconstruction movements, politicians can accept the idea of fiscal structural reform toward fiscal reconstruction only if the government party occupies majority stably in the Diet, and hence the probability of dropping power is low enough. Among others, Persson and Svensson (1989), and Alesina and Tabellini (1990) found that a stable government has an incentive to reduce government deficits. Also Alesina and Perotti (1995, 1996) reported that coalition governments in OECD countries delayed reducing fiscal deficits.

In Japan, the government party (the LDP) has been weakened and budget deficits have been increased since the late of 1970s. The LDP swept in the general elections of the House of Representatives, and began to reduce fiscal deficits (fiscal reconstruction) in the 1980s. On the contrary, in the 1990s, especially after 1993, several parties formed a coalition government, and fiscal deficits increased as mentioned above. The progress in Japan fits the findings of the above theoretical and empirical works. Although the central government can impose the ceiling constraint on some of public spending for fiscal reconstruction, it cannot easily

restrain region-specific transfers.

During the Obuchi and Mori administrations, structural reforms were put on the back burner for three reasons. The first was that everyone expected that things would get better even before such hard-hitting measures were implemented. Draconian efforts such as corporate restructuring and bad-debt disposal were postponed in the hope that land and stock prices would begin to rise in due course. This procrastination had earlier led, for example, to a full-blown crisis in the financial sector in the autumn of 1997. Things developed in a similar fashion with regard to fiscal consolidation. Structural measures that would reduce the budget deficit were put off in the hope that the deficit would begin to shrink once the economy recovered.

The second reason was that scandals swirling around government officials and politicians undermined public confidence in the central government and the ruling political parties. Poor communication between the public and the government politicians delayed structural reforms. Even if policymakers were correctly informed about the merits of reform, the voting public was unable to share that information and therefore could not properly evaluate their policies. Drastic reforms could not get off the ground because voters did not trust the government and the ruling coalition.

Third, fiscal consolidation and other structural reforms were put off because of short-term benefits needed by the coalition governments. In the autumn of 1999 Komeito joined the coalition administration of the Liberal Democratic Party and the Liberal Party. As a result, the three parties secured a combined majority in the House of Councilors (Upper House) as well. The overriding objective of the three party coalition at the time was, as stated by Prime Minister Obuchi, to maintain a numerical advantage in the Diet. Given its low public approval ratings, however, the ruling alliance faced a pressing need to produce results quickly to gain public support. This was particularly true of Komeito, which needed even more urgently to deliver short-term achievements because of its emphasis on welfare-related spending. Such political pressures set the stage for free-spending policy.

Also, Ihori, Doi and Kondo (2001) and Doi and Ihori (2002)'s empirical evidence in Japan indicates that lobbying activities of local interest groups was exaggerated in the 1990s, which is the main reason why fiscal reconstruction did not perform very well in Japan.

## 6.2 Reliability and fiscal structural reform

A reliable policy is often successful, and in the case of fiscal structural reforms, this principle is applied as well. If consumers and firms believe that the government has committed itself to make the reform, they have an incentive to accept the cost of reform. This is a self-filling mechanism of rational behavior. As a result, the efficacy of such policy reform also becomes larger.

From the political viewpoint, overall political support will also be improved if some private agents' support began to induce more support and hence reliability of reform also increases. In such a case, the belief that reform produces political support more under the credible government policy is self-filling. This strengthens further the belief that agents becomes better under this government action. In short, the credibility (and reliability) of the government commitment would stimulate drastic fiscal reforms.

Moreover, in such a situation, multiple equilibria would arise in many cases. There may well be the case when private action is a strategic complement in that an agent supports more when other agents support more. If private sectors expect that many other agents make efforts to support the reform and if we have multiple equilibria, the government may be able to realize good equilibrium where much political support is made.

