

# Fiscal Sustainability under an Aging Population in Japan: A Financial Market Perspective\*

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## Abstract

In this short paper, we investigate fiscal sustainability under an aging population in Japan from a financial market perspective. First, we focus on self-fulfilling expectations in the bond market and point out the risks of a fiscal collapse triggered by a change in market expectations. Second, we examine the extent to which market participants require the government to improve its fiscal position. Further, we discuss the possibility of lower economic growth accompanied with a high level of government debt, based on relationships observed across countries.

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## 1. Introduction

It has been two years since the financial crisis started in Europe and the situation is still not yet under control. In Japan, there is a broad perception that the financial crisis in Europe is not just somebody else's problem and that it can affect the economy and financial markets in the future. In August 2012, a series of social security and tax reform bills were passed by parliament, reflecting growing concern about fiscal sustainability. As a result, the consumption tax rate will increase to 8% in April 2014, and to 10% in October 2015. About 15 years have passed since the first rise in the consumption tax in 1997, during which time Japan has experienced a rapidly declining birthrate and aging population.

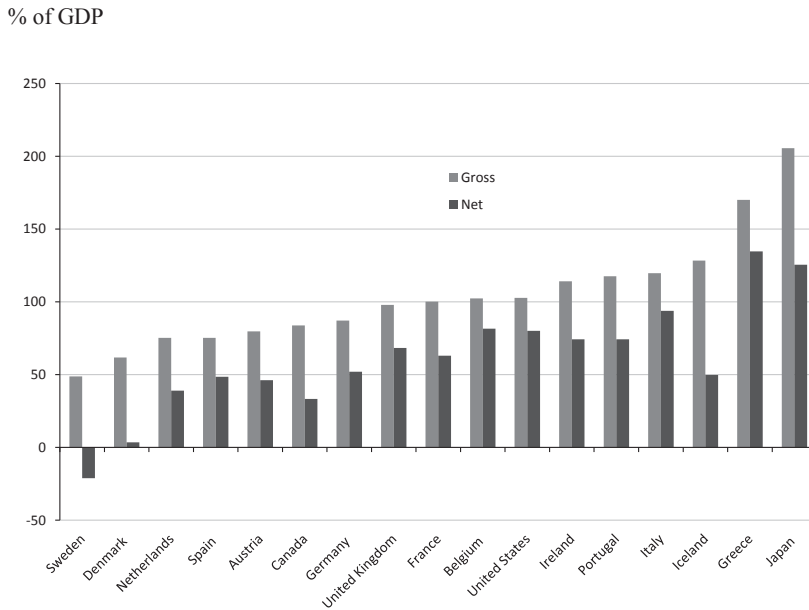
Demographic pressures will continue to mount and add to concerns about fiscal sustainability in Japan. The country's government debt in 2010 was 205% of GDP on a gross basis, the highest among all OECD countries, and 126% on a net basis, the second highest after Greece (**Figure 1**). In addition, the IMF (2009) predicts that Japan's gross government debt will climb to 277% of GDP by 2016, and argues that Japan should increase its consumption tax rate to 15% to secure a stable source of revenues to assure its social security.

However, an increase in the consumption tax rate to 10% will constitute nothing more

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Figure 1. General government debt in major countries in 2010.



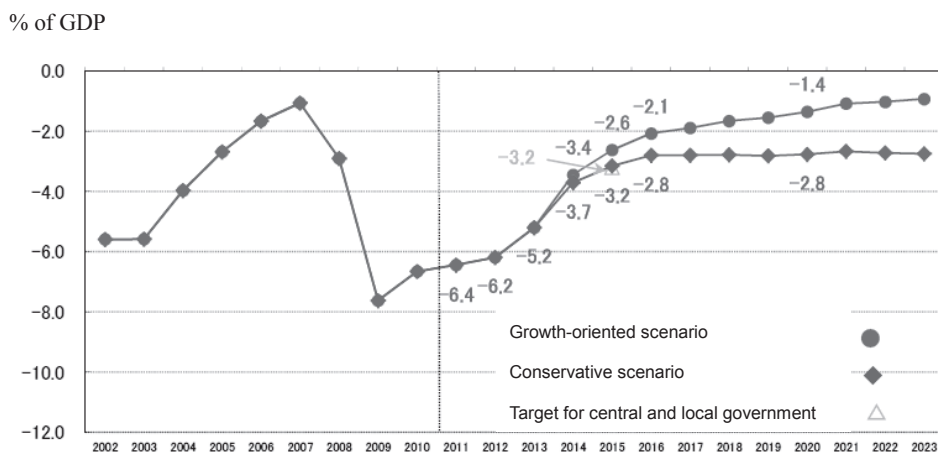
Source. OECD stat.

than a milestone in the process of fiscal and social security reform. In its “Medium- to Long-term Economic and Fiscal Outlook,” the Cabinet Office (2012) projected that even when the consumption tax is raised to 10%, Japan’s primary balance, which had a deficit of 7% of GDP in 2011, will continue to have a deficit of between 1.8% and 2.9% by 2020 (**Figure 2**). As the IMF (2011) argues, the government must combine its planned hikes in the consumption tax rate with expenditure constraints, including reforms to the pension system, to eliminate the fiscal imbalance. In fact, Braun and Joines (2011) demonstrated that a consumption tax rate in excess of 25% would be required if social security expenditures, which are expanding at a rate of more than one trillion yen a year, fail to be brought under control.

