

Japan's Fiscal Problems in the Mirror of the United States

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1. Introduction

In this paper, I first summarize recent developments of US fiscal situations since the 1980s. Next, I go over Japan's tax and fiscal policy since the 1990, during the "lost decades." In the second half of the paper, I discuss various aspects of fiscal problem Japan is facing today, using US cases as the benchmark --- fiscal sustainability, political economy, institutional design, local government finance, tax system, and so on.

2. United States.²

After the 1970s stagflation, Reaganomics succeeded to stabilize inflation and to restore economic growth in the United States in the first half of 1980s. However, as non-negligible side effects, Reaganomics created large budget deficit and current account deficit --- so called twin deficits. In his 1980 campaign speeches, Ronald Reagan presented his economic proposals as a return to the free market economy that had been in favor before the Great Depression and FDR's New Deal policies. However, the Reagan administration's actual macroeconomic policy was the combination of tax reduction and expenditure increase, a consequent Keynesian fiscal policy. The federal deficit as percentage of GDP rose from 2.6% of GDP in 1980 (Carter's final budget year) to 5.9% of GDP in 1983. Even in 1988, Reagan's final budget year, it remained 3.0% of GDP.

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² The discussions in this section are heavily drawn from Gruber (2009) and particularly from Tanaka (2011, 2013).

During Reagan's tenure, total public debt as percentage of GDP rose from 32.5% in 1980 to 50.5% in 1988.

[Figure 1]

Under such circumstances, Gramm–Rudman–Hollings (GRH) Balanced Budget Act -- *A joint resolution increasing the statutory limit on the public debt* --- was introduced by the congress in 1985. The GRH acts sets target amounts of federal deficits starting from fiscal year 1986 and bring it down to zero by 1991. The GRH acts provided for automatic spending cuts if the total discretionary appropriations exceed in a fiscal year the budget spending thresholds.

However, the GRH act did not work as had expected. The biggest reason is that the GRH forces a simple reduction of the fiscal expenditure ignoring business cycle fluctuations. Even if the economy had been in a recession, the automatic reduction of government spending was obliged. Also there were some significant loopholes in the system too: the social security-related expenses are excluded from the automatic reduction. The GRH act targets the initial budget plan rather than the final expenditures and it is possible to make an overly optimistic outlook for economic growth. The GRH act was too rigid for the budgetary planning, yet too flexible for accounting maneuver. As a result, the GRH act had never bring a true fiscal discipline to the US fiscal policy.

The continuing failure to meet GRH deficit targets led to the 1990 adoption of the Budget Enforcement Act (BEA). Instead of the target level of GRH, the BEA aimed to restrain government growth. The BEA set caps on annually-appropriated spending. It also created the pay-as-you-go process for revenue and entitlements, which prohibited any policy changes from increasing the estimated deficit. The BEA appears to have been successful restraint to government growth in the 1990s. Strong economic growth in this period was also a major force that contributed to the improvement of fiscal situation in the United States. At the beginning of the Clinton administration, the budget deficit was 3.8% of GDP in 1993. The budge balance had turned into surplus toward the end of 1990s and recorded the surplus of 2.3% of GDP in 2000.

However, toward the end of the Clinton administration, discretionary spending started to grow again, this time by avoiding the BEA's caps by using the loophole of uncapped

“emergency spending” (such as NATO’s intervention in Kosovo). As the economy slowed down following the collapse of the dot-com bubble and the country drawn into War on Terrorism under the Bush administration in early 2000s, the fiscal situation quickly deteriorate again. US budget balance turned to deficit in 2002, 1.5% of GDP, and has been in deficit since then.

Responding to the serious recession started in 2007 and the outbreak of subprime mortgage crisis in 2008, the Obama administration implemented a large-scale fiscal stimulus. The budget deficit increased to 9.8% of GDP in 2009 and 8.8% of GDP in 2010. Correspondingly, national debt as the percentage of GDP has risen from 55.4% in 2000 to 91.5% in 2010.

3. Japan

3.1 Brief history

When we look back Japan’s economic history, the increasing trends in budget deficits and government debt clearly emerged in mid 1970s as the high-growth era ended and economic growth significantly slowed down after the first oil crisis. Also, aging problem --- the continuing decline of fertility rate and rapid aging process --- had emerged as a serious social problem for the first time in Japanese society in late 1970s.

Even so, at the peak of its prosperity in the late 1980s, Japan’s fiscal situation was sound and improving substantially. The ratio of gross government debt to GDP fell from 70% in 1988 to 67% in 1989, the first decline in ten years, thanks to the strong economy and increased tax revenue. As forcefully argued by Ishi (1989) and Asako, Ito, and Sakamoto (1991), Japanese government had utilized some distinctive policy tools to reduce the deficit during the period of fiscal recovery, 1983-1990. First, the “zero-ceiling” policy for government expenditure was introduced so that no ministries were allowed to ask for an increase of budget over the previous year. The zero-ceiling was imposed on the nominal terms. Under mild inflation, a freeze on the nominal expenditure had worked as a reduction of real expenditure. Second, tax brackets have never been indexed in Japan.

In 1970s, the government had “corrected” brackets frequently to make adjustment for inflation. In 1980s, they were intentionally left deferred. Under mild inflation and highly progressive income tax schedule at that time, tax payers moved up to a higher marginal tax bracket when her/his nominal income increased. As a result, there had been a rapid increase in income tax revenue in 1980s.

