

## A Cross-Rate To Bear

The admonition, “if it sounds too good to be true, it probably is” applies to market indicators as well as to investments. For any given development in financial affairs, it is always easy, too easy, to find something that correlates well. Spurious correlation is the bane of the data analyst; the trick is to make sure indicators have some defensible, not merely plausible, fundamental explanation behind them.

Carry trades meet this test, whether the yen carry trade (see “Looking At the Carry Trade,” June 2007), the U.S. dollar carry trade (see “The Short, Awful Life Of the Dollar Carry Trade, August 2008) or the Swiss franc carry trade (see “Franc-ly My Dear, I Don’t Give A Carry, September 2008). If the unwinding of the great global credit bubble defined the downturn in various asset markets from mid-2007 onwards, what do you think propelled the inflation of that credit bubble? Investor access to cheap funding currencies had been a part of the economic landscape from 1995 onwards in the case of the JPY and from 2001 onwards in the cases of the USD and CHF.

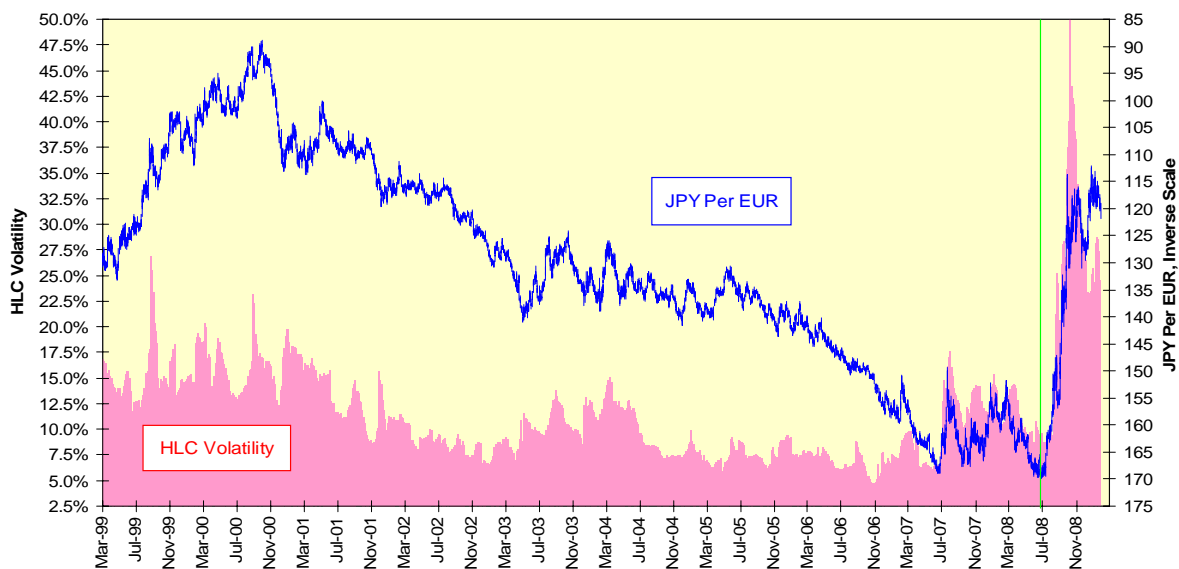
If the world is divided into two great currency blocs, the U.S. dollar and the euro blocs (see “The Dollar Index And ‘Firm’ Exchange Rates, December 2005), then the cross-rate between the JPY and EUR expressed in yen per euro (EURJPY going forward) should be at least as important as the yen-dollar rate. It is, and with a cruel and perverse twist: While both the yen-dollar and euro-dollar rates conform reasonably well to relative interest rate expectations, the euro more so than the yen, the EURJPY exhibits virtually no relative interest rate content whatsoever. It appears to be nothing more than an artifact of carry trade demand and by extension a barometer of global risk appetite.

Restated, when the EURJPY is rising – that is, the yen is weakening relative to the euro – the world’s risk appetite is rising. When it is falling, as it did precipitously during the global market rout of September-October 2008, the world’s risk appetite is falling. This might seem to be too good to be true, but it certainly meets the defensibility test.

