Currencies, Curves And Correlations

Two debates never seem to cease when it comes to the relationship between currencies and the U.S. stock market. The first, almost always stated improperly, is whether a "strong/weak" dollar is good or bad for U.S. stocks. The reason this question is stated improperly is despite the presence of instruments such as the dollar index, the dollar does not trade as a whole so much as it trades as a series of currency pairs. The second question is whether large- or small-capitalization stocks benefit more or less from "dollar" strength or weakness.

We can add a third dimension to this pair of questions and ask whether there is any general relationship between a country's money market yield curve, the percentage change in its currency's spot rate and prospective equity returns. The experience of post-March 2009 rally led many to believe the exaggerated steep yield curves as measured by the forward rate ratio between six and nine months ($FRR_{6,9}$), the rate at which we can lock in borrowing for three months starting six months from now divided by the nine-month rate itself, drove equity markets higher.

We will examine the relationship between the $FRR_{6,9}$ and percentage change in the spot rate for five of the six components of the dollar index and the dollar index itself against the prospective six month-ahead total returns for the underlying stock index as calculated by Morgan Stanley Capital International in local currency terms. For reference, the index' components are the euro (57.6%), the Japanese yen (13.6%), the British pound (11.9%), the Canadian dollar (9.1%), the Swedish krona (4.2%) and the Swiss franc (3.6%).The history for the components of the Swedish krona is too short to be included in this analysis. This will provide us with an insight into whether previous currency and $FRR_{6,9}$ moves affect equity returns.

In addition, we will examine the correlation of returns between the dollar carry into each of the six components of the dollar index against the total returns for both the large-capitalization Russell 1000 index and the small-capitalization Russell 2000 index since the January 1999 advent of the euro. This will provide us with an insight into the question of which currencies affect large- and small-capitalization U.S. stocks and when.

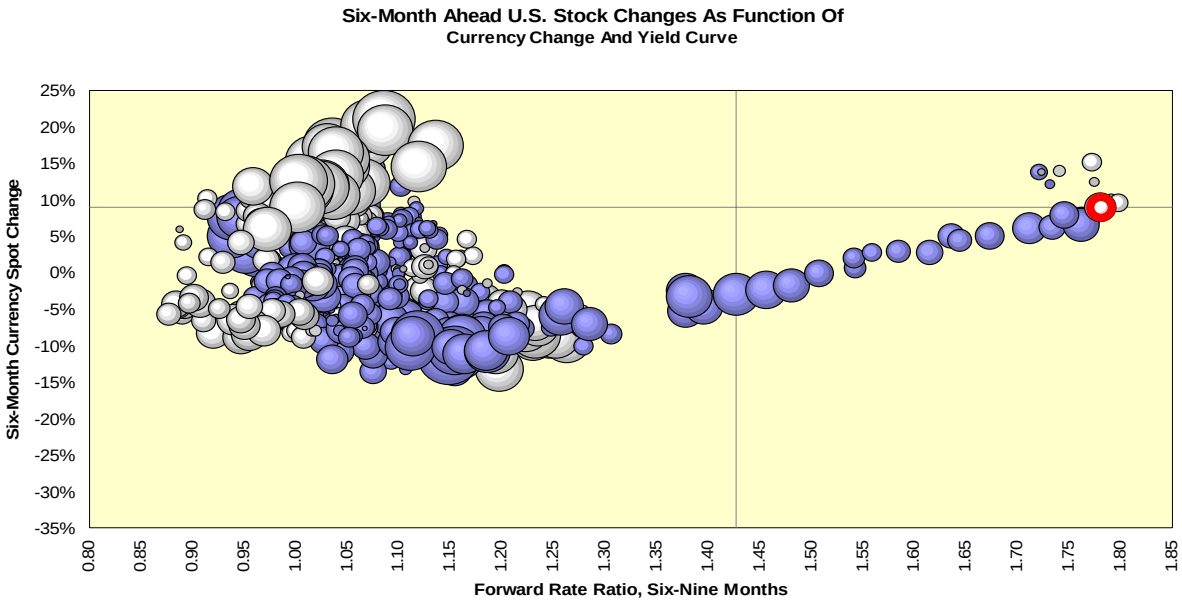
Curves And Currencies

If we map six-month ahead equity market returns in local currency terms against $FRR_{6,9}$ levels and six month-ahead changes in currency spot rates do distinct patterns emerge?