Japan is not the only country facing the problem of fiscal sustainability. Following the collapse of Lehman Brothers and the financial crisis in Europe, a number of other advanced nations have also recently seen their government debt levels rise significantly as a percentage of GDP. The experiences of the PIIGS (Portugal, Ireland, Italy, Greece, and Spain) nations in Europe provide lessons that Japan needs to learn as it searches for a way to deal with its impending fiscal and social security crisis. In these countries, changing market expectations have caused long-term interest rates to rise suddenly and exacerbated country-specific government debt crises. The financial crisis in Europe has also increased research into the relationship between government debt and economic growth.

Based on experiences from the financial crisis in Europe, this paper generally investigates fiscal sustainability under an aging population in Japan from a financial market perspective. To this end, Section 2 discusses the relationship between the self-fulfilling expectations of

Figure 2. Primary balances of central and local government projected by Cabinet Office



Note. Government expenditures related to reconstruction after Tohoku earthquake are excluded.

Source. Cabinet Office (2012)

the financial markets and the yield on government bonds; and, Section 3 examines the extent to which market participants require the government to improve its fiscal position. Section 4 explores the relationship between the debt overhang and economic growth. Finally, Section 5 discusses political issues in Japan.

## 2. Self-fulfilling expectations and yield on Japanese government bonds

Just a few years ago, few people could have expected Europe to descend into the sovereign debt crisis it is experiencing today. In conjunction with advances in economic globalization and IT technologies, international financial transaction networks have become increasingly complicated and the speed of transactions is faster than ever before, making it more and more difficult to forecast the future.

It was in this context that the subprime mortgage crisis emerged in the US in 2007. The development of financial engineering, which sought to globally disperse risks associated with home loan claims for low-income households in the US accelerated the real estate bubble. In addition, the fall in house prices increased the risk attached to home loans, further exacerbating the problem. The effects of this problem spread to major financial institutions in the US and Europe, and Lehman Brothers announced its bankruptcy in 2008. Greece descended into a fiscal crisis in 2010, despite the fact that the country was assumed to be immune from financial failure. Subsequently, a chain reaction of financial crises spread to Portugal, Ireland, Spain, and Italy.

This series of crises has reconfirmed the intensity of current market changes. Before 2007, the financial markets had been stable and few people would have anticipated the emergence of the subprime mortgage crisis, the bankruptcy of a major US securities firm, or

the descent of Euro-area countries into financial meltdown. However, once a crisis occurs, it is difficult to escape from it immediately; rather, it demands the payment of enormous costs over a long period.

These intense market changes are attributable to the self-fulfilling expectations of market participants. If there are a number of potential equilibriums, the one that actually comes into existence is determined by what people expect. For example, the land-and-stocks bubble that emerged in Japan in 1985 and crashed around 1990 was significantly influenced by market expectations of rising asset prices, which were realized.

By considering the relationship between self-fulfilling expectations in the bond market and the size of government bond redemptions, we can gain an insight into the fiscal risk that Japan currently has. Although the risk of fiscal collapse seems to be a widely recognized, Japan's government bonds have been steadily absorbed by markets and long-term interest rates have remained low. It seems market participants consider that Japan has ultimately secured its fiscal sustainability, thanks to the passage of the social security and tax reform bills by parliament, and have confidence in the Japanese government's ability to conduct fiscal management. Market participants also are inclined to think that government bonds can avoid a near-term collapse, and this expectation per se is helping to keep long-term interest rates at a low level.

An open question is how long these expectations can be sustained. Social security expenditures are increasing by more than one trillion yen a year, and so are set to increase by more than 10 trillion yen in the next decade. Moreover, even if interest rates remain at the current low levels, interest payments on government bonds are projected to increase by approximately eight trillion yen over the same period. Expecting fiscal sustainability or no increase in interest rates seems to lack of any fundamental basis. To be sure, even with an increase in outstanding government debts, the interest payments have not yet risen. There was a "low-interest-rate bonus," by which the government could convert the bonds it had previously issued at high interest rates into ones with low interest rates. The period of the low-interest-rate bonus is close to an end, however, because interest rates cannot fall any further from the current low levels.

Therefore, it is reasonable to argue that the possibility remains that expectations in the financial markets will suddenly change. In what follows, we consider the conditions that would result in investors stopping purchases of government bonds, which in turn would cause a fiscal collapse. To simplify the discussion we assume that all government bonds are of one year in duration, without losing the fundamental validity of the discussion. Then, the government's budget constraint is given as:

$$GB\ issued = - Primary\ balance + (1 + Yield\ on\ GB) \times Outstanding\ GB, \quad (1)$$

where GB denotes government bonds and the second term on the right-hand side indicates the redemption of government bonds (remembering that all government bonds are redeemed after one year).