[Figure 2]

However, the situation began to deteriorate after the real estate and stock market bubbles burst and the economy began to downhill in the early 1990s. The economy’s deceleration was initially thought to be a temporary slowdown, a hangover after the financial euphoria in late 1980s. The Japanese government undertook only half-hearted stop-start fiscal stimulus in mid 1990s, as Posen (1998) argued. Later, based on the incorrect presumption that Japanese economy was soon going back to its previous trend, the Japanese government, in April, 1997, raised the consumption tax rate from 3% to 5%. Then everything went wrong for Japanese economy for the rest of the 1990s. The Asian currency crisis started during the summer of 1997. In the fall of the same year, the domestic banking crisis hit the Japanese economy, revealing the seriousness of non-performing loan problem. In 1998 and 1999, Japan experienced the worst recession since the first oil crisis in early 1970s. To combat this sharp economic downturn, the government implemented a series of large fiscal stimulus packages in the late 1990s. All of these packages, however, were smaller than advertised, were less than fully implemented, and allowed cuts in public investment. (Posen, 1998; Kuttner and Posen, 2002)

Even this fiscal expansion came to an end as the economy started to improve and Jun-ichiro Koizumi became the prime minister in 2001. Though Koizumi successfully brought the non-performing loan problem to an end in the first half of the 2000s, the debt-to-GDP ratio continued to creep up throughout the 2000s. To cope with the 2011 earthquake and its aftermath, the Japanese government increased its spending once again for 2009 to 2012, which caused a further deterioration of Japan’s fiscal situation. According to the IMF, Japan’s gross government debt to GDP ratio was only 12% in

1970. Twenty years later, in 1990, it had increased to 67%. The ratio more than tripled in the subsequent two decades, reaching 215% in 2010.³

Japan's fiscal erosion is alarming in international comparison. As shown in Figure 6, the debt-to-GDP ratio has risen much more rapidly than it has elsewhere — even in the troubled countries in the periphery of the Euro area. According to OECD projections for year 2015, Japan's debt-to-GDP ratio will be 235%. For other developed economies, the corresponding numbers are: Greece, 193%; Italy, 146%; Portugal, 140%; the UK, 112%; and the US, 107%.⁴

3.2 Fiscal sustainability

Exceptionally high relative to the peacetime experience of other developed countries, Japan's debt-to-GDP ratio has now reached a point that has often been associated with the onset of fiscal crises. However, unlike some European countries, the Japanese economy has yet to feel the threat of a fiscal crisis in the form of high interest rates on government bonds. This reflects some of Japan's fundamental attributes, including high private-sector savings, high risk-aversion and home bias by Japanese savers, and strong domestic demand for Japanese government bonds (JGBs).

[Figure 3]

It can be argued that Japan should have increased the consumption tax rate much earlier. Given Japan's demographics, even if the government and central bank had avoided all the macroeconomic policy mistakes since 1990, the fiscal situation would not be significantly better than it is today. Tax increases alone will not solve the problem, however. Simulation results reported by Mitsuhiro Fukao (2012) and by Anton Braun

³ We refer to gross debt/GDP ratios rather than net ratios here, since they are readily available for international comparison. As Broda and Weinstein (2004) argue, however, the gross debt ratios significantly overstate the size of Japan's net debt burden. The true number is probably close to 150% the GDP, still higher than any developed economy except Greece.

⁴ According to M. Fukao (2012), Japan's net debt/GDP ratio was 131% in 2011, which was lower than Greece at 153%, but still higher than any other developed economies mentioned above. Net debt/GDP ratio will increase to 200% in 2020 and to 300% in 2038, with current government plan to increase consumption tax rate to 10% in near future and without any further measure/restructuring. Under the similar assumptions as M. Fukao, Braun and Jones (2012) report that net debt/GDP ratio was 150% in 2012 and will increase to 350% in 2038.

and Douglas Jones (2012) suggest that an increase in the consumption tax rate to over 20%, which would be comparable to that of Scandinavian countries, would not halt the further increase of its debt-to-GDP ratio. The recently implemented consumption tax rate hike from 5% to 8% (with a further increase to 10% planned for October 2015) will buy time, but stabilizing and reducing Japan's debt-to-GDP ratio will eventually require major social security reforms, including significant reductions in public pension payments and medical expenditures, as well.⁵

The rapid aging process is closely related to the reason why Japan's long-term interest rate has remained at its current low level. While European countries currently suffering from overt fiscal crises had been running current account deficits, Japan has run current account surpluses for more than thirty years, and has, as of 2012, accumulated over ¥600 trillion in foreign assets and a net international investment position of nearly ¥300 trillion. In addition, with 90-95% of JGBs held by domestic investors, pressure from foreign creditors has been minimal.

But as the aging process continues, the Japanese household sector will eventually start to dissave, and at some point the current account surplus will turn into a deficit.⁶ When that happens, the Japanese government will have to start borrowing from foreign lenders at a potentially higher interest rate. Another possible scenario is that private savers decide that the Japanese government has lost control of the debt problem, so that they start to move savings into foreign assets and to sell domestic government bonds at the same time. This could trigger a selloff of Japanese government bonds, exacerbating the fiscal problems and increasing the risk of a financial crisis.