### Volatility Indicators

A key date in the history of the EURJPY is July 15, 2008, when Fannie Mae and Freddie Mac were de facto nationalized by the U.S. government; this date will be marked with a green vertical line in all charts below. We can see the importance of this date in the high-low-close volatility of the EURJPY. This measure, which accounts for intraday range as well as interday change, surged as the EURJPY rose. This indicates a substantial increase in the uncertainty of the EURJPY; if this cross-rate is a barometer of global risk appetite; such a move indicates a second-order increase in the risk of risk as it were.

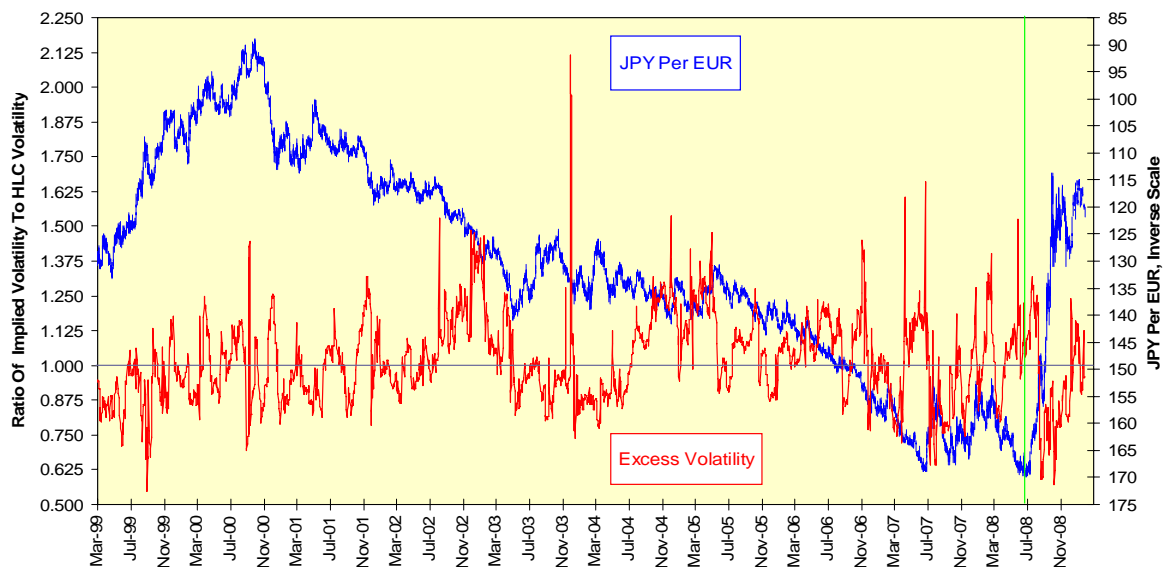
Yen Per Euro High-Low-Close Volatility Surged During Rally



How did this measure of volatility compare to the EURJPY’s implied volatility? The ratio of implied to high-low-close volatility, or “excess volatility” measures how much insurance is being bought against a subsequent price move. Initially, excess volatility fell, which indicates a certain measure of indifference by market participants.

Even though the EURJPY was moving violently, participants either were willing to accept these movements as quasi-normal or simply as a short-lived artifact of crisis conditions.

**Excess Volatility Initially Fell During Yen's Rally Against Euro**



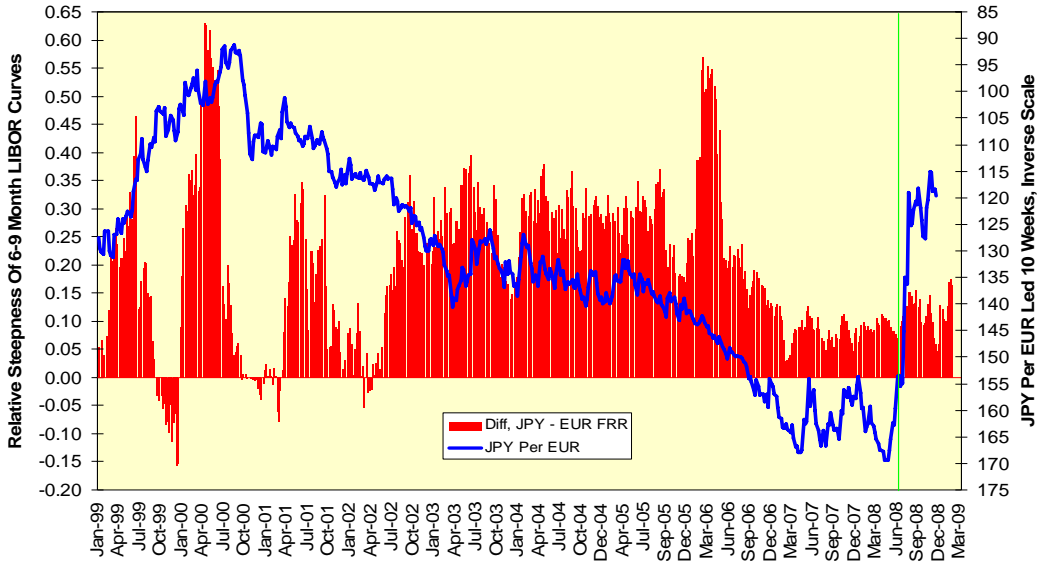
### Short-Term Interest Rate Expectations