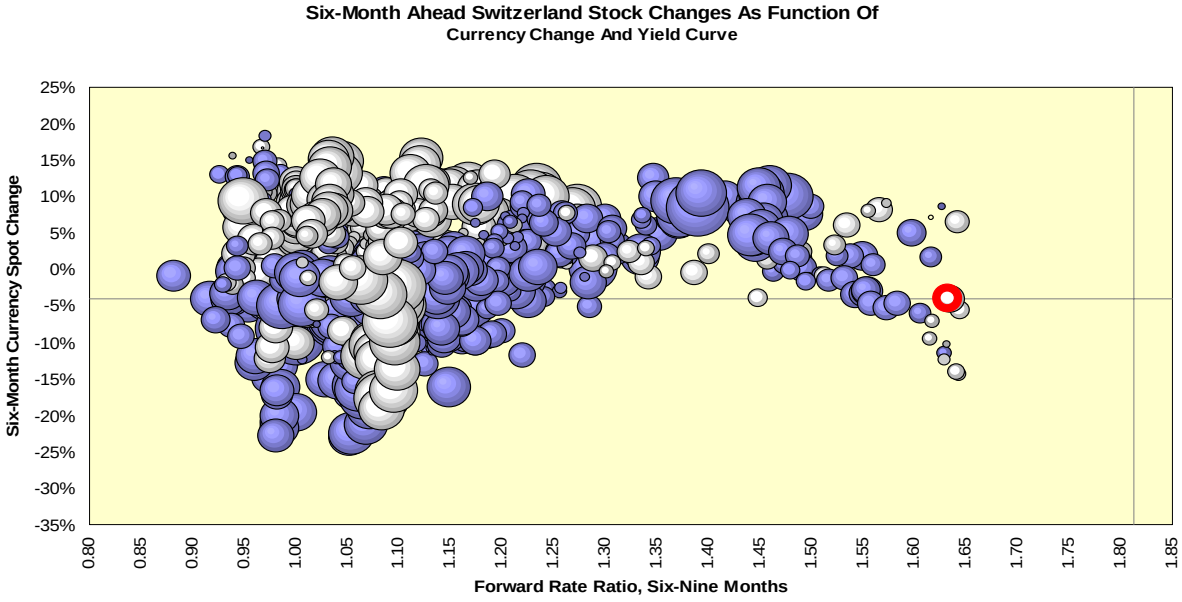
For each currency, blue bubbles indicate positive six month-ahead equity market changes; white bubbles indicate negative six month-ahead equity market changes, and the diameter of the bubble indicates magnitude of change. The red torus indicates the value combination for the week ending July 2, 2010. The values for the $FRR_{6,9}$ and the change in the currency spot rate from January 8, 2010 are noted with the grey bombsight. All charts are displayed on an equal scale for comparative purposes.

The FRR6,9 for the USD literally went off the chart in 2009 as U.S. short-term rates were pushed down toward 0%. At no point since 1991 had this segment of the LIBOR curve been so steep. The USD suffered accordingly after the March 2009 quantitative easing began. We should expect the prospective change for the U.S. stock market to have been biased higher based on liquidity alone, and this appears to have been the case. However, the USD FRR6,9 peaked right at the end of 2009 and began to flatten as Eurozone credit stress led to an increase in short-dated LIBOR. Global bourses peaked at the end of April 2010 for reasons unrelated to money-market yield curves.