Consider a very simple model. A representative agent maximizes net gain from her political support  $e_i$  for a two agents economy ( $i=1,2$ ).

$$(2) \quad R(e_1, e_2) - c(e_1) \quad R' > 0, R'' = 0, c' > 0, c'' > 0$$

where  $c$  is private cost of supporting the reform.  $R$  is gross gain of supporting the reform, which is positively dependent on overall support from other agents. Then the first-order condition is

$$(3) \quad R' e_2 = c'$$

And

$$(4) \quad \frac{de_1}{de_2} = \frac{R'}{c''} > 0$$

Thus,  $e_1$  is an increasing function of  $e_2$ . We may draw her reaction curve as an increasing function of the average level of support  $e$ .

Consider two equilibrium points as shown in Figure 6. A horizontal axis shows the average support level ( $e$ ) in the economy, and a vertical axis shows an optimal support level ( $e_i$ ) of each agent. A representative agent may want to support more, as the curve of Figure 6 shows, when other agents support more. If agent  $i$  observes support level of other agents, and her support brings about large gains

when other agents support more,  $e_i$  will increase with  $e$ . This curve is the support reaction curve. In equilibrium, it is also required that the average support level is equal to each agent's support level. This equilibrium condition is expressed as the 45 degree line. Therefore, equilibria will be expressed as the intersection of the 45 degree line and the support reaction curve. When the reaction curve is nonlinearly increasing, multiple equilibria may occur.

Bad equilibrium  $e_L$  is of little support, and good equilibrium  $e_H$  is of much support. A good equilibrium takes place when many agents expect that the government reform causes a lot of agents' support. With such a property, if fiscal policy reform stimulates agents' political support due to better reliability on political commitment, then it can attain a good equilibrium.

For example, suppose local governments believe that gains from the fiscal decentralization are very high if many local governments support much. Then an increase in the average level of political support will stimulate more support for the reform. Since gross gains are strategic complements with respect to each agent's support, the gains of each agent's support will increase. If this is the case, the government may just target to stimulate only a small part of agents to make them support. In other words, the government can activate drastic reform by stimulating political support of some firms or consumers.

A promising policy that targets specific economic agents would be deregulation of some specific areas. For example, a successful outcome of deregulation of agriculture and/or welfare-related areas may increase overall political support among firms and consumers for the drastic fiscal reforms without spending much public money.

### **6.3. Path to fiscal consolidation**

Japan must now move quickly to put its fiscal house in order. Government bonds now sell at low interest despite the huge fiscal deficit. This means that investors are optimistic about the future of Japan's fiscal system. They consider a collapse of public finance unlikely. Such investor confidence reflects the fact the overall tax burden as a percentage of national income remains relatively low. Investors therefore believe that Japanese economy can withstand further tax increases.

However, if the expansionary trend in government spending continues at this pace, the fiscal deficit will inflate further and the political ability to raise taxes in the future will be limited. Investors will lose confidence in Japan's public bonds

if they believe that the nation's public finance is bound for long-term crisis. The result is that interest rates will rise and fiscal failure will become a more tangible reality.

It is time to discuss the direction of fiscal reform and draw up a specific consolidation plan. For that purpose, it may be useful to promote reform in two ways. The first is by revamping the fiscal system drastically. These changes are needed.

- (1) Introduction of taxpayer-identification numbering system to correct inequalities in the tax burden
- (2) Overhauling the project evaluation system to eliminate wasteful public works programs
- (3) Streamlining the revenue-sharing system (the so-called local allocation tax) that is creating "moral hazards" on the part of local governments
- (4) Streamlining the "pay as you go" pension system that now taps contributions by the young to pay the elderly and thus is spreading a sense of mistrust among young contributors.

Confidence in future fiscal management should be enhanced by implementing these and other structural reforms intensively in the next three years or so. At the same time, seeking to enhance both efficiency and transparency, the efforts to reduce costs and to utilize cost-benefit analysis have been complemented by a new re-assessment system. These changes are desirable but the speed of structural reform is not so high. Further determined efforts are needed to reform public spending and taxation in a more efficient way.