Keeping Equation (1) in mind, we predict what would occur if market participants predict that they will stop purchasing government bonds during the next period. Market participants would expect the government's budget constraint in the next period to become:

$$GB\ issued = 0 = - Primary\ balance + (1 + Yield\ on\ GB) \times Outstanding\ GB, \quad (2)$$

where the left-hand side is equal to zero. The government cannot issue any government bonds during the next period because no one is assumed to purchase government bonds. Therefore, the government must obtain a surplus in its primary balance to redeem the government bonds. In this sense, we call the primary balance that satisfies Equation (2) the "primary balance after fiscal consolidation."

Consequently, when no purchases of government bonds in the next period are expected, the current yield on government bonds is calculated from Equation (2) as:

$$Yield\ on\ GB = Primary\ balance\ after\ fiscal\ consolidation / Outstanding\ GB - 1. \quad (3)$$

If the yield on government bonds calculated from this equation is lower than the current market interest rate, market participants will not purchase government bonds. That is, their expectations will be realized. An extreme case is that the yield on government bonds is expected to become negative. In this case, it is clear that market participants will not purchase government bonds at all because the market interest rate is positive under normal conditions.

Because the current market interest rate is close to zero, the sign of the calculated yield has a practical significance. Based on Equation (3), the condition under which the yield is expected to be negative can be expressed as:

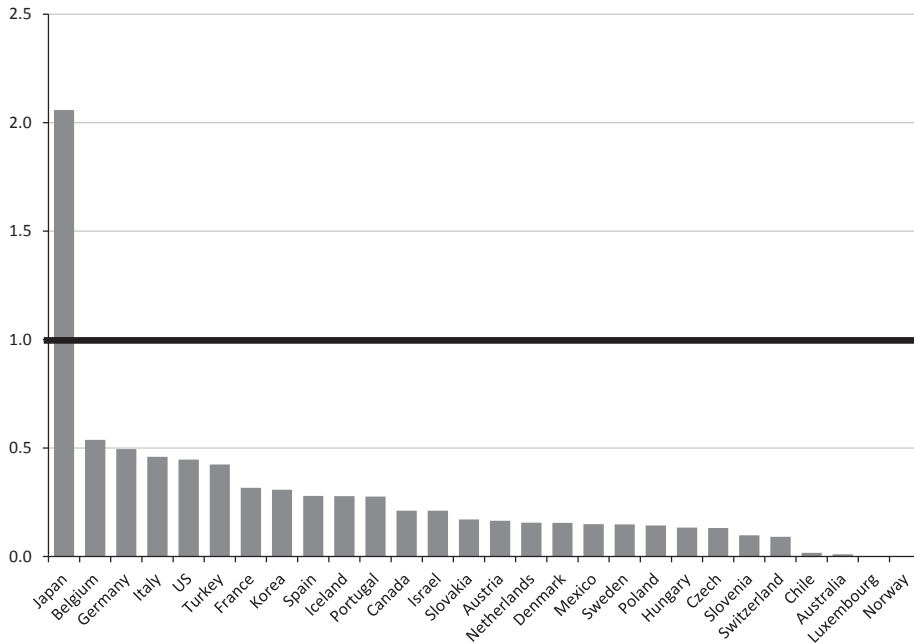
$$Primary\ balance\ after\ fiscal\ consolidation < Outstanding\ GB. \quad (4)$$

To understand the implications of this condition, we consider what the primary balance after fiscal consolidation actually means. The government cannot respond quickly to a fiscal crisis, because it usually takes time for parliament to approve any fiscal consolidation. Therefore, the easiest approach for the government to take would be to freeze all government expenditures other than redeem government bonds, and to spend all tax revenues on bond redemption. This means that the primary balance after fiscal consolidation is effectively equivalent to tax revenue; that is, Equation (4) can be rewritten as:

$$Tax\ revenue < Outstanding\ GB. \quad (5)$$

Until this point, we have assumed that all government bonds have a one-year duration. In reality, this is not the case and we should interpret outstanding government bonds in Equation (5) as the redemption of government bonds. Then, it is interesting to look at the actual ratio of tax revenues to the redemption of government bonds. **Figure 3**, which compares ratios

Figure 3. The ratio of government debt redemptions to tax revenues in OECD member countries, 2008



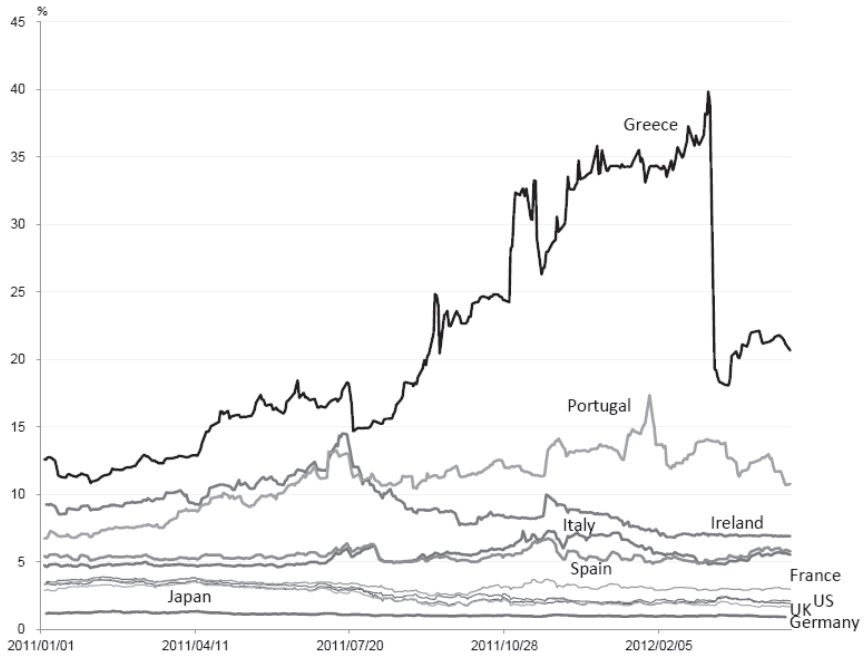
Source. Ministry of Finance (2012)

