Fiscal Confidence Shocks
and the Market for the Japanese Government Bonds

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Abstract

This paper asks if the sovereign default risks are being priced in the market for the Japanese Government Bonds (JGBs). Despite that the gross debt to GDP ratio now exceeds 200%, the JGB market has remained surprisingly calm. Does this mean that, as some have suggested, the market has a perfect confidence in the government's will to ultimately balance the budget in a distant future? Or, if we look in the right place, could we find even a trace of anxiety in the minds of the market participants?

To answer these questions, this paper combines daily information from newspapers with that from the market for the JGB derivatives. By focusing on the days on which important news about future fiscal policies arrived, we can treat other factors that play important roles in the JGB market, such as monetary policy and demographics, as unchanged. By studying reactions of the derivatives markets to such news, we hope to detect (possibly tiny) tremors in the shape of the default probability distribution in the market participants' minds.

To that end, I utilize four market indices, two that are publicly available and two that are newly constructed for this analysis. The former two are the JGB Futures Index and the JGB-VIX, which is a model-free implied volatility index assembled from the data on options for the JGB futures. The two new measures are also derived from option prices but are based on the theoretical model of Black (1976). One is an alternative measure of implied volatility, while the other contains, in addition to volatility, information on skewness and tail risks in investors' perceptions.

The estimation results indicate that most of those candidate events had no discernible impact on either of the two financial variables. However, two events emerge as notable exceptions. One is in March 2012, when the infighting within the then-ruling party (Democratic Party) over whether to raise the consumption tax rate became very serious. The second is in November 2014, a few days before Prime Minister Abe of the Liberal Democratic Party announced that he would delay the consumption tax hike which had been scheduled for 2015.

Key words: fiscal sustainability, news shock, government bonds, financial market, implied volatility.

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