The other way to promote fiscal reform is to reduce the massive deficit. Needless to say, it is not rational to give top priority to deficit reduction alone. Even so, deficit reduction is still an important policy objective, given the nation's deteriorating fiscal health. The question is how long it should take to cut the deficit. Considering the problems that could arise from delays, a reduction program should be implemented as soon as possible, just as reform of the system. In light of the sorry state of public finance, however, effecting major tax increase or spending cuts in the short term might impose, if temporarily, an inordinate burden on the people.

Japan's fiscal condition has deteriorated markedly over the past ten years. It is therefore imperative that deficit be reduced over an extended period. More specifically, the budget gap should be reduced gradually over the next eight years, through 2013, to a level at which the budget balance – the balance including the

interest and debt servicing – maintained. To this end, the deficit as a percentage of GDP needs to be cut by 1 percentage point each year. This target should be achieved through a combination of spending cuts and tax increases.

Finally, it should be noted that the credibility (and reliability) of the government commitment would stimulate drastic fiscal reforms. A successful outcome of deregulation may increase overall political support for the drastic fiscal reforms without spending much public money.

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Figure 1

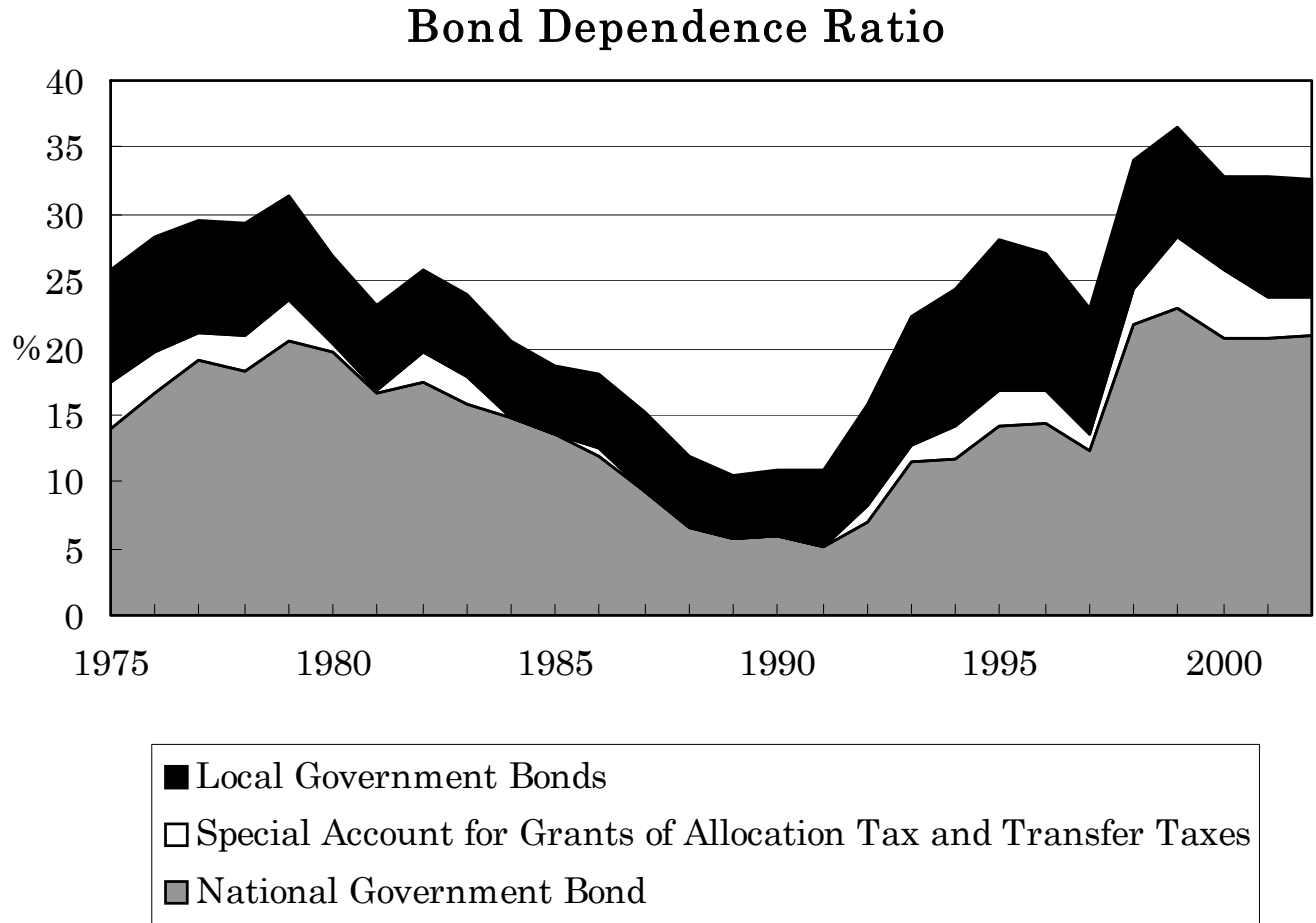


Figure 2

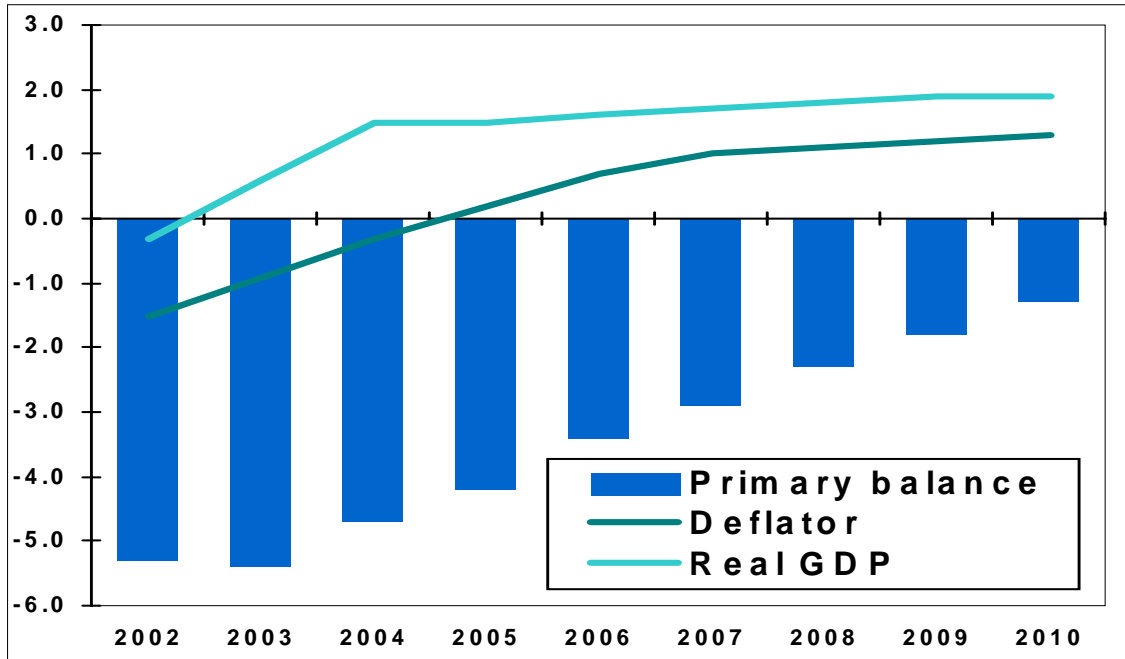
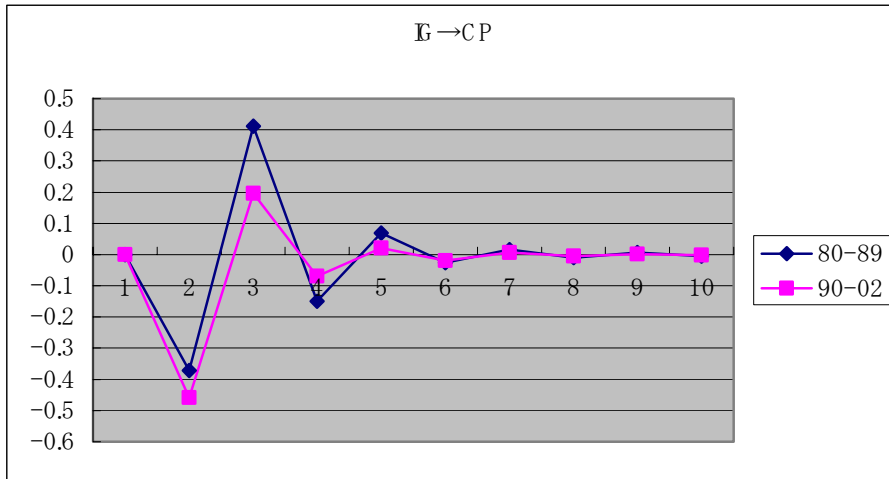
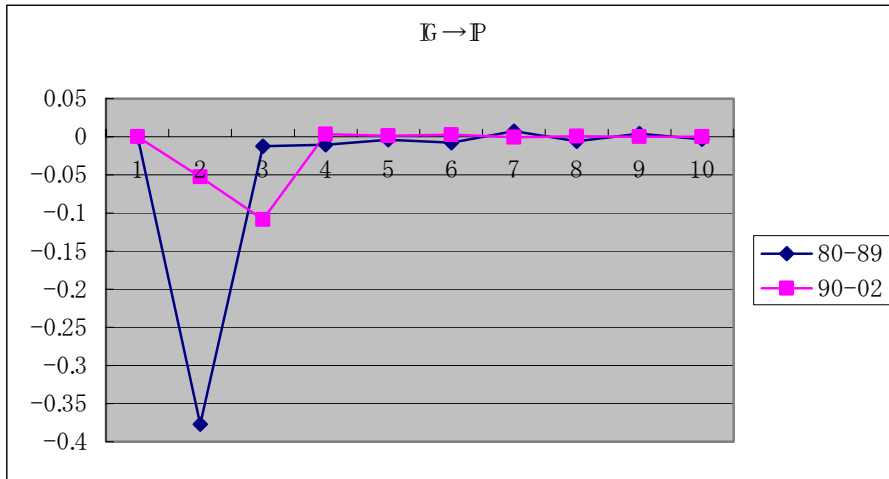