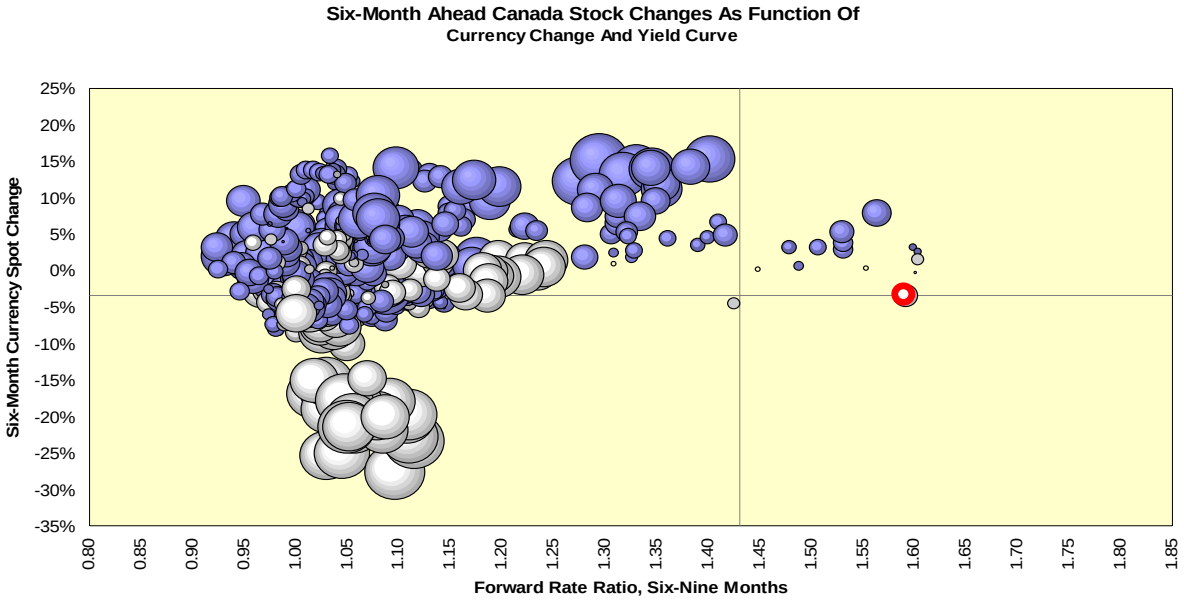
The USD strengthened on a relative basis for the first half of 2010 as the USD $FRR_{6,9}$ flattened. It would be a stretch to say the USD strengthened on an absolute basis given its 13.3% decline against gold on a total return basis, but this subject can and will be debated for years.



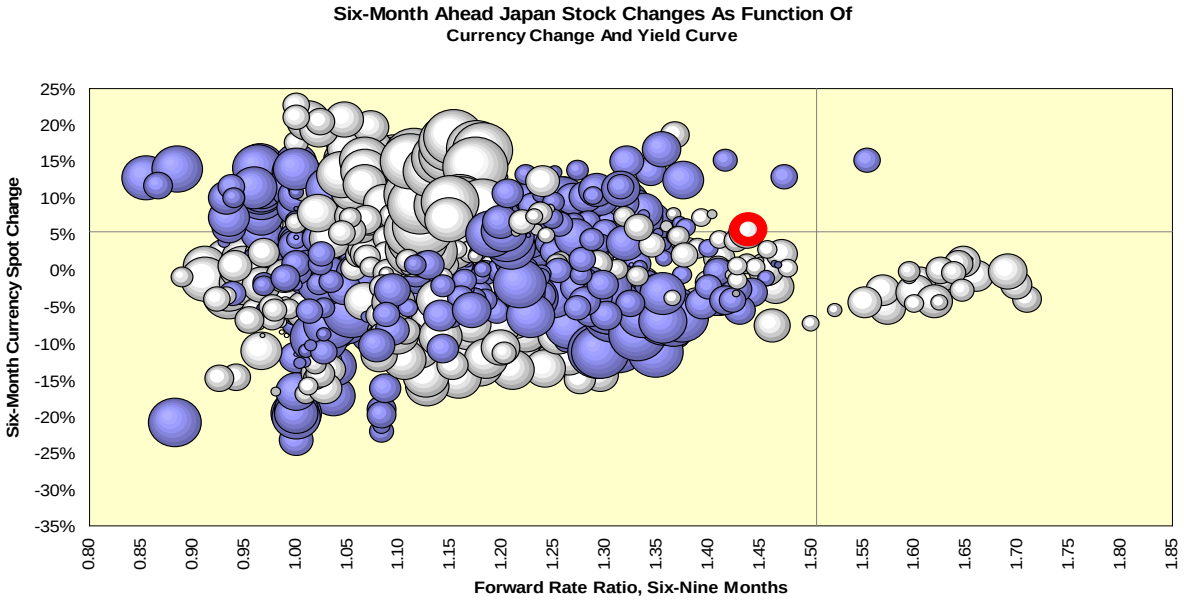
The Swiss $FRR_{6,9}$ also remained extraordinarily steep following its quantitative easing in March 2009, although it had been steeper briefly in December 2003 and in May 2004. The Swiss National Bank's response to the Eurozone's travails was to intervene massively and unsuccessfully against the CHF by buying Euro-denominated bonds. The intervention succeeded, as they always do, in losing SNB capital and ultimately making Switzerland a poorer place. The CHF $FRR_{6,9}$ steepened as francs were created to finance this exercise in imbecility.