across various countries, shows that Japan is the only country where the redemption of government bonds exceeds tax revenues. Moreover, Japan's ratio is significantly higher than those of all other countries. Accordingly, if market participants forecast that Japan's government bonds are going to collapse, the probability that this expectation will be realized is higher than in other countries.

However, the yield on government bonds has remained stable at an extremely low level, although the fiscal position in Japan seems to be extremely poor on either stock or flow basis. **Figure 4** compares the yield on 10-year government bonds across various countries, including the PIIGS countries. Even in this comparison, we see that the yield on government bonds in the PIIGS countries has trended at a higher level than that in Japan. And, while countries such as Greece and Spain have fallen into financial crises, Japan has not. Another puzzle is that the guarantee charge rate for credit default swaps (CDS), which are needed to cover the credit risk for government bonds, is at a comparatively low level in Japan.

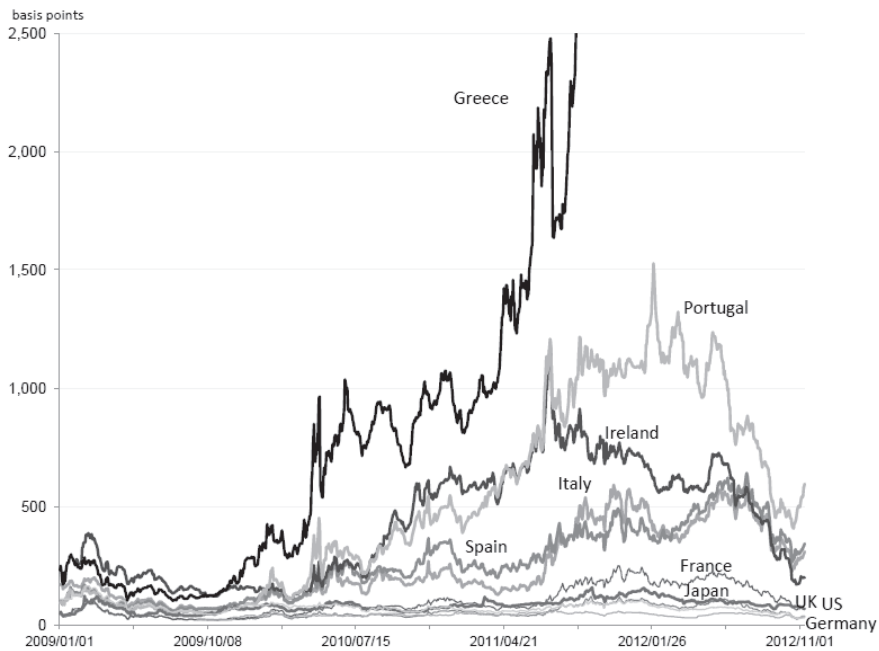
It should be noted, however, that the low yield on its government bonds and its CDS do not mean that Japan can avoid a fiscal crisis in the future. Market expectations can change dramatically in the space of just one or two years. For example, between the summer of 2009 and the beginning of 2010, the yield on Italy's two-year government bonds trended at approximately 1.5%; yet, by the summer of 2011 it had risen sharply to over 7%. Moreover, **Figure 5**, which compares trends in the five-year CDS for major countries, shows that prior

Figure 4. Yields on 10-year government bonds in major countries



Sources: Thomson Reuters Eikon.

Figure 5. 5-year credit default swaps (CDS) for major countries



Source: Bloomberg.

to its financial crisis at the end of September 2009, the yield on Greece's five-year government bonds was approximately 1.2%, which is exactly the same level at which Japan's CDS are currently trending.