Figure 3-1



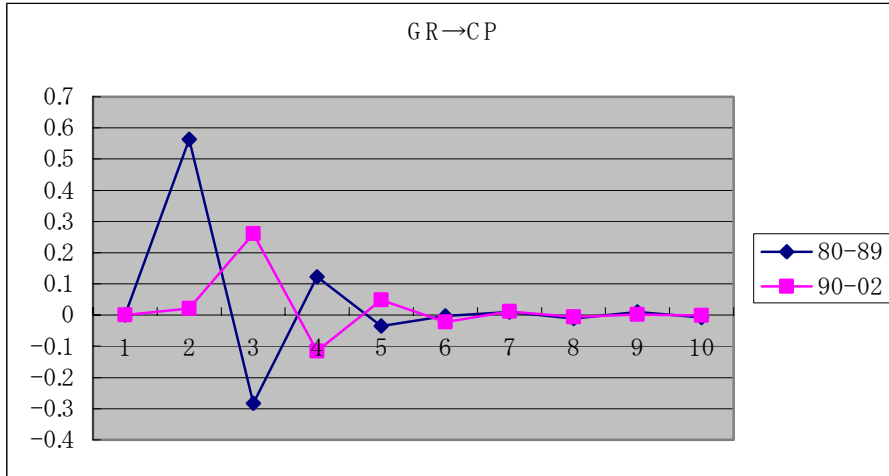
The impulse response of 1% increase of Public Investment on Private Consumption