A drop in the value of JGBs would also have positive effects, however. It would almost certainly cause the Yen to depreciate, boosting exports and increasing both GDP

⁵ M. Fukao (2012) suggests that consumption tax rate has to be increased up to 25% to stabilize debt/GDP ratio in near future. According to Braun and Jones (2012)'s calculation, consumption tax rate must increase to 53% toward the second half of 21st century in order to stabilize net debt/GDP ratio, if it is the only policy tool that can be used.

⁶ As described in Iwaisako and Okada (2012), since late 1990s, Japan's private sector saving measured as the share of GDP has remained relatively constant, while the increase corporate saving offset the decline of household saving. Corporate saving fell in 2006 and 2007 when Japanese firms started to increase their investments. However, after the global financial crisis, Japanese firms decreased investment and reduced borrowing. As a result, corporate saving has bounced back to the previous level in 2010 to 2012.

and tax revenues. This would ameliorate the fiscal situation, offsetting the increased debt burden caused by the rise in interest rates.

3.3 Discretionary fiscal policy during the lost decades

Why has fiscal stimulus become ineffective?

Despite the multiple fiscal stimulus packages during 1990s and 2000s, the efficacy of fiscal policy in boosting Japanese economic growth has been hotly debated. While Kuttner and Posen (2002) found strong positive effects of (correctly measured) fiscal stimulus, work by Toshihiro Ihori et al. (2003) and Arata Ito et al. (2010) indicate that Japan's fiscal multiplier has declined in recent years. There are two reasons why it has been hard to discern the effects of Japanese fiscal policy.

First, as pointed out by Posen (1998) and to some extent acknowledged by Ihori et al. (2003), the total amounts of fiscal expenditures have been exaggerated and true numbers were much lower. The Ministry of Finance (MoF) had used various accounting maneuvers and rhetoric to inflate the “headline” numbers. Second, some economists argue that Japanese households became conservative and precautionary, causing them to spend less of the money they received from fiscal stimulus or tax reduction. Also, because of ongoing globalization, Japanese households spend more money on imports, so some of the stimulus leaked abroad. The share of international trade, measured by the sum of export and import as a percentage of GDP, has kept increasing last twenty years.⁷

Another contributing factor to the perceived ineffectiveness of fiscal stimulus is the nature and timing of Japanese fiscal policy. The delay in decision making and policy lag undermine the effectiveness of fiscal expenditure. As argued by Robert Hall (2009) and Alan Auerbach and Yuriy Gorodnichenko (2012, 2013), fiscal policy in the U.S. has tended to be more effective during times of crisis. However, compared with monetary policy, the response time of fiscal expenditure tends to be longer, especially at the time of crises such as domestic banking crisis in 1997–98, post-Lehman recession in 2008–09, and Tohoku earthquake in 2011. This was relevant to the fiscal expansion under the

⁷ The share of imports in GDP was 9.2% in 1990, 9.7% in 2000, and 16.4% in 2007. It had declined during the global recession subsequent to Lehman bankruptcy, but bounced back to 17.1% in 2012.

Obuchi administration, and especially during the Mori administration at the beginning of 2000s. Such ill-timed policies therefore led to further increases in the debt-to-GDP ratio while having little stimulative effect. Another important aspect about the timing issue of fiscal stimulus is the coordination with monetary policy. We will come back to this in section 4.

Has the productivity of public investment declined?

In addition to the explanations mentioned above, many empirical analyses suggest that the beneficial supply-side effects of public investment have declined in recent years. These studies argue that Japan's physical infrastructure had already reached close to the saturation level so that positive productivity spillovers to private sector investment and productivity have diminished. While there is some truth to that characterization, if we look into the composition of public investment during 1990s and 2000s, it also becomes apparent that two other problems have undermined the effectiveness of public investment. First, due to a combination of privatization and fiscal decentralization, local governments in Japan started to invest and manage local transportation systems (railroads and buses), tourism, and other regional enterprises previously owned or heavily subsidized by the government. Most of such semi-privatized or "corporatized" public enterprises made substantial losses and local governments eventually had to pay for those losses.

Second, public investments by the central government increasingly favored road construction over more public infrastructure. Most of the road construction budget was spent on roads in rural areas, with no serious assessment of the economic benefits. Instead, the main purpose of the so-called investment was to redistribute income from urban areas, such as Tokyo, to rural areas experiencing rapid population aging and decline. Without those unnecessary road construction projects, many local Japanese cities and villages could not keep enough employment opportunities for their working age populations. The evidence presented by Kiyoshi Mitsui (2003) suggests that the marginal productivity of public investments in rural areas is much lower than in urban areas. Hoshi and Kashyap (2013) also argue that, based the work by Doi and Ihori (2009), the share of public investments to the categories with lowest marginal productivity.

3.4 Lessons from the 1997 consumption tax hike

The arguments presented so far seem to suggest Japan should have started fiscal restructuring much earlier. It is not that simple, however. The debt-to-GDP ratio can increase either through issuing more government debt or through slowing of GDP growth. In particular, recent experiences in Eurozone crisis strongly suggest that ill-timed and aggressive austerity does not work hurting growth and tax receipts, as well as growth potential for the long-term. Misguided austerity can drive up net public debt as a result (as argued in Kuttner and Posen, 2002) so the needed rise in consumption taxes, discussed above, must be spread over several years, and take into account its short- and long-term impact on growth.