The Canadian LIBOR curve also spent most of 2009 and indeed the first half of 2010 steepening. As all previous observations of a strongly rising CAD have been accompanied by rising prospective equity market returns, the combination of a steeper yield curve and a stronger CAD was bullish for Canadian equities on an absolute basis until the global market peak at the end of April. Between April 26 and June 30, 2010, Canadian equities declined 13.14% in USD terms as opposed to U.S. stocks declining 14.77%. A small triumph, as all relative value comparisons always are.



The JPY combination, as is so often the case for this always-exceptional currency, has no distinct pattern. Its $FRR_{6,9}$ has been steeper before, in multiple periods during 1999, 2000 and 2006, but each of these periods coincided with negative prospective equity returns. Previous periods of a stronger JPY have led to both rising and falling prospective equity market returns. We have to classify the present mix as indeterminate in outlook.



The $FRR_{6,9}$ measures for both the U.K and the Eurozone were not as steep as the others during 2009. This is surprising given the British attempt to debase the pound (see "No Man Is An Island, But The U.K. Is," August 2010). "Flat" is a relative term, however, as both measures were the steepest on record up until that point. We have little to go on from such exaggerated values, but we can observe the dominance of positive prospective equity market returns emerging from previous periods of currency strength.

The general combination of steep LIBOR curves and strengthening currencies leading to positive equity returns should not be surprising. A country flooding itself with liquidity and able to draw capital from elsewhere is a country with a positive financial market environment.

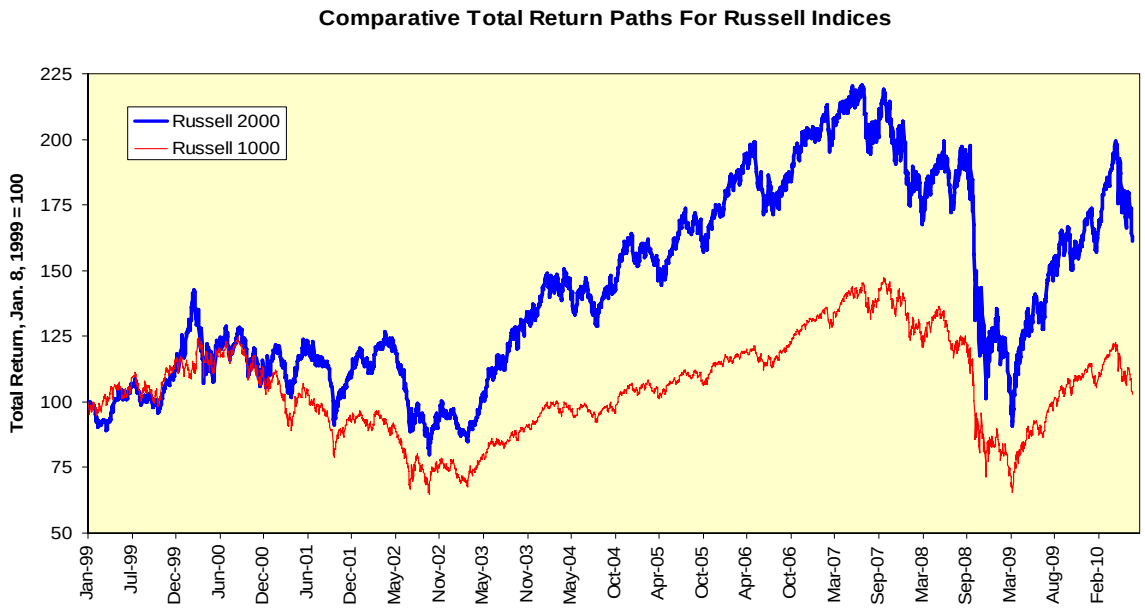
The exception seen for Japan can be explained by the country's long history post-1991 as the principal funding currency for carry trades.

The dollar has been a funding currency relatively recently in its history, and yielded less than the yen from August 24, 2009 through March 5, 2010. If U.S. interest rates continue to remain sufficiently low to keep the dollar carry

