

## The Yen And Japanese Bond Markets

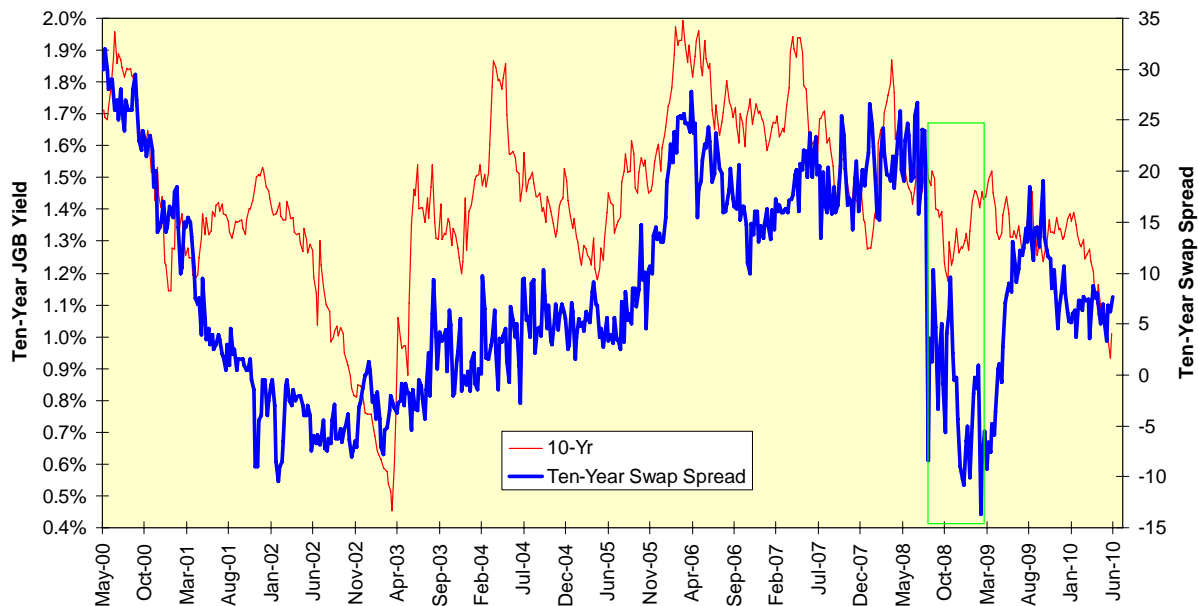
As anyone who has traded currencies for more than five minutes can attest, the yen is very different from other currencies in its market rhythms (see “The Yen Stands Alone,” March 2006). Other currencies represent countries in permanent trade surplus, but many of these are pegged or quasi-pegged to the dollar. Other currencies most certainly are pushed around by domestic political considerations and are caught in the bizarre grip of competitive devaluation (see “No Man Is an Island, But The U.K. Is” August 2010). Other currencies have imperfect links to prospective returns on assets (see Currencies and Relative Stock Market Performance,” April 2008). Other currencies trade as if short-term interest rate arbitrage does not matter, and still other currencies, most notably the U.S. dollar and Swiss franc are funding currencies for carry trades (see “The Short, Awful Life of the Dollar Carry Trade” and “Franc-ly My Dear, I Don’t Give a Carry,” August and September 2008). It seems as if only the yen combines all of these qualities to the extent a reasonable trader can conclude, “The yen’s not really a market.”

Or is it? While currencies are linked more to short-term interest rates and movements than to capital markets, we should remember all capital markets are linked in a giant web and what influences a country’s bond market must have a certain influence on its currency market, too (see “Currency Carry and Yield Curve Trading, January 2010). Let’s take a look at the Japanese bond market and include fixed-income volatility and swap spreads in the analysis.

### Swap Spreads

A swap spread, as a refresher, is what a borrower who is paying a floating rate of interest on a bond will pay to fix those rates. Rising swap spreads thus indicate fear of rising interest rates, and vice-versa. The courses of ten-year Japanese government bond yields and ten-year swap spreads had moved in a parallel manner between the May 2003 low in yields and the onset of the financial crisis in 2007, marked with a green rectangle. Swap spread have remained static since April 2010 even as bond yields have declined; this stable demand to fix yields can be interpreted as unease with the strength of the Japanese bond rally.