Now let's turn to the issue of relative short-term interest rate expectations. As has been our wont, we will use the forward rate ratio between six- and nine-month LIBOR ( $FRR_{6,9}$ ), the rate at which we can lock in borrowing for three months starting six months from now, divided by the nine-month rate itself as our metric. The more the  $FRR_{6,9}$  exceeds 1.00, the higher those three-month rates are expected to be six months from now.

The difference between two  $FRR_{6,9}$  numbers gives us the relative rate at which two short-term interest rates are expected to move over that horizon. In a normal relationship, the higher the differential between currencies X and Y, the more currency X is expected to rise relative to currency Y.

Here the relationship is interesting. The JPY has had a persistently high  $FRR_{6,9}$  for years as few have believed its minuscule interest rates could persist. We have to look more at the trend of any JPY FRR differential as a result. While the FRR differential leads the movement of the EURJPY by ten weeks on average, nothing in its course during 2008 signaled the explosive increase in the cross-rate. This tells us, loud and clear, the EURJPY must be determined by something other than relative short-term interest rate expectations.

### Short-Term Rate Expectations Not A Major Factor In Cross-Rate



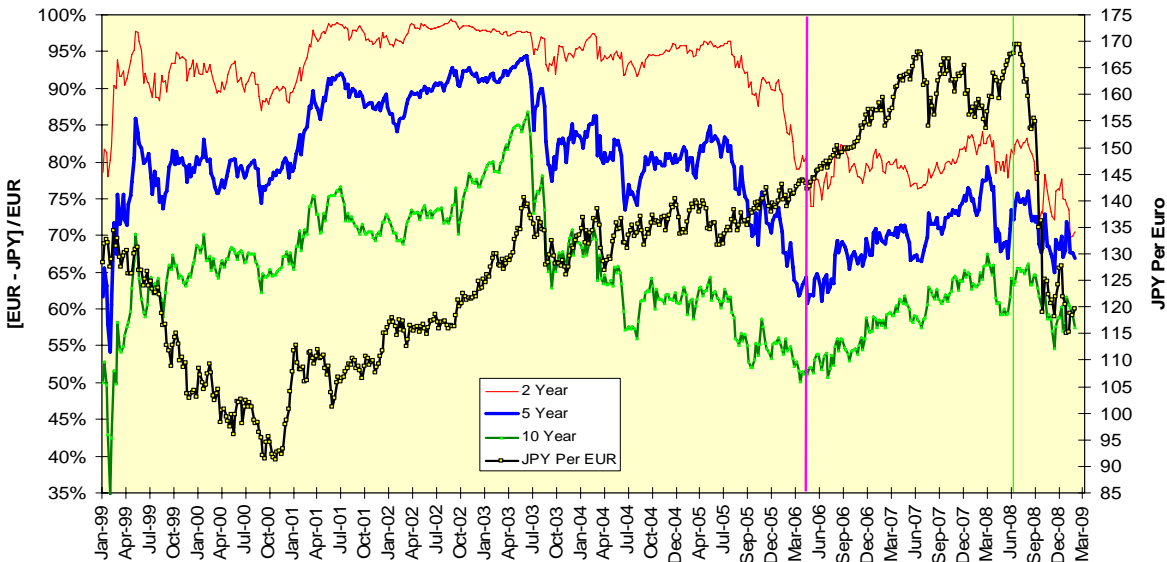
### Long-Term Interest Rate Differentials

Relative expected returns on assets are a determinant of currency rates, too. Global investors will shift funds to countries with high expected asset returns and remove them just as quickly, as many emerging markets have discovered to their sorrow over the years.

