J. Japanese Int. Economies 25 (2011) 414–433

Contents lists available at SciVerse ScienceDirect

Journal of The Japanese and International Economies

journal homepage: www.elsevier.com/locate/jjie

Japanese government debt and sustainability of fiscal policy

Takero Doi [a,b], Takeo Hoshi [b,c,d,*], Tatsuyoshi Okimoto [e]

[a] *Faculty of Economics, Keio University, Japan*
[b] *TCER, Japan*
[c] *School of International Relations and Pacific Studies, University of California, San Diego, United States*
[d] *NBER, United States*
[e] *Graduate School of International Corporate Strategy, Hitotsubashi University, Japan*

ARTICLE INFO

Article history:
Available online 1 October 2011

JEL classification:
E6
H5
H6

Keywords:
Debt to GDP ratio
Minimum tax rate for fiscal sustainability
Markov switching model
Active policy
Passive policy

ABSTRACT

Doi, Takero, Hoshi, Takeo, and Okimoto, Tatsuyoshi—Japanese government debt and sustainability of fiscal policy

We construct quarterly series of the revenues, expenditures, and debt outstanding for Japan from 1980 to 2010, and analyze the sustainability of the fiscal policy. We pursue three approaches to examine the sustainability. First, we calculate the minimum tax rate that stabilizes the debt to GDP ratio given the future government expenditures. Using 2010 as the base year, we find that the government revenue to GDP ratio must rise permanently to 40–47% (from the current 33%) to stabilize the debt to GDP ratio. Second, we estimate the response of the primary surplus when the debt to GDP ratio increases. We allow the relationship to fluctuate between two "regimes" using a Markov switching model. In both regimes, the primary surplus to GDP ratio fails to respond positively to debt, which suggests the process is explosive. Finally, we estimate a fiscal policy function and a monetary policy function with Markov switching. We find that the fiscal policy is "active" (the tax revenues do not rise when the debt increases) and the monetary policy is "passive" (the interest rate does not react to the inflation rate sufficiently) in both regimes. These results suggest that the current fiscal situation for the Japanese government is not sustainable. *J. Japanese Int. Economies* **25** (4) (2011) 414–433. Faculty of Economics, Keio University, Japan; TCER, Japan; School of International Relations and Pacific Studies, University of California, San Diego, United States; NBER, United States; Graduate School of International Corporate Strategy, Hitotsubashi University, Japan.

© 2011 Elsevier Inc. All rights reserved.

* Corresponding author at: School of International Relations and Pacific Studies, University of California, San Diego, United States.
E-mail address: thoshi@ucsd.edu (T. Hoshi).

0889-1583/$ - see front matter © 2011 Elsevier Inc. All rights reserved.
doi:10.1016/j.jjie.2011.09.006

1. Introduction

Mounting government debt is a serious issue in many countries in Europe, the US, and Japan. The concern on sustainability of increasing government debt already put Greece into a serious crisis, and other European countries had to bail out Greece twice already (May 2010 and July 2011) in concert with the IMF. Ireland (November 2010) and Portugal (April 2011) followed suit. Increasing debt and slow economic growth has increased the cost of financing for other troubled economies such as Spain and Italy. The fiscal problem for the US looked less pressing, but the political gridlock and the inability to come up with a credible plan to put the government finance in order drove the US dangerously close to default in August 2011. Although the worst case scenario of the outright default was avoided at the last minute, the US politicians still face a difficult task of building a consensus on how the burden of deficit reduction should be shared.

Japan also suffers from a serious problem of the government debt. Indeed Japan's problem seems more serious when we look at the (gross) debt to GDP ratio. The OECD figure for 2010 shows that Japan's debt to GDP ratio was 198%, which is much higher than the US (93%), the UK (81%), France (92%), Germany (80%), and even Greece (129%).

Japan's debt is a result of continued deficits of many more years than the US or Europe. The start of the increasing government debt goes back to the fiscal stimulus packages in the early 1990s, when the Japanese economy suffered from the collapse of asset prices. There have been a couple of attempts of fiscal consolidation, but neither of them lasted long enough to achieve the initial goals, and the debt has continued to increase.

This paper examines the sustainability of Japan's fiscal policy. There are two contributions that the paper makes to the discussion of fiscal sustainability for Japan. First, the paper presents reliable quarterly data for the budget deficit and the government debt of Japan from 1980 to 2009. The data are comprehensive in that the coverage includes both central and local governments and almost all the government accounts including the social security fund. We also create the data series for only the central/local governments, excluding the social security account.

Second, the paper takes three complementary approaches to examine the sustainability. The first approach is that of Broda and Weinstein (2005) and Doi (2009). Here the question is how much the government needs to raise the tax revenue to stabilize the debt to income ratio in the long run *given* the future government expenditures and transfers. The second approach is an extension of Bohn (1998), and considers the dynamic feedback from the level of government debt to future government surpluses. The third approach considers the responses of tax revenues to the level of debt as well as the fluctuations in the government expenditures, following Davig and Leeper (2007).

The paper is organized as follows. In the next section, we briefly trace the evolution of the Japan's government debt over the last 20 years. Section 3 explains how we construct the quarterly data series of budget deficit and government debt that we use for the empirical analysis. In Section 4, we update the analyses of Broda and Weinstein (2005) and Doi (2009), and calculate the minimum tax rate that Japan needs to stabilize the debt to GDP ratio. Section 5 estimates a feedback rule from the level of government debt to the primary surplus to see if we observe stabilizing response of fiscal surpluses as the government debt increases in Japan. We extend the analysis of Bohn (1998) by considering the possibility that such a feedback rule has fluctuated between two different regimes over time. Section 6 estimates the fiscal policy function that models the tax revenues as a function of the government debt, output gap, and the government expenditure. The model allows two regimes with different responses of the government revenues. We also estimate a monetary policy function that is also state contingent, and discuss the interactions between the fiscal policy regimes and the monetary policy regimes. Section 7 concludes.

2. Accumulation of government debt in Japan: 1991–2010

In the fiscal year 1990, the Japanese government believed that it had succeeded in containing the budget deficit problem that plagued them since the late 1970s, but it did not last long. To fight

Download English Version:

https://daneshyari.com/en/article/964961

Download Persian Version:

https://daneshyari.com/article/964961

Daneshyari.com