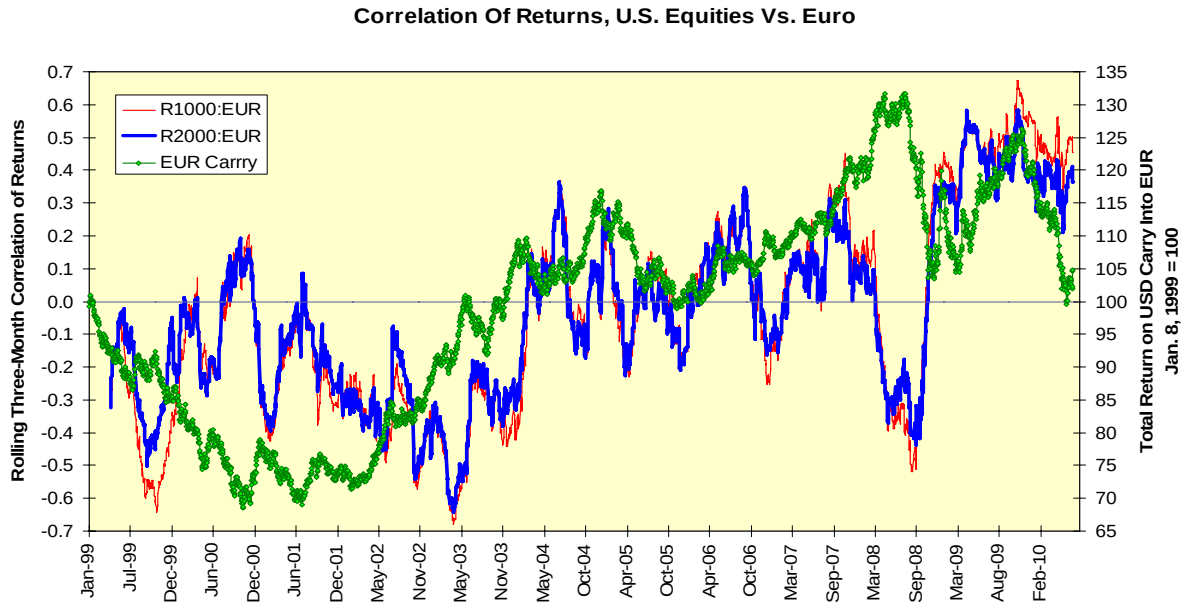
trade open, and they have, we should expect the forward-looking prospects for U.S. equities to enter a long period of Japan-like torpor.

Capitalizations And Correlations

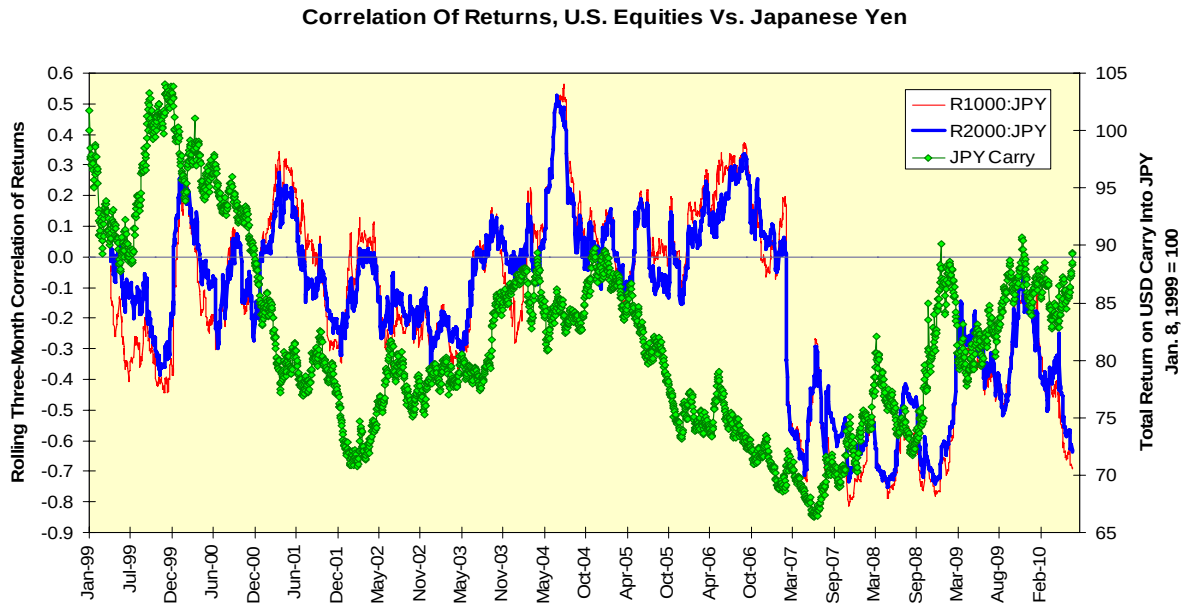
Much of the difference between the Russell 1000 and 2000 indices can be attributed to different sector weightings between the two indices. If we re-index the total return streams between the two indices to the January 1999 advent of the euro, we see just how much more volatile the Russell 2000 is in both directions. This is one of those cases when a commonly held belief is true. But how much of this difference is linked to the three-month rolling correlations of returns with currencies? For each of the charts below the correlations for the Russell 1000 and 2000 series are in red and blue and marked with a ':' in the legend-box, while the currency carry trade's return index is in green. Total returns are used instead of spot rates to reflect the actual opportunity cost of swapping out of the dollar and into a currency trade as opposed to swapping out of dollar deposits and into equities.