In this light, the 1997 consumption tax hike was a mistake- especially given its coincidence with the Asian financial crisis and a worsening of Japan's banking problems. Though the consumption tax rate hike in 1997 has been emphasized, it was part of a policy package that began to be implemented in the early 1990s. The income tax rate was cut over the 1993 to 1995 period, in a rather complicated process which included both permanent and temporary reductions. Because of the recession after the collapse of the asset bubble in the early 1990s, a scheduled consumption tax hike was delayed.

Still, the Japanese government's decision to increase the tax rate in April 1997 was questionable. Figure 7 plots the diffusion index (DI) of corporate performance from short-term corporate survey (Tankan) conducted by Bank of Japan (The dark bold line denotes the DI for aggregate economy). Its movement suggests that by the second half of 1996, the Japanese economy had bounced back to the level of activity as of 1992. However, domestic economic conditions, denoted by the line with circles, tell a different story. First, right after the collapse of asset bubbles in the beginning of 1990, domestic economic conditions had deteriorated much faster than those for the Japanese economy as a whole. Second, the recovery in 1996 was mainly due to the improvement of external economic conditions. At the peak in the summer of 1995, the Yen had strengthened by 40% relative to 1990. It began to reverse in 1996, helping to restore the profitability of Japan's export sector. However, DI shown in the graph suggests that the domestic

economy was still in deep trouble in 1996 and the government perhaps should have postponed the tax hike for another year.

[Figure 4]

4. Some US-Japan comparisons

4.1 *Origins of Japan's and US fiscal problem and future paths of debt/GDP ratio*

As discussed in section 3.2, the most important source of Japan's fiscal problem, symbolized by its ever-increasing debt/GDP ratio, is the rapid aging process of its society. Demographic change is one of few variables for which economists can provide quite accurate prediction. This means there is only little we can do about population growth.

However, there is another side: It is difficult to imagine that the population decline continues forever and Japanese will eventually disappear from the planet earth. As effectively argued by Broda and Weinstein (2005), it is more sensible to assume that this aging process will stop at some point in the second half of 21st century and Japanese population will converge to a new steady state. If so Japan's debt/GDP ratio will take a hump shape, not an explosive path.

The peak of the hump shape curve will be extremely high, most likely well above 300%. So the real question for Japan's fiscal sustainability is that if Japanese economy and society can cope with such a high debt level, even it will eventually decline in the long-run. In this aspect, Japan is the front runner of the group of rapidly aging East Asian economies, including China and South Korea. If fast growing African nations can continue their current growth miracle, they will also experience same problem in future. Those follower countries will face even faster aging process than Japan, but (hopefully) will respond much more wisely learning from Japan's policy failures.

In contrast, US debt/GDP ratio is at much lower level and increasing relatively slowly. However, there is not an obvious mechanism that stabilizes and hopefully reverses this creeping trend, because population aging does not explain the deterioration

of US fiscal situation. Hence, strong economic growth and a drastic policy/institutional change will be the only way to solve the difficulty of US fiscal situation.

4.2 Political economy and institutions

Here are tales of two households: One couple struggles to come to an agreement on how much to spend on which expenses, and has to have the same discussion every year, as the husband's and wife's priorities are in conflict with each other. Since this couple has established a rule that nothing can be spent unless they both agree on it, water and electricity may be stopped, the children may not be fed, and stores in their neighborhood where the couple shops on credit are worried whether or not they will get paid. This couple causes extreme difficulties to those around them, and around the same time every year, a stalemate in their marital argument occurs over the same issues.

As for the other couple, the husband has the authority to make the final decisions on spending, but it is the wife who really knows what is in the couple's wallet. The wife always complains of financial hardship. However, if the husband says, "If the economy is bad, we should go out and eat something delicious to cheer ourselves up and get it going," then she will reluctantly find the cash from somewhere, saying, "Honey, this is the last time, OK?" They also repeat the same thing every year, and it is a wonder that they haven't gone broke yet. Yet, this couple does not bother those around them, as they always buy things with cash. Nevertheless, there is a rumor that if they ever go broke and have to sell their beautiful furniture, state-of-the-art home appliances, and etc., their neighbors will secretly plan to bargain these things down to cheap prices.

My stories of two households are not perfect and might be little clumsy, but the former is meant to describe the fiscal situation of the United States, while the latter suggests that of Japan. Although the possibility of a full-scale fiscal crisis is a domestic and international concern for both countries because of the debt that each government has accumulated, the impact of the fiscal problem on their actual economies is viewed differently. While the "fiscal cliff" problem in the United States is dealt with as a serious concern for the global economy, with respect to Japan, the continuing low yields of Japanese government bonds (JGBs) are reported as a mysterious phenomenon. As

discussed in section 3, Japan's fiscal situation is much more serious than that of the United States. Therefore, it is more important to project what will happen to Japan if things continue as they are, instead of sitting on the sidelines and viewing the situation in the United States as "someone else's problem."

One important institutional advantage of US over Japan is the transparency of fiscal information. Although the Democrats and Republicans have the habit of repeating the similar fiscal debate every year, which is certainly a nuisance to others, at least the United States is in a situation where the parties recognize that a problem exists and are prepared to sit down at the bargaining table. In Japan, on the other hand, both the ruling and the opposition parties actually do not want to avoid serious fiscal consolidation because of the election, although both claim to recognize the importance of fiscal reform in their rhetoric.