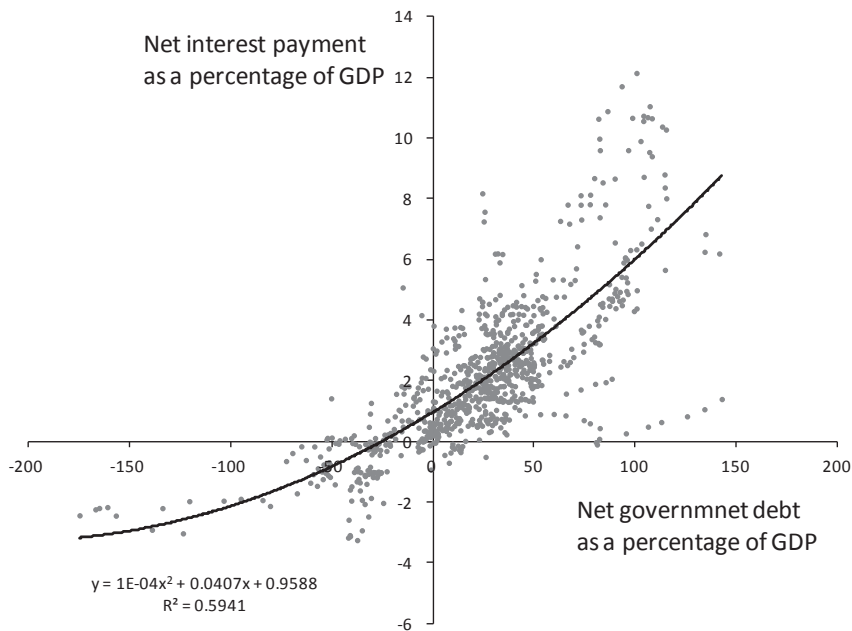
### 3. Required ability to improve fiscal balance

In Section 2, we discussed how a major change in market expectations could cause the yield on government bonds to rise seemingly in an instant and create the danger of a fiscal collapse. This suggests the possibility that the relationship between government debt and interest payments is nonlinear. **Figure 6** plots the relationship between net government debt as a percentage of GDP and its net interest payments as a percentage of GDP for OECD member states. In this figure, a second-order curve has been drawn to show the best possible fit for the relationship between both variables. The gradient of the curve becomes steeper as it moves to the right, suggesting that net interest payments increase at a disproportionately higher rate as a government's net debt rises.

Therefore, it is interesting to examine to what extent market participants require the government to improve its fiscal position in the event of worsening fiscal positions and a sudden rise in the yield on government bonds, as has been occurring in the PIIGS countries.

Relationships observed between government debt and primary balance can help address this issue. To prevent net government debt (as a percentage of GDP) from exploding, the

Figure 6. Net government debt and net interest payment in OECD countries



Sources: Authors' calculations based on OECD stat.



government must contain it to below the sum (as a percentage of GDP) of present discounted values of the primary balance—discounted by  $(1 - r - g)$ , where  $r$  and  $g$  are the yield on government bonds and economic growth rate, respectively—over an indefinite future. Furthermore, we define the “primary balance limit” as the upper value of the primary balance surplus as a percentage of GDP that can be achieved in practice. Then, we have by definition:

$$\begin{aligned} &\text{Net government debt as a percentage of GDP} \\ &\leq \text{Primary balance limit as a percentage of GDP}/(r - g), \end{aligned} \quad (6)$$

which means that at the very least the government must have the ability to generate a primary balance surplus greater than the net current government debt as a percentage of  $\text{GDP} \times (r - g)$ .

Keeping in mind Equation (6), we consider the case of Greece, which has a net government debt as a percentage of GDP of approximately 130%. If we assume a yield on government bonds of 20% and an economic growth rate of 1%, Equation (6) suggests that the Greek government would need to have the ability to raise its primary balance surplus as a percentage of GDP up to 25%. (Note that this is just a necessary—but not sufficient—condition that the Greek government must meet to avoid a fiscal collapse.) However, a primary balance surplus of 25% can hardly be achieved through conventional tax increases or cuts in government spending. So, we tentatively assume that the Greek government would have bondholders take a haircut on its outstanding net bonds by 50% so that the ratio to GDP shrinks from 130% to 65%. Then, Equation (6) suggests that the government would need to be able to achieve a primary balance surplus of 12% of GDP, which would still be a tough task.

Similarly, in Italy (government net debt of 90% of GDP and yield on government bonds of 5%) and Spain (50%, 6%), the respective governments would need to be able to generate primary balance surpluses of 3.6% and 2.5% of GDP, respectively, assuming an economic growth rate of 1%. These levels are probably more feasible to achieve than that of Greece.

How about Japan? Given that the net government debt is approximately 130% of GDP, and assuming that the yield on its government bonds is 2% and its economic growth rate is 1%, the Japanese government must at the very least be able to change its primary balance deficit to a surplus of 1.3% of GDP. However, as previously stated, because social security expenditures are increasing at more than one trillion yen a year, even if it were to increase its consumption tax rate to 10%, it would still have a primary balance deficit of approximately 1.4% to 2.8% of GDP in fiscal 2020 (Cabinet Office, 2012). Therefore, it is clear that further financial and social security reforms are required.