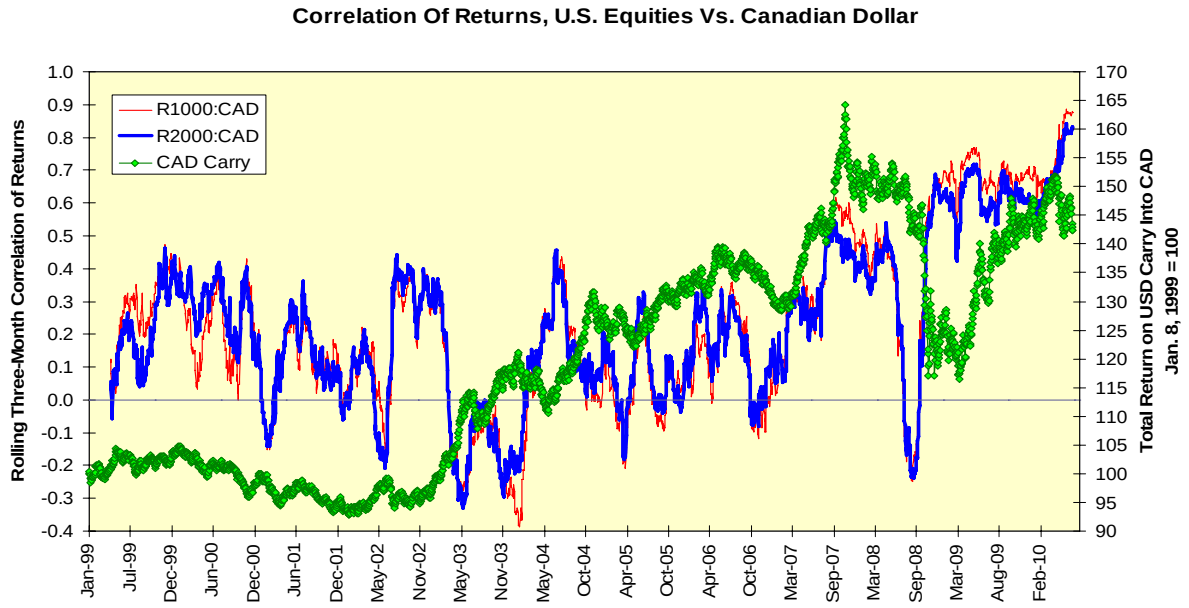
In the case of the euro, the correlations of returns since the financial crisis of 2008 moved to all-time highs in November 2009 against both Russell indices but especially against the Russell 1000. Nothing in the history since the advent of the euro in January 1999 even compares to it on the positive side; on the negative side, the correlation was more extreme during the latter stages of the 2001-2003 bear market. This is consistent with the statement excess liquidity drives stocks and the euro higher. The break in the euro during the first half of 2010 created financial system stresses that lowered both the correlation of returns and the absolute value of the stock indices.