Second, in the United States, the amount of debt the government has currently incurred and the amount of spending and tax revenues expected in the future are at least clear. In Japan, in contrast, it has become hard to figure quantitatively the amount of necessary spending and the seriousness of the fiscal situation, as its fiscal investment and loan program and pension system have become extremely complicated. This has also given the politicians a reason and incentive not to bother looking into the seriousness of the fiscal problem. In other words, as a result of repeatedly fiddling with these systems through various piecemeal measures, even bureaucrats—those who are supposed to be familiar with these systems—now have only a shaky grasp of the situation, particularly the state of the pension system.

Of course, the United States is also facing a serious problem. As it has a sort of built-in stabilizer, spending is automatically reduced when the fiscal situation deteriorates, having far-reaching ramifications on areas that would be unthinkable in Japan, such as the police force, firefighters, and compulsory education. Provided that there is no difference from Japan in other aspects, this system, which would automatically cut spending in areas directly related to the safety and security of people's lives, cannot be considered superior as a whole. However, it has its merits in that the public is forced to become aware of the seriousness of the fiscal problem through its own experience.

In contrast, one day, if Japan finds itself in a situation that requires a serious reduction of spending on compulsory education, the police force, and firefighters, it means that the country has already passed the point of no return and is in a dire situation. A system in which people feel some pain before suddenly discovering that they have run into an irrevocable crisis without any advance notice is beneficial in its own way. Therefore, I would argue that it is no longer enough for Japan to make fiscal reform simply a non-binding “target.” To prevent the economy from becoming a frog in the slowly boiling water of its deteriorating fiscal situation, it may be about time for Japan to institutionalize strictly its reform so that policymakers will sit down at the discussion table by, first of all, tightly tying their own hands with a legal rope in the Anglo-Saxon style.

4.3 Local government finance

The issue closely related to the topics discussed in section 4.1, but is worth to be discussed independently is the institutional difference in local government finance in Japan and in US. Historically, both political power and economic power have much more concentrated to the central government in Japan than in the United States. Both left wing and right wing have promoted more autonomy and independence of local governments for a long time. More recently, some self-claimed neoliberal politicians and social critics loudly demand federalism and fiscal decentralization as a part of their economic proposals. So Japan can learn from the United States about advantages and disadvantages of fiscal decentralization, particularly on the financial front.

The dismal state of affairs in California and some other US states illustrates that if fiscal sovereignty is delegated to a local government on a grand scale, the local government naturally has to take full responsibility for its own management failures. In Japan, the allocation of national tax revenues to local governments—a system called *chiho-kofuzei-seido* in Japanese although it is actually NOT a *zei-seido* (tax system)—has been functioning as a mechanism for redistributing tax revenues from wealthy prefectures to poorer ones. If Japan really pursues decentralization all the way, we would face a situation in which the gap between rich and poor prefectures becomes unbearably

wider unless the country creates a new redistribution system to which all regions will agree in lieu of this.

4.4 Tax system

As symbolized by the Reagan tax reform, global trends in the late 1970s and 1980s was heading in a direction to flatten the income tax, while expanding the tax base for the government by increasing the revenue from indirect tax such as sales tax and consumption tax. The tax system in Japan in mid 1980s, on the other hand, were heavily relying on the revenue from income tax which possessed much higher progressivity compared with other developed economies. In sense, the Japanese tax system at that was rather outdated.

The major transformation process of Japanese tax system had started with the introduction of the consumption tax in 1989 and continued for nearly 10 years. Both the introduction of consumption tax in 1989 at 3% and the tax hike in 1997 to 5% were parts of this process and associated with the permanent income tax cuts for households. In this sense, the tax hike in April 2014 was a very first permanent increase of consumption tax increase without any offsetting permanent income tax cut.

The consumption tax hike of 1997 was the final step of Japan's large scale overhaul of its tax system in 1990s. After the introduction of the consumption tax of 1989, the series of income tax cuts were implemented during the period between year 1993 and 1995. This was a rather complicated process including both temporary and permanent tax cuts. In summary, as shown in Table 1 taken from Bessho (2010), the maximum income tax rate is reduced from 70% to 50% and the number of income brackets was reduced from 15 to 5, during 10 years period from 1985 to 1995. According to the calculation by Atoda, Hashimoto, Maekawa, and Yoshida (1999), the average income tax rate of Japanese households fell from 9.2% in 1990 to 7.9% in 1996. Obviously, an offsetting increase of the revenue from consumption tax had been the part of government's (LDP and the Ministry of Finance) plan from the beginning. Consumption tax rate hike was postponed and took place as late as 1997 because of the severe recession following the collapse of the asset bubbles in early 1990s.

[Table 1]

Today, Japanese tax system is much closer to that of the United States than it had been before 1990. One important policy implication of this change is that one of the distinctive policy tools that Ministry of Finance utilized during the period of fiscal recovery in 1980s will not be effective as it had been. With much less progressive income tax schedule today, even if Bank of Japan led by the governor Kuroda successfully attain and continue 2% inflation rate in coming years, the strategy to leave nominal tax brackets unchanged will not increase income tax revenue as much as in 1980s.