If we normalize the rate gaps between the Eurozone and Japan at the two-, five- and ten-year horizons, that is divide the difference between euro and yen rates by the euro rates themselves, we find it has correlated extremely well to the EURJPY since the mid-2006 withdrawal of liquidity by the Bank of Japan, marked with a magenta vertical line.

The fundamental logic behind this correlation is sound. Euro yields rose in 2006-2007 as the inflation-averse European Central Bank kept credit tight in the Eurozone in the face of strong growth. This strong growth and high return environment attracted risk-seeking yen lenders, and the EURJPY weakened. The process reversed in 2008 as economic weakness enshrouded Europe; this led to risk-averse yen lenders closing out their carry trades.

### The Cross-Rate And Note-Rate Differentials

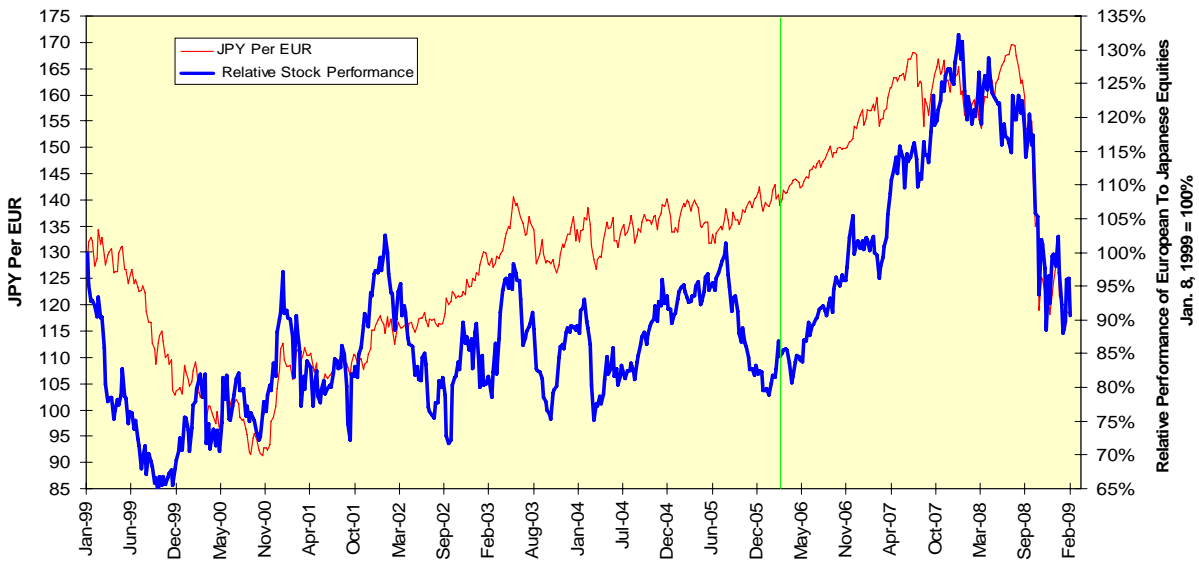


### Stock Market Confirmation

If the EURJPY is driven by relative asset returns, then European equities should outperform Japanese equities when the cross-rate is weakening and vice-versa. If we compare the total returns on the MSCI Eurozone and Japanese

indices, both expressed in USD terms, to the EURJPY, we see this relationship in action. Once the EURJPY fell, so did the relative performance of European equities. As an aside, this is one more piece of evidence that international diversification in equities is something of a chimera: It is all a currency trade in disguise (see “Currencies And Relative Stock Index Performance,” April 2008).

### Relative Equities Aligned With Currency In Time



Veteran market analysts may be shaking their heads in amusement right now, thinking to themselves, “Yes, a pattern works until it is recognized.” This cannot be dismissed out of hand; markets never allow anything so simple as a single indicator such as the EURJPY to be a simple indicator of risk.

Here’s a bet: This indicator will cease to operate once Japanese interest rates rise to the relative level where carry trades are no longer profitable. Then the indicator will fail and fail badly. Until then, keep it on your screen.