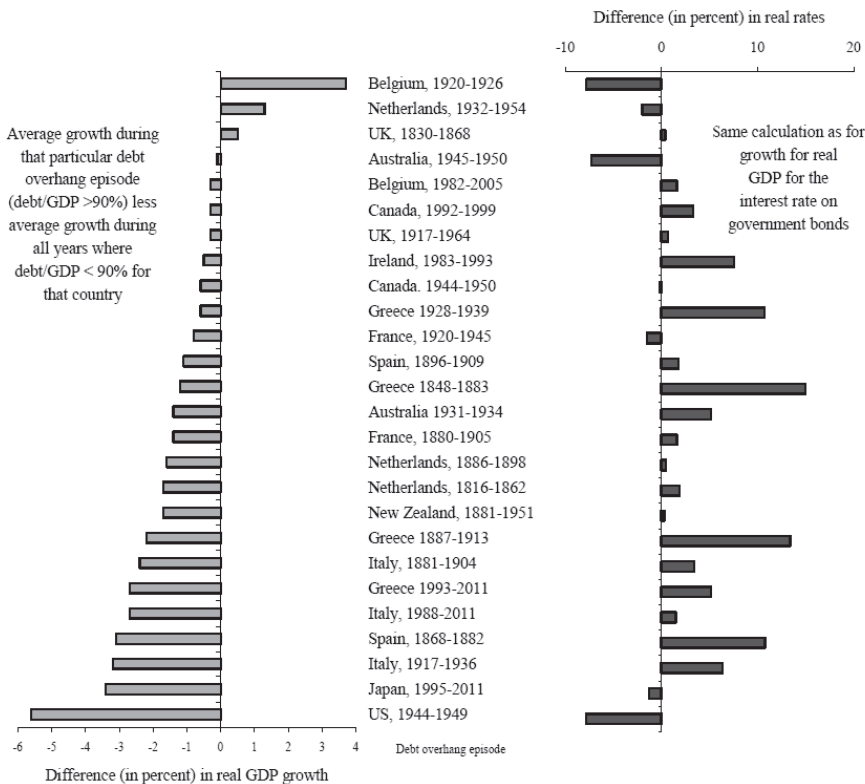
Moreover, the primary balance limit derived from Equation (6) is affected not only by the extent to which taxes can be increased, but also by the extent to which government expenditure can be cut. Achieving a primary balance surplus of 1.3% of GDP would demand stronger political leadership than that required to implement the current tax increase. It would not be an easy hurdle for any government to clear, pointing to a high probability that reforms would stall. If we assume a primary balance limit of 1% of GDP, the upper limit for the yield on government bonds to achieve Equation (5) would be 1.8%. If we assume primary balance

limits of 0% and 2% of GDP, the figures become 1% and 2.5%, respectively. These simple calculations suggest there is a risk that Japan’s fiscal position would become unsustainable if market expectations were to suddenly change and make the yield on government bonds slightly exceed their current level.

Related to this point, one optimistic argument is that the current situation does not represent a problem for Japan, given the fact that the percentage of its government bonds held by overseas investors is as low as 7%. On a flow basis, however, approximately 30% to 50% of the recent increase in government debt, including treasury bills, has been absorbed by overseas investors. Overseas investors are a growing presence in the Japanese bond market, and there is no guarantee that the yield on government bonds will continue to trend at its current low level. It is thus entirely possible that self-fulfilling expectations in the bond market would cause the yield on Japan’s government bonds to increase suddenly.

Another conventional view is that as government debt rapidly rises and the risk of fiscal collapse increases, the risk premium on government bonds also rises. However, Reinhart and Rogoff (2010) and Reinhart, Reinhalt, and Rogoff (2012) showed that of 26 cases of

Figure 7. Differences in real GDP growth and real interest rates during 26 high-debt episodes in advanced economies, 1800-2011: Reinhart and Rogoff (2012).



Sources: Reinhart, Reinhart, and Rogoff (2012).

governments that hold net government debt, in 11 the yield on government bonds remained at around the same level or even below the level of the period when it did not hold excessive debt (**Figure 7**). Nevertheless, this fact does not mean that the government can hold excessive debt without negative consequences. As Reinhart, Reinhalt, and Rogoff (2012) pointed out, those waiting for financial markets to send a warning signal through higher interest rates that government policy will be detrimental to economic performance may wait a long time.

If market expectations change as a result of a political or economic shock and the yield on Japan's government bonds rises from the current level of approximately 1% to 4% or 5%, then Japan's current interest expenses of approximately nine trillion yen would swell to four or five times this amount. Because the average duration of its government bonds is approximately seven years, interest expenses may not increase suddenly. Even if that is the case, however, the impact of such a rise on its finances would be prohibitive. If the yield on Japan's government bonds increases to approximately 5%, as is the case with Spain and Italy, then from Equation (6) the primary balance limit as a percentage of GDP would have to exceed 5.2%. This level is significantly higher than that of Italy (2.5%) and Spain (3.6%), two countries with worsening financial crises.

#### 4. Debt overhang and economic growth

The worsening of the financial crisis in Europe has led to an increase in research into the relationship between government debt and economic growth. The first study worthy of attention was by Reinhart and Rogoff (2010). Based on data collected from 1790 to 2009 on 20 advanced nations including Japan, they analyzed the relationship between government debt as a percentage of GDP and GDP growth rate. **Table 2** summarizes the results of this analysis. The mean value for the GDP growth rate when government debt as a percentage of GDP was less than 90% ranges from 3.0% to 3.7%, but at 90% and above it drops significantly to 1.7%. The median value for the GDP growth rate also shows the same tendency. Specifically, the median value for the GDP growth rate when government debt as a percentage of GDP was less than 90% ranges from 2.8% to 3.9%, but at 90% and above it falls again substantially to 1.9%. This indicates that 90% of GDP is the threshold value for government debt.