Swap Spreads Renormalizing After Crisis

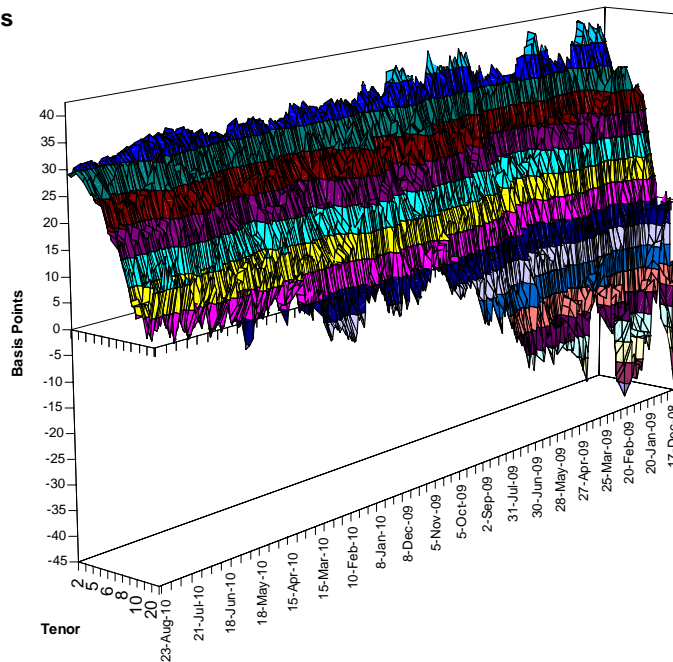


Swap spreads plunged far further and faster during the height of the crisis in 2008 and early 2009 than did ten-year JGB yields. Once the crisis passed after March 2009, swap spreads returned to a normal convergence path with JGBs.

That observation holds for one tenor, or time to maturity, for swap spreads. If we go back to the December 16, 2008 date when the Federal Reserve first moved to near-0% short-term interest rates and hinted that quantitative easing would be the next step and the Bank of Japan restarted quantitative easing without announcing it, how has the term structure of swap spreads advanced? The short end of the yield curve saw fairly constant swap spreads. It was at the long end where swap spreads plunged to negative levels and then rose back toward zero. A negative swap

spread can be verbalized as, “I am so confident interest rates are not going to rise you will have to pay me to fix them.” Some traders just have a mean streak.

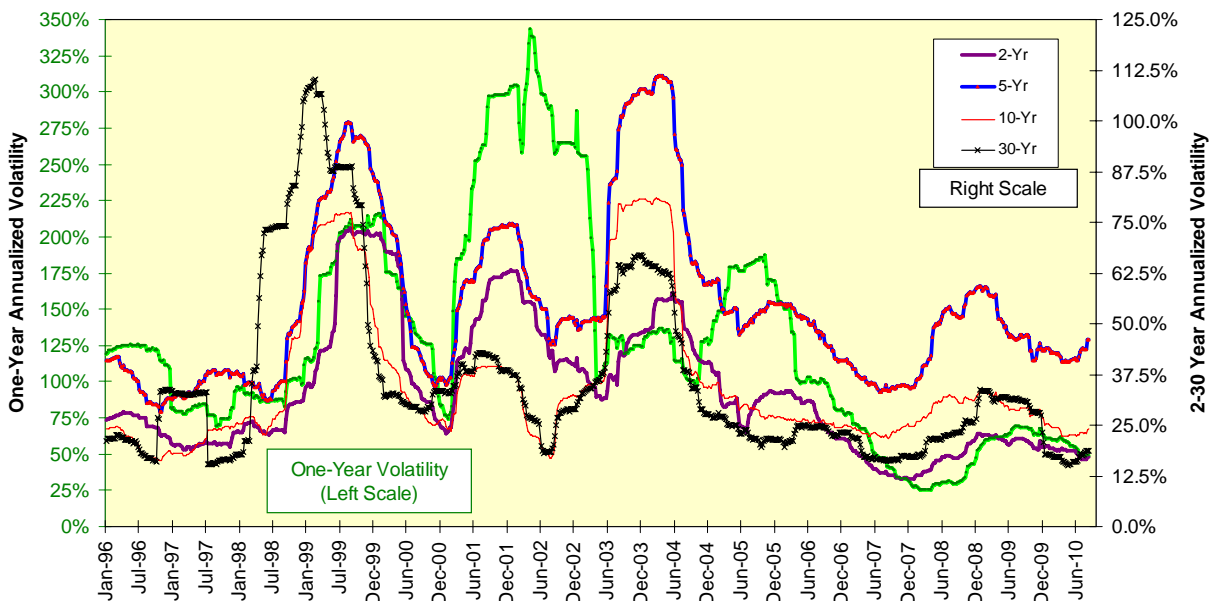
### Japanese Swap Spreads Since Dec. 16, 2008



### Fixed-Income Volatility

Now let's take a look at fixed-income volatility in the Japanese market. Implied volatility readings for zero-coupon Japanese government securities are very different from their American counterparts. In the U.S., volatilities tend to decline with maturity. While the one-year zero-coupon implied volatility in Japan, marked here with a green axis, is much higher than those for longer maturities, Japan is witness to the odd spectacle of five-year volatility exceeding ten-year, thirty-year and two-year volatility, in that order. This jumbled structure stands as testimony to the confusion surrounding the expected course of Japanese interest rates.