Figure 3-2



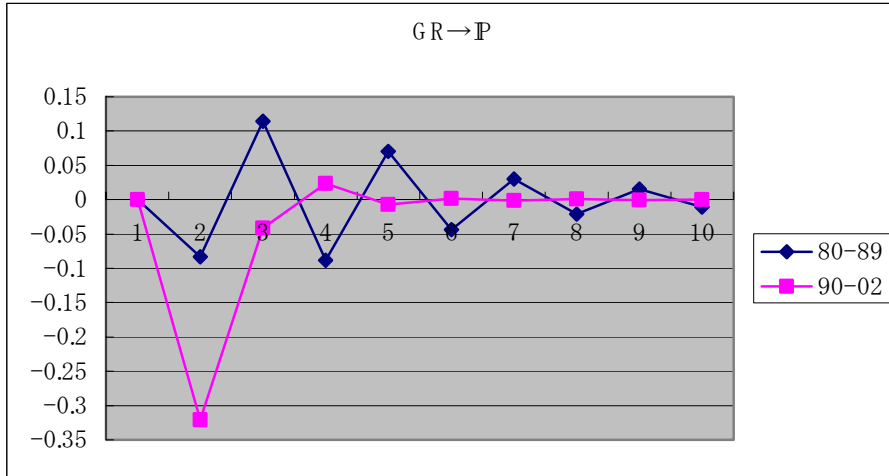
The impulse response of 1% increase of Public Investment on Private Investment

Figure 3-3



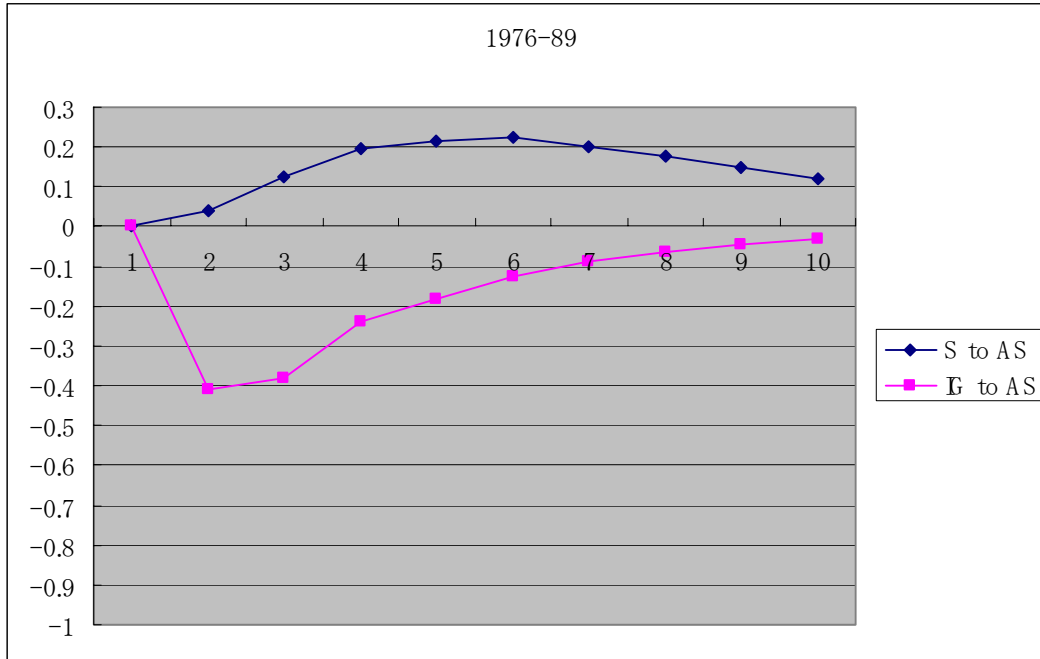
The impulse response of 1% increase of Tax Revenue on Private Consumption

