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Why do commercial banks hold government bonds? The case of Japan

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ABSTRACT

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We investigate the determinants of the demand for Japanese government bonds (JGBs) by commercial banks in Japan. In particular, by estimating portfolio equations for JGB demand and bank loans, based on a panel data set from the late 1990s to the 2000s, we rigorously test the popular assertion that the long stagnation of the real economy caused a shift in the portfolios of commercial banks from bank lending to JGBs. We find that the popular assertion is not empirically supported. Rather, the portfolio shift from loans to JGBs has been caused by a fall in the ratio of the loan rate to unit lending costs, or the bank's price–cost margin for lending. *J. Japanese Int. Economies* **34** (2014) 201–216. Institute of Social and Economic Research, Osaka University, Japan; Graduate School of Economics, Osaka University, Japan.

1. Introduction

During the last decade, the Japanese government has issued massive amounts of government bonds to boost economic recovery and finance welfare expenses for the rapidly aging population. The growth rate of government bonds exceeded 10% per annum during the period 1995–2004, except

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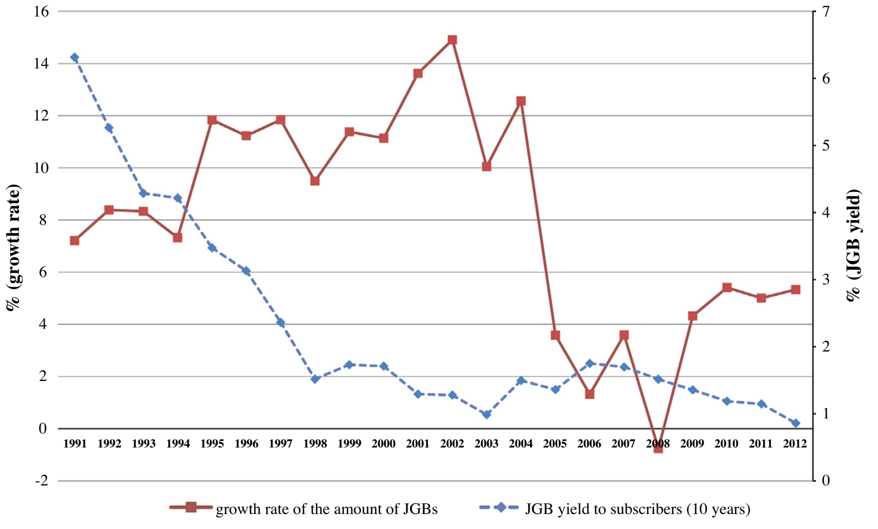

Fig. 1. Growth rate of the amount of Japanese government bonds and its yield. *Data source*: Bank of Japan, Flow of Funds Statistics.

for a few years (Fig. 1). Accordingly, government gross financial liabilities as a percentage of nominal GDP steadily rose from 64.9% in 1990, the eve of the bursting of the bubble, to 219.1% in 2012,[1] a much higher level than that of the European countries suffering from sovereign debt crises, such as Greece, Spain, Portugal and Italy (Fig. 2). Many academic researchers warn that current debt levels are unsustainable.[2] However, JGB yields have been rather stable. The JGB yield to subscribers hovered near 2% from the late 1990s to the early 2000s and has exhibited a declining trend since 2006 (Fig. 1). To explain stable JGB yields in spite of massive outstanding sovereign debt, it is essential to understand the differences between the characteristics of the bond markets in Japan and those in other countries.

One key difference lies in the distribution of investors holding government bonds. Foreign investors hold significant portions of the sovereign debt of European countries. For example, foreign investors held more than 30% of total sovereign debt in Italy and Spain in July 2012 but only 8% of Japan's total sovereign debt.[3] In other words, nearly 92% of the JGBs are held by domestic investors. Among domestic investors, private financial institutions are major holders of JGBs. In 1990, the share of private financial institutions among holders of Japanese government debt was 41.0%, a number that increased steadily from 1998 to 2012, when the share of Japanese government debt held by private financial institutions had reached 66.0% (Fig. 3).

The purpose of this study is to investigate the demand side of the JGB market. In particular, we focus on the determinants of the demand for government bonds by the commercial banks. To understand the price mechanism in the JGB market, it is crucial to understand the determinants of demand for JGBs. It has been argued that the long-term stagnation of the real economy reduced the demand for loans, which forced commercial banks to increase their demand for JGBs. However, appealing this argument may be, no studies have tested it rigorously. We construct a simple portfolio model of the commercial banks that invest all of their assets in loans and government bonds. The virtue of our model is that it distinguishes demand factors from supply factors as the determinants of the port-

[1] See Nakajima (1977) for a history of the Japanese government bond (JGB) market through the mid-1970s. Tomita (2001) describes the development of the JGB market in the 1990s. For recent and future conditions of the JGB market, see Yoshino (2009) and Tokuoka (2010).

[2] For example, see Dekle (2003), Doi and Ihori (2009), Doi et al. (2011), Itoet et al. (2011), Sakuragawa and Hosono (2011) and Hoshi and Ito (2012). Broda and Weinstein (2005) argue that the ratio of government debt to GDP would be stabilized by an increase in tax rates.

[3] See p. 4 of the *Global Financial Stability Report*, October 2012 issued by the International Monetary Fund.