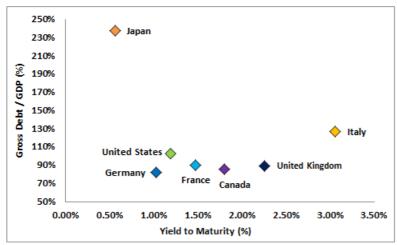
AN INTRODUCTION TO THE JAPANESE GOVERNMENT BOND MARKET

Rick Harper — Chief Investment Officer, Fixed Income and Model Portfolios 12/17/2013

One of the most talked about investment themes of 2013 has been the dramatic turnaround in the Japanese economy as a result of Abenomics. While equities and the value of the yen have dominated headlines, one area investors might not be as familiar with is the <u>Japanese government bond</u> (JGB) market. When talking about bond investing, we believe it is important to maintain perspective on what debt investing really represents. When an investor purchases a bond, it is the same thing as lending money to a borrower. As we will discuss, the Japanese bond market is currently one of the most interesting markets in finance. As one of the largest developed market economies in the world, the JGB market is truly massive. In fact, according to the Japanese Ministry of Finance, the total value of the Japanese government bond market stood at ¥1.01 quadrillion (\$10.3 trillion) as of September 30, 2013—its highest level ever. Given the market's size, it is also regarded as one of the most liquid bond markets in the world. According to Barclays, Japanese government debt accounts for nearly 29% of the Barclays Global Treasury Index, representing its largest individual country weight.² However, particularly large debt markets can sometimes be a double-edged sword for investors. In our view, just because a country has a large amount of debt outstanding doesn't necessarily mean it deserves a significant portion of an investor's portfolio. As bond investors, we care principally about lending money at rates that adequately compensate us for the risks we are taking. One of the most confusing elements for foreign investors looking at the Japanese bond market is that it is not only the largest government bond market in the world but also home to the lowest government borrowing costs. Generally speaking, investors have traditionally used yields as a generic barometer of creditworthiness or risk. By this metric, it appears that Japan is one of the most worthy creditors in the world, with 10-year government bond yields of 0.60%.³ Interestingly, despite its large presence in the Barclays Global Treasury Index, it contributes only 16 basis points to the overall index yield of 1.47% (11% of the index yield compared to nearly 30% of the weight). For this reason, Japanese debt has generally not been a favored allocation for international investors. While the size of the JGB market is staggering, many investors have highlighted another statistic that they find equally pertinent when assessing the country's level of debt sustainability. For many market participants, a country's debt burden relative to its output provides a commonly used metric for gaining some insight into that country's long-term debt sustainability. The International Monetary Fund (IMF) calculated Japan's gross debt at 238% of its gross domestic product (GDP) in 2012. By way of historical perspective, Japan has had a debt burden exceeding 100% of GDP since 1997. As shown in the table below, the Japanese bond market currently provides the lowest interest rates in the world with the largest gross domestic debt to GDP. **G7 Economies:** Gross Debt **GDP** vs. Yield to Maturity





Source: IMF, Barclays, as of 10/31/2013. Past performance is not indicative of future results.

Traditionally, as a country's debt burden increases, investors would demand higher interest rates to compensate them for the additional <u>risk</u>. However, Japan has had two primary factors contributing to its comparatively low yields: a predominantly domestic investor base and <u>deflation</u>. At present, 90% of Japan's government debt is held by domestic investors. Compared to other major economies, this "captive" investor base provides a significant portion of government funding. In a country like the United States, a much larger percentage of the government's debt is financed by foreign creditors, who are more sensitive to large debt burdens. Also, a decade of deflation had boosted investor's real returns as the trend in prices of goods and services declined. Therefore, Japanese investors were willing to receive a lower nominal yield as long as inflation remained low (or was negative). However, as we will show in future blog posts, both of these factors currently supporting low interest rates may soon be changing in response to Abenomics. Ultimately, we believe that low borrowing costs may not persist indefinitely in Japan. In light of the variety of governmental policies seeking to boost the Japanese economy, we believe that higher interest rates may be a necessary by-product of Shinzo Abe's reflationary agenda. Read the full research here. Source: Japanese Ministry of Finance, 9/30/2013. Source: Bloomberg, as of 10/31/2013. Japan narrowly edged out the United States, which has a weight of 26.05%. Source: Bloomberg, as of 10/31/2013. Japan narrowly edged out the United States, which has a weight of 26.05%.

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DEFINITIONS

Abenomics: Series of policies enacted after the election of Japanese Prime Minister Shinzo Abe on December 16, 2012 aimed at stimulating Japan's economic growth.

Japanese Government Bond (JGB): A bond issued by the government of Japan. The government pays interest on the bond until the maturity date. At the maturity date, the full price of the bond is returned to the bondholder. Japanese government bonds play a key role in the financial securities market in Japan.

Liquidity: The degree to which an asset or security can be bought or sold in the market without affecting the asset's price. Liquidity is characterized by a high level of trading activity. Assets that can be easily bought or sold are known as liquid asset.

Barclays Global Treasury Index: represents the government component of the Barclays Global Aggregate Index.

Basis point: 1/100th of 1 percent.

Gross domestic product (GDP): The sum total of all goods and services produced across an economy.

G-7 Countries: France, Germany, Italy, Japan, United States, United Kingdom, and Canada.

Yield To Maturity: Portfolio Yield to Maturity represents the weighted average yield to maturity of a Fund's investments in money market securities and fixed income securities as a specified date. Yield to maturity is the rate of return generated on these securities, assuming interest payments and capital gains or losses as if the instrument is held to maturity. The weighted average yield is calculated based on the market value of each security. The calculation does not incorporate yield from any derivative instruments that are part of the Fund's investments.

Risk: Also standard deviation, which measures the spread of actual returns around an average return during a specific period. Higher risk indicates greater potential for returns to be farther away from this average.

Deflation: The opposite of inflation, characterized by falling price levels.