5. Conclusions

In this paper, I summarize recent developments of US fiscal situations briefly and recent developments of Japan's situations more extensively. In the second half of the paper, using US experiences as the benchmark, various aspects of Japan's fiscal problem are discussed.

As the conclusion of the paper, I discuss yet another fiscal problem Japan faces today, which has emerged as the major issue recently after the Great East Japan Earthquake in 2011. As discussed in section 3.3, a significant fraction of investment spending by Japanese government had been concentrated to road construction rather than more production enhancing social infrastructure and industrial infrastructure such as railways, highways, or airports. The main purpose of such local road construction projects was the redistribution of income to rural areas suffering from rapid depopulation and aging, from rich urban areas such as Tokyo. Without those unnecessary road constructions, many rural cities could not maintain adequate employment opportunities, so that they had turned into ghost towns where only a small number of elderlies reside. But at the end of the day, when declining birthrate and aging population at a rapid speed is a problem for the nation as a whole, such government spending for income redistribution might have slowed down a little, but definitely could not stop the progress of depopulation and aging process in Japan's rural areas.

Since the Great East Japan Earthquake in 2011, this problem has been gathering great attentions as a major policy problem requiring pressing attentions. From the viewpoint of economic efficiency, the elderlies living in the sparsely populated area that has suffered extensive damage from the earthquake and tsunami, should relocate to urban areas where they have better access to high quality social services and health care. On the other hand, to acknowledge the well-being of individuals, well-being of elderlies in particular, their wishes to stay in the community they had lived for their lives in which they have old friends and long-time acquaintances should be fully respected.

Politically, the problem is even more subtle. Politicians and the heads of local governments experiencing depopulation have incentives to prevent any further emigration of constituency from their districts. Since it is a matter of life and death for their political lives, the wishes of the elderlies who wanted to remain in the area could have been excessively granted. As a consequence, there are reasons to suspect that local governments used the funds they recived from central government for reconstruction ineffciently, investing too much for reconstruction of damaged social infrastructure. As a practical matter, in the presence of such large differences in economic and social prosperity between regions within the country, some inefficiency in local government expenditure in rual areas suffering from depopulation is unavoidable. But, there must be some clear social limit too.

Maintaining aging social infrastructure in such severe fiscal condition in rapidly aging economy has become an important policy problem for Japan. The United States started to face the same problem of dealing with deteriorating social infrastructure as early as in 1980s. In that sense, US experience will provide important lessons for Japanese policy makers, though the problem is more pressing and severer for Japan.

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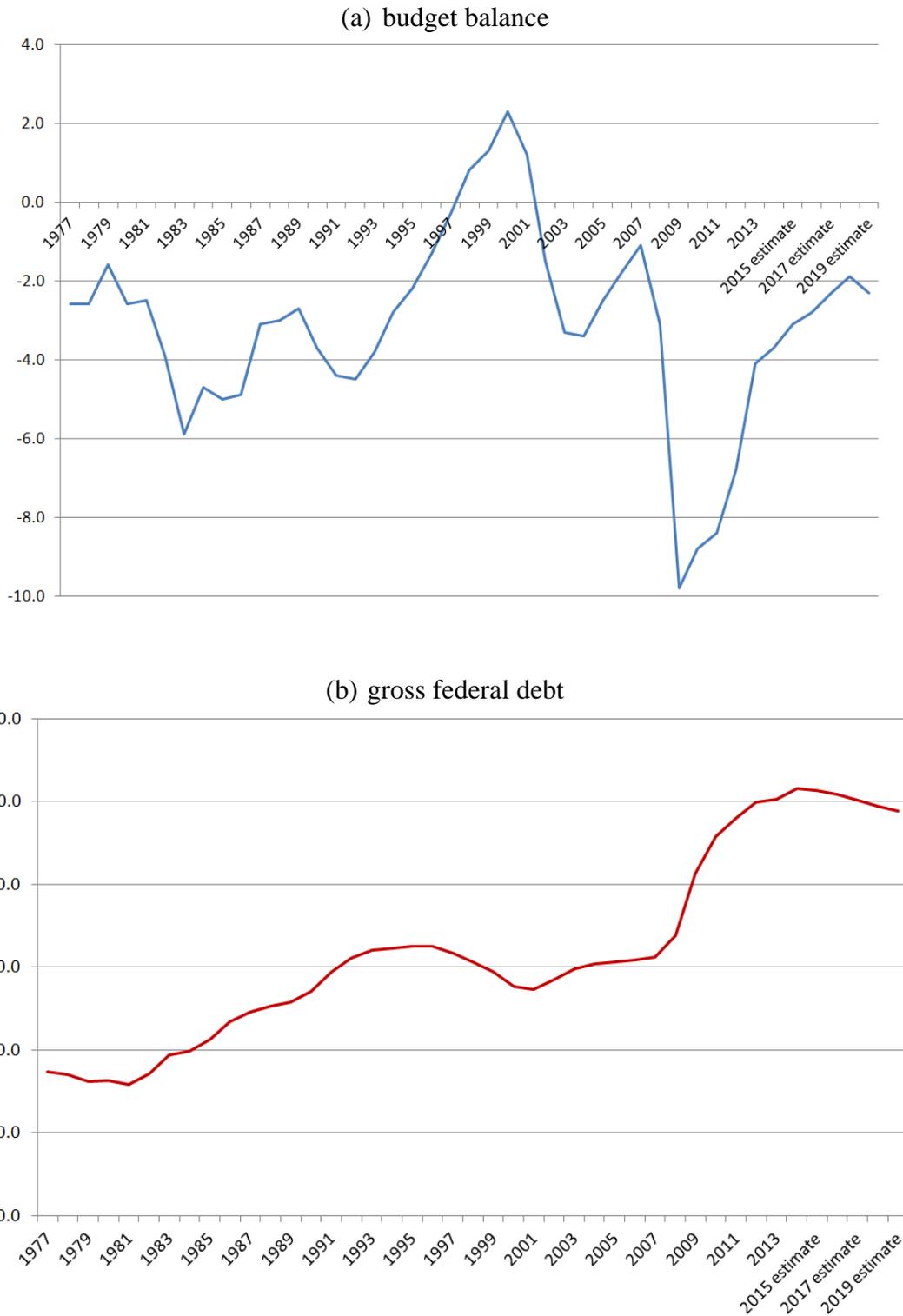
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Table 1: Japan's income tax system in transition