### The Term Structure Of Interest Rate Volatility

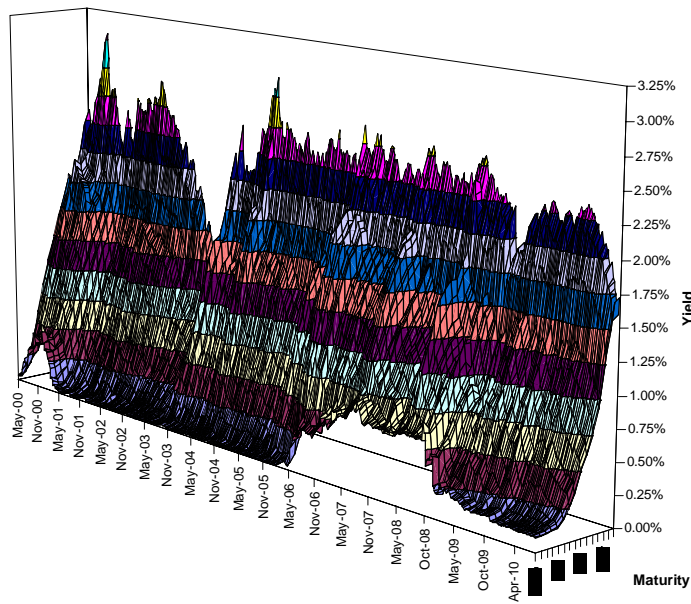


### The Yield Curve

The one aspect of Japanese bond markets not subject to confusion in 2010 has been the bullish flattening of the yield curve. Note how the short end of the yield curve is lying flat against the “floor” of 0% like a too-long drapery

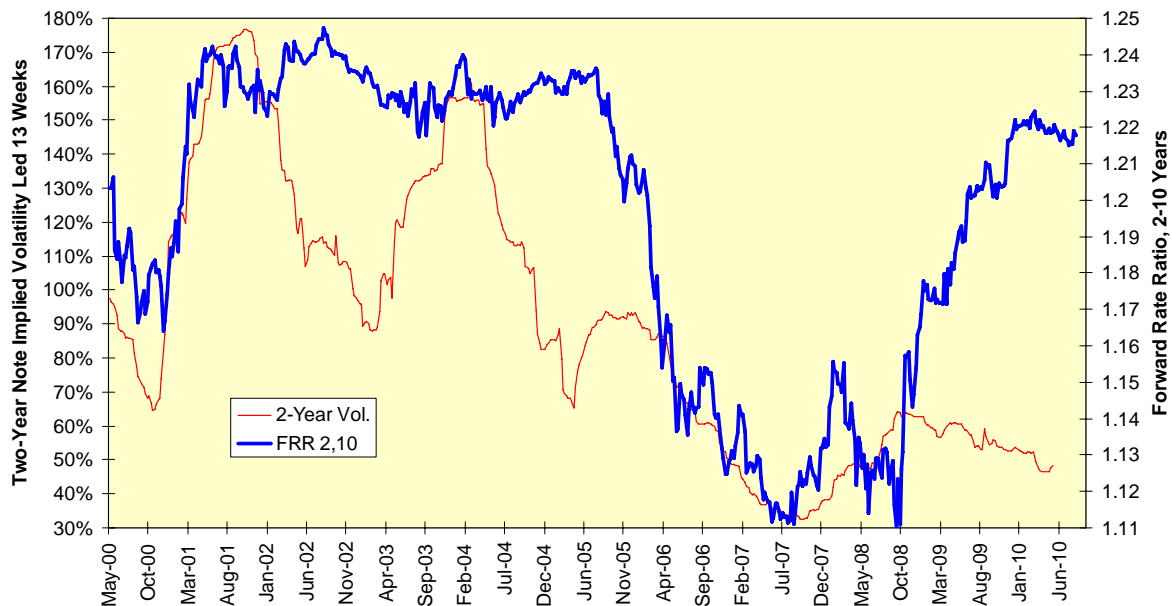
hitting floor, while the long end of the yield curve has been moving lower in a classic waterfall fashion since April 2010. In Japan, just as in the U.S., the mad scramble to get yield, any yield, has pushed investors further out along the maturity spectrum and has forced many to assume bond duration risks they may not understand.

### Japanese Yield Curve Now In Bullish Flattening



We can extract one segment out of this yield curve surface, the forward rate ratio between two and ten years. This is the rate at which borrowers can lock in money for eight years starting two years from now divided by the ten-year rate itself. The more this  $FRR_{2,10}$  exceeds 1.00, the steeper the yield curve. While the  $FRR_{2,10}$  has tended to lead two-year zero-coupon volatility by 13 weeks, a calendar quarter, very directly in both the U.S. and in the Eurozone, the relationship in Japan has ceased to exist. The very steep  $FRR_{2,10}$  should be leading to greater hedge demand and thus higher volatility for two-year notes, but the Japanese bond options market, like the fictional Rhett Butler, no longer seems to give a damn.

### The Yield Curve Has Stopped Leading Volatility



What we can see, however, is a far more direct relationship between the yen and the  $FRR_{2,10}$  in Japan. As the Japanese yield curve steepens along this key segment of the capital market line, the yen strengthens. This is a

combination of expectations for higher long-term interest rates in Japan and for higher fixed-income volatility. Both of these elements are present in many other currencies' evaluations, which suggests the yen is not as exceptional as it may seem if we just shift the analysis forward in maturity to reflect the "perma-expectations" for higher interest rates in Japan.

### The Yield Curve And The Yen