Reinhart, Reinhalt, and Rogoff (2012) conducted a similar analysis for the same 20 advanced nations between 1946 and 2009. As before, 90% of GDP proved to be the threshold

Table 2. Government debt and real GDP growth, 1970–2009

Government debt/GDP	Below 30%	30–60%	60–90%	90% and above
Mean	3.7%	3.1%	3.4%	1.7%
Median	3.9%	3.1%	2.8%	1.9%
Observations	866	654	445	352

Sources: Reinhart and Rogoff (2010).

value for government debt above, which the mean value for the GDP growth rate declined by approximately four percentage points and the median value by one percentage point. Based on these data, the Rogoff hypothesis was established, which states that if government debt exceeds the threshold value of 90% of GDP, the economic growth rate falls significantly.

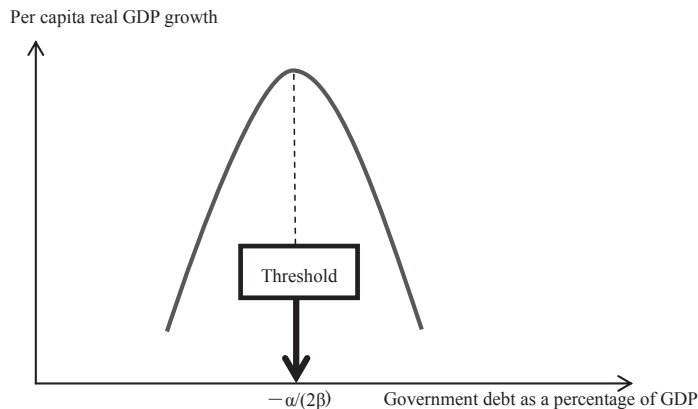
A number of other researchers have recently published work actively investigating this hypothesis. One interesting example is research presented by Checherita and Rother (2010). These authors used data on 12 countries in Europe from 1970 to 2011 to analyze the relationship between government debt as a percentage of GDP and economic growth rate. They estimated the regression model:

$$\begin{aligned} &\text{Actual GDP growth rate per capita} \\ &= \alpha \times (\text{government debt as a percentage of GDP}) \\ &+ \beta \times (\text{government debt as a percentage of GDP})^2 + \text{other variables} \end{aligned} \quad (7)$$

If  $\alpha$  is assumed to be positive and  $\beta$  negative, then with government debt as a percentage of GDP on the  $x$ -axis and GDP growth rate per capita on the  $y$ -axis, Equation (7) corresponds to an upward convex parabola (**Figure 8**). In this case, the GDP growth rate per capita increases in response to an increase in government debt up to the point where government debt as a percentage of GDP reaches the threshold of  $-\alpha / (2\beta) (> 0)$ , and then declines once it exceeds this value.

**Table 3** shows some of the results of the analysis by Checherita and Rother (2010) on the relationship described above. The coefficient on “gov\_debt” expresses  $\alpha$  in Equation (7), while the coefficient on “gov\_debt\_sq” expresses  $\beta$ . The authors created six models (Models 1–6) to verify the robustness of their estimates. We cite the results of Model 1. As the value of the “gov\_debt” coefficient is 0.1198 and the “gov\_debt\_sq” is  $-0.0006$ , the relationship between GDP growth rate per capita and government debt as a percentage of GDP is described

Figure 8. Government debt and economic growth



Sources: Reinhart, Reinhart, and Rogoff (2012).

Table 3. Threshold levels of government debt as a percentage of GDP: Checherita and Rother (2010)

FE models	Annual growth rate		Cumulative 5 year overlapping growth model		Cumulative 5 year non-overlapping growth model	
	model 1	model 2	model 3	model 4	model 5	model 6
<i>gov_debt</i>	0.1198*** (.0410)	0.1291*** (.0412)	0.5236*** (.1294)	0.4066** (.1649)	0.6462*** (.1396)	0.5032*** (.2095)
<i>gov_debt_sq</i>	-0.0006*** (.0001)	-0.0006*** (.0002)	-0.0025*** (.0006)	-0.0020*** (.0008)	-0.0031*** (.0007)	-0.0026** (.0011)
debt turning point	97.8	103.1	104.5	99.9	104.6	98.2

Note: Figures in parentheses are standard errors. \*\*\* $p < 0.001$ , \*\* $p < 0.05$

Sources: Checherita and Rother (2010).

by a parabola, as shown in **Figure 5**.

Here, the threshold value  $-\alpha/(2\beta)$  is calculated to be 97.8, as shown by the “debt turning point” column of **Table 3**. This means that when government debt exceeds 97.8% of GDP, the GDP growth rate per capita changes direction from increasing to decreasing. The value of 97.8% is close to the threshold value of 90% envisaged in the Rogoff hypothesis. Similarly, the results of Models 2–6 imply that the threshold values for government debt as a percentage of GDP range from 98.2% to 104.5%. In all these cases, the values are close to the threshold value of 90% put forward in the Rogoff hypothesis.