Japan	1975	1985	1995	2005
Minimum rate, %	10	11	10	10
Maximum rate, %	75	70	50	37
Number of brackets	19	15	5	4
United States	1975	1985	1995	2005
Minimum rate, %	14	11	15	10
Maximum rate, %	75	50	40	35
Number of brackets	25	14	5	6

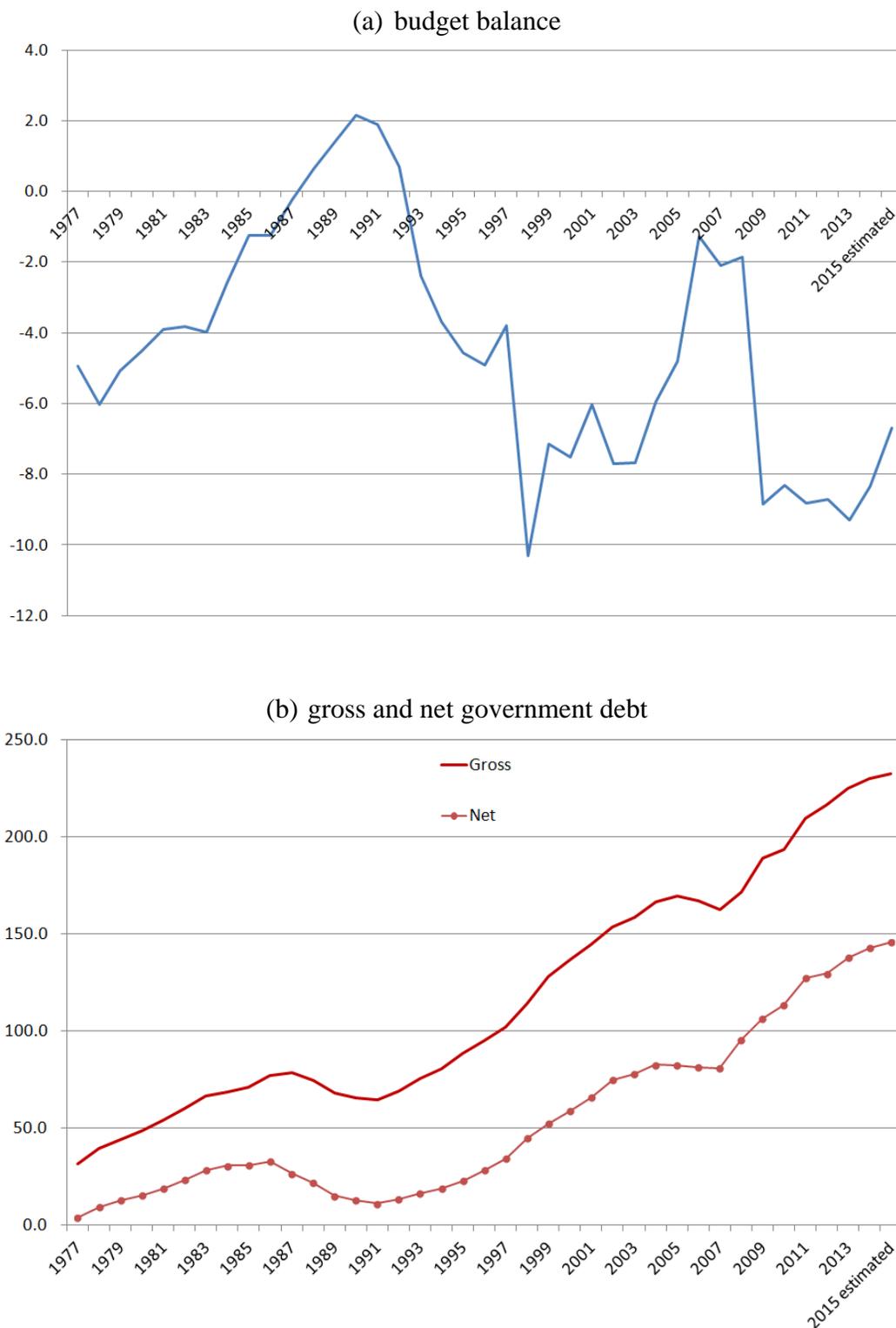
Source: Bessho (2010).