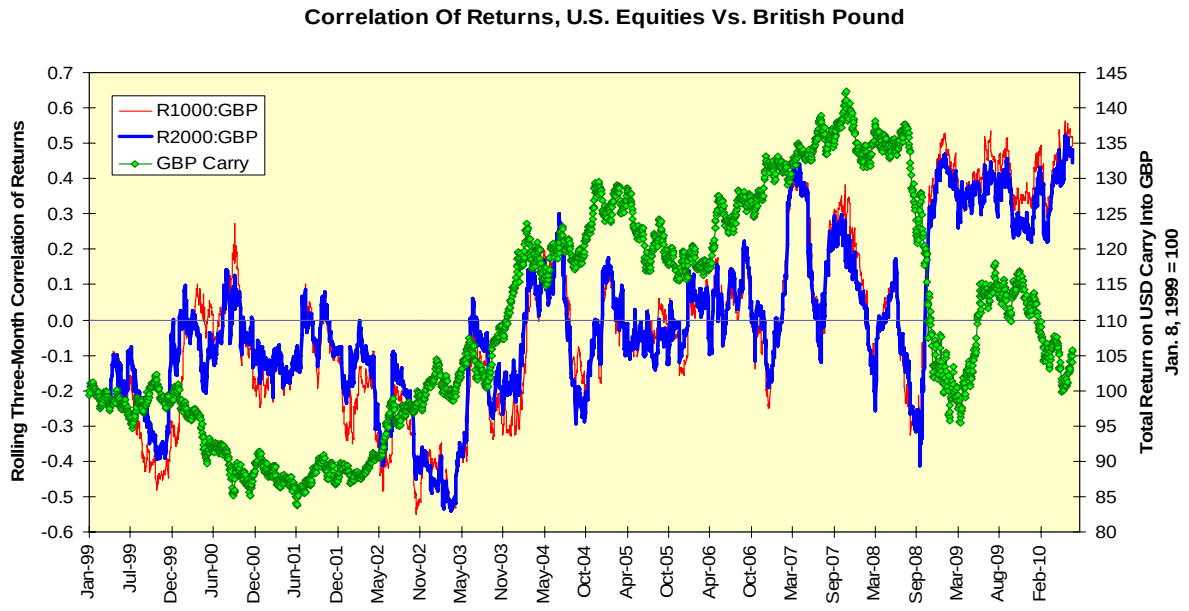
If we repeat the exercise for the yen, the correlation of returns has been negative since March 2007, the period just after the first rumblings of the financial crisis were beginning to be noticed. As the dollar carry trade into the yen turned profitable for seven months beginning in August 2009, the response was a negative correlation of returns by both Russell indices. The restoration of Japan to its "rightful" place as the cheapest currency to borrow has done little to affect the correlation of returns. The distinction between the Russell 1000 and Russell 2000 indices has been small throughout the history of the series.



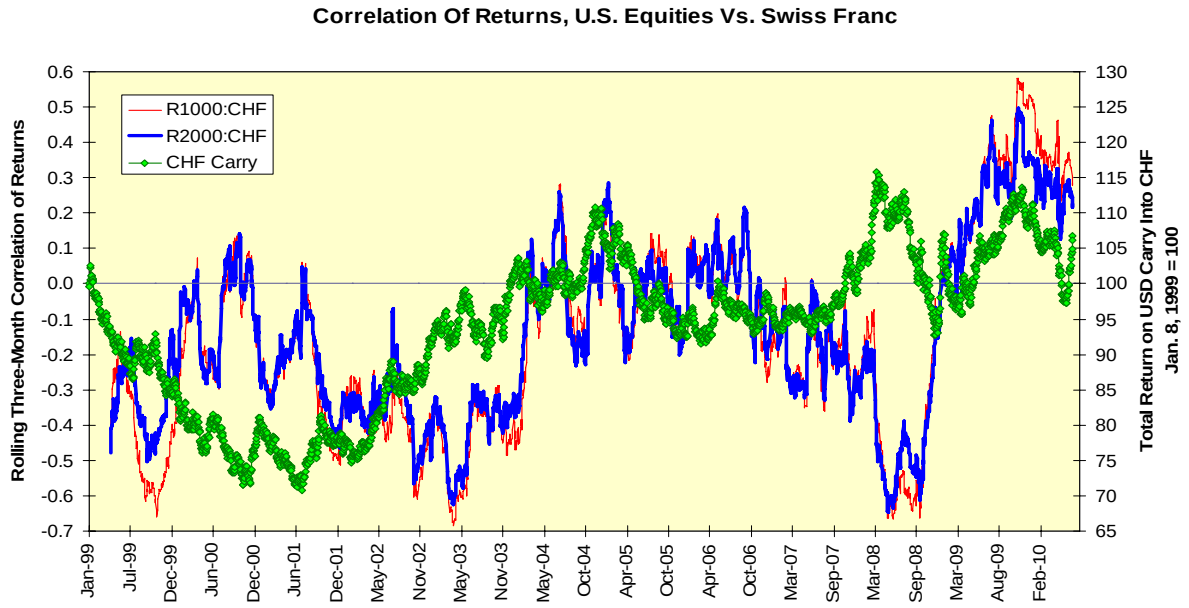
Now let's look at the Canadian dollar. Here years of correlation oscillating around zero were replaced by a rapid drop during the financial crisis followed by a recent ascent to record high correlation of returns by mid-2010. However, the capitalization differential remains small across the history; at best we can say here the correlation of returns against the Russell 1000 reaches greater extremes of high and low values, but the importance of this claim is hard to discern.