Figure 3-4



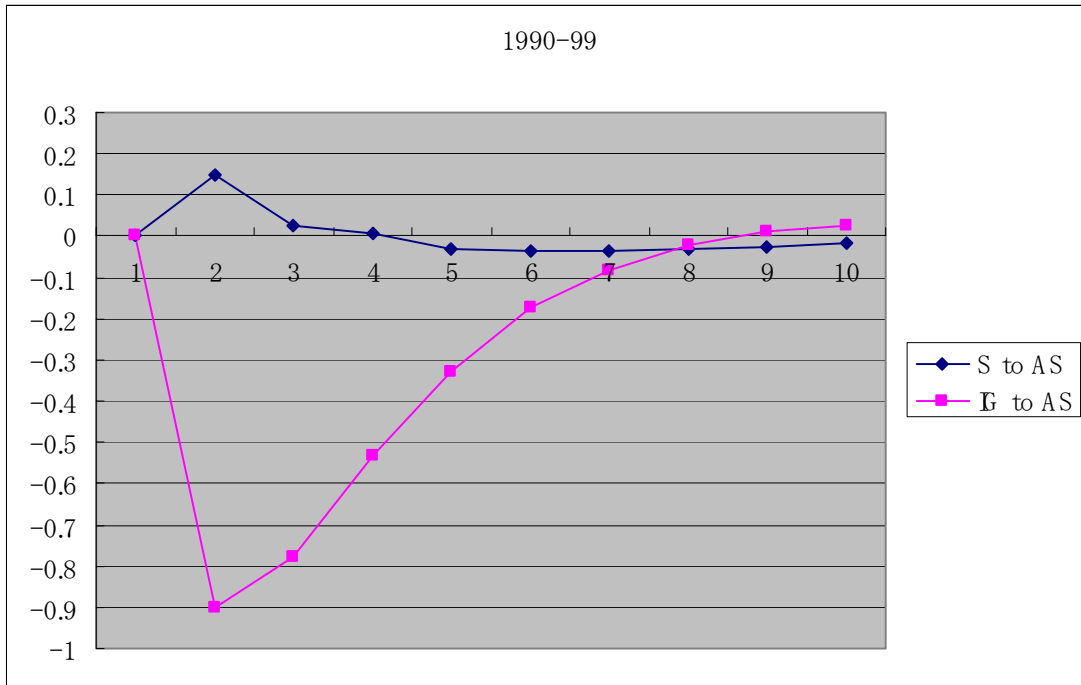
The impulse response of 1% increase of Tax Revenue on Private Investment

Figure 4



The Comparison of impulse response of 1% increase of an investment of "other transportation and communication" on other Private Investment and one of Public Investment

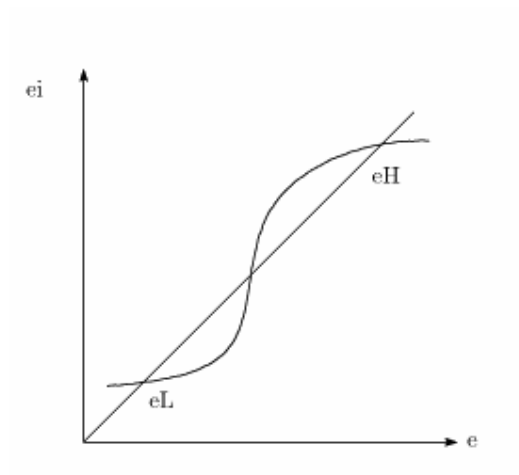
Figure 5



Same as the above



Figure 6



**Table. 1** Calculation of the economic merit of a regulatory reform (Telecom business)

( trillion

yen )

	Period	User merit	Demand effect	
			Consumption	Investment
Economic Planning Agency (1997)	90 ~ 95	1.23	1.29	7.07
Ministry of International Trade and Industry (1997)	90 ~ 01		8.1	8.7
Sumitomo life (1999)	90 ~ 97	2.67	2.3	0.9