Figure 1: US budget balance and gross government debt as percentage of GDP: 1977–2019



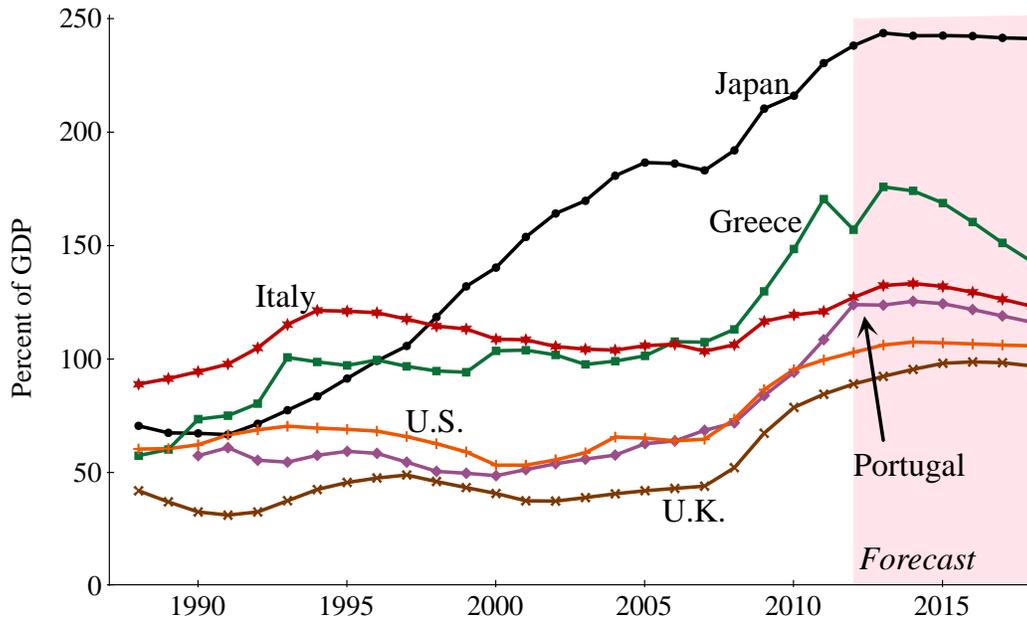
Source: Office of Management and Budget, Table 1.2 and 7.1

Figure 2: Japan's budget balance and gross/net government debt as percentage of GDP: 1977–2015



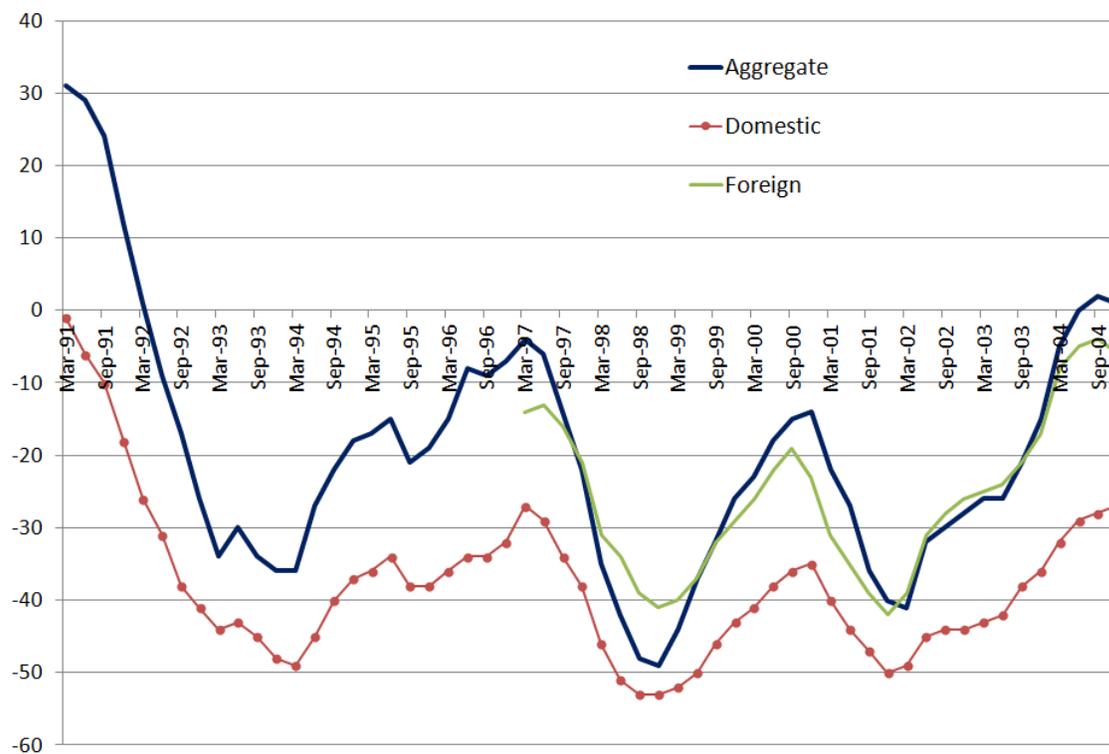
Source: OECD Economic Outlook, No.95 May 2014.

Figure 3: Gross debt-to-GDP ratios for selected industrialized countries



Source: IMF World Economic Outlook, October 2013.

Figure 4: Diffusion Index of Business Conditions



Source: Bank of Japan’s short-term business survey (Tankan). The lines represent the percentage difference between the “good” and “bad” responses.