These results provide important suggestions for achieving the two policy objectives of fiscal consolidation and growth promotion. Many researchers have indicated a trade-off relationship between fiscal consolidation and growth, but government overhang debt may cause economic growth to decline. Japan’s government debt has reached 200% of its GDP, which is far above the threshold value of 90% in the Rogoff hypothesis, and there is thus a need to further address the impact of the debt overhang on economic growth.

## 5. Conclusion: political issues facing Japan

Based on the lessons learned from the financial crisis in Europe, this paper generally investigates fiscal sustainability under an aging population in Japan from a financial market perspective. To this end, Section 2 discusses the relationship between self-fulfilling expectations in the financial market and the yield on government bonds, and Section 3 examines the extent to which market participants require the government to improve its fiscal position. Finally, Section 4 explores the relationship between excessive debt and economic growth.

Japan’s long-term interest rates are currently stable at approximately 1%, despite its

accumulation of government debt. Hence, many optimistic commentators claim that the kind of government debt crisis that Europe has been facing will not occur in Japan. As implied by the evaluation presented in this paper, however, the undeniable risk exists that a change in market expectations may cause the government bond bubble to collapse. In addition, recently passed social security and tax reform bills are just the first step in a long path of fiscal reform. Indeed, Braun and Joines (2011) argued that the Japanese government would ultimately need to increase its consumption tax rate to more than 25% if it fails to bring constantly increasing social security expenditures under control. The government must carry out fiscal restructuring immediately and assuredly.

Specifically, the Japanese government should provide its people with three choices: a high level of welfare at a high financial burden, a medium level at a medium financial burden, or a low level at a low financial burden. However, the government has a strong tendency to avoid choices on the overall social security framework (i.e., the relationship between benefits and fiscal burden), which reduces its commitment to reform.

Strategic mistakes cannot be recovered by additional strategies. Regardless of how exquisite the debate is on the minutiae, the ultimately unavoidable outcome will be the collapse of the reforms as long as there is not sufficient discussion on the overall framework, and social security benefits continue to be provided in excess of the financial burden imposed to pay for them. What is important in debates on reforms is the order of priority. In other words, rather than debate detailed components of the reform, the first focus must be on the overall framework, such as how to balance the benefits and the financial burden.

The starting point for a debate on whether the overall framework should follow the “high level of benefits at a high financial burden” model is whether the increase in social security expenditures can be curtailed. In this choice, the Japanese government must make its financial responsibilities clear to its people to achieve a fiscal balance; ultimately, this may include increasing the financial burden to take the consumption tax rate closer to 30%.

If the Japanese government is reluctant to increase the rate of consumption tax above 5% and instead chooses the “low welfare, low financial burden” route, it must show how much it would reduce its spending to achieve a fiscal balance. According to the authors’ rough calculations, the government would need to reduce its expenditure by approximately 50 trillion yen, which is equivalent to the amount obtained by a consumption tax rate of approximately 20%. Importantly, the majority of this reduction could only be achieved by reducing social security expenditures, which have continued to increase. Currently, of social security benefits such as pensions, medical care, and nursing (costing 100 trillion yen), approximately 60 trillion yen is covered with social insurance premiums and the shortfall of 40 trillion yen is paid for with taxes. Some extremely harsh benefit reductions would thus be necessary to reduce the percentage of the financial burden covered with taxes.

If the Japanese government decides that neither the “high level of welfare/high financial burden” nor the “low level of welfare/low financial burden” options are acceptable, then its only remaining choice is the “medium level of welfare and medium financial burden” route. However, even in this scenario it is highly likely that the consumption tax rate would

ultimately have to be increased to more than 20%. The average rate of value added tax in Europe is 20%; for example, it is 25% in Sweden, and 20% in each of the UK, France, and Germany. Even if we estimate that the final consumption tax rate needs to be 30% for Japan to achieve a fiscal balance, a politically feasible upper limit can be assumed to be 25%. Therefore, in addition to the upcoming round of tax increases, over the next 15 years, the Japanese government must not only implement additional tax increases equivalent to 15% of consumption tax, but also reduce government expenditure by 12 trillion yen, which would be the sum obtained by an additional 5% rate of consumption tax that cannot be feasibly implemented.

Japan must also consider increasing the eligibility age in line with those in Europe and the US (69 years in Italy, 68 years in the UK, and 67 years in the US and Germany). More broadly, it must advance social security reforms, which would be to strengthen its pension taxation; increase the financial burden undertaken by the individual for health care and nursing costs; and, curtail approximately half of the natural increase in costs that will occur over the next 20 years, which are set to exceed 20 trillion yen.

The cost of benefits currently exceeds the financial burden to pay for them, meaning that there is no overall balance in the system. Genuine political leadership requires debate on the overall framework and selecting one of the three options described herein. Selecting an overall framework and its forceful implementation cannot be carried out by government officials. This is the most important role that politicians will play and the most important decision they will be required to make. When making this selection, it is important to adopt a reform philosophy of considering the financial burden placed on future generations, while still helping both those people who are and who are not facing difficulties. “Don’t worry whether it’s liked, worry whether it’s right” (Drucker, 1967) is what is required of Japanese politicians today.

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