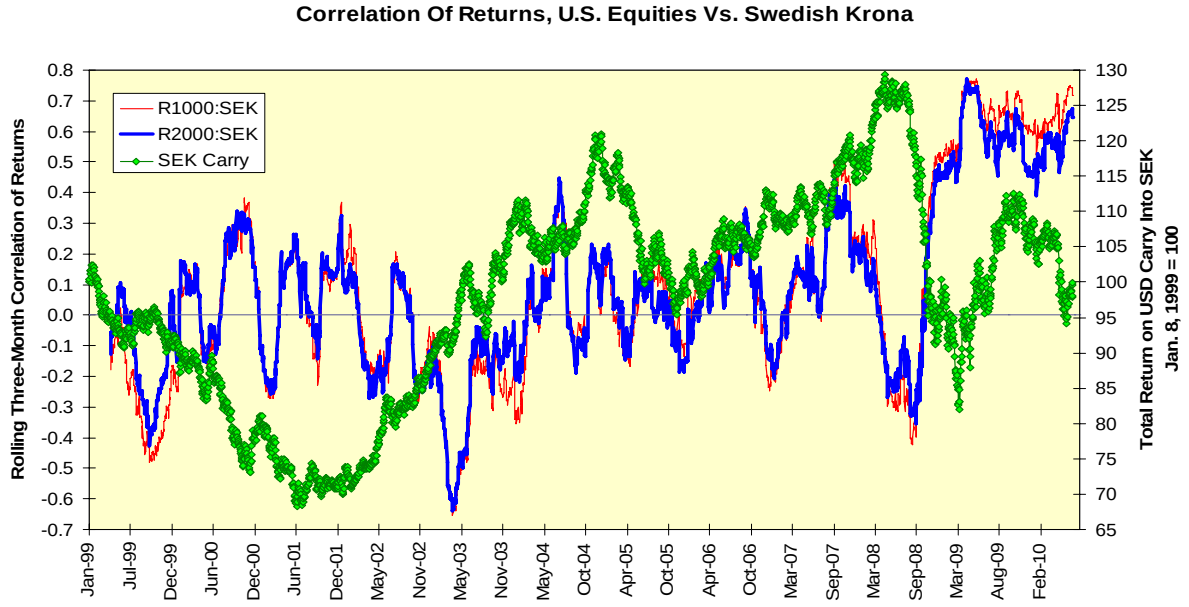
The British pound has maintained a positive correlation of returns against U.S. stocks, the Russell 1000 in particular, even while the GBP broke in 2009 as a result of British quantitative easing. The pattern is somewhat opposite of the one seen for Japan; here the dollar carry to the pound decreased over time while it increased over time for the yen. Still, the correlation of returns for the dollar carry into the GBP reached record highs by June 2010, with the Russell 1000 showing slightly higher values.



The Swiss franc chart shows some real extremes in correlation of returns: In the eighteen months between the spring of 2008 and the fall of 2009, the correlations moved from levels near their all-time lows to all-time highs, with the Russell 1000 once again showing the most extreme value. In addition, the dollar carry into the CHF reversed directions after the U.S. matched and then exceeded the Swiss in the quantitative easing game after March 2009. The carry into the franc reversed again during May-June 2010 as the CHF rallied against the EUR. Walls of money can do strange things to market relationships.



Finally, we come to the Swedish krona. Its patterns of carry and correlation look rather like those seen for the British pound; this is somewhat surprising given the British attempt to drive the pound lower while the Swedish Riksbank managed to keep the krona in a relatively tight band against the euro.



The single most important conclusion a trader can garner from the information above is a search for long-term predictive relationships between currencies, yield curves and equity markets will fail. Markets move in fashions, and trading fashions are no more permanent than clothing fashions.

Second, in a world that demands a trading rule for every observation, here the observation is the value: The "why" is far more important than the "what." The reason why correlations between currencies such as the euro and Canadian dollar and U.S. equity markets moved to record highs in 2009 was the common impact of the dollar carry trade. The opposite held for the yen; both the yen and the dollar were haven currencies during times of increased financial risk because of their roles as funding currencies in carry trades. The unwinding of the yen carry trade and its replacement by the dollar carry trade by late August 2009 distorted long-term relationships.

Finally, stay away from the quick-and-dirty answers on capitalization. It is easy for someone to say a weak dollar is good for large-capitalization U.S. stocks, but the effect is not particularly strong nor is it particularly stable. In sum,

nothing in the data above indicate you can treat one market as causal to the other. Currencies and equities are affected by a common factor, liquidity, at the same time but with disparate impact. This means you can trade currencies or you can trade equities, both as separate markets, but you should not use one to trade the other.