Going Forward With Reversals: The Minors

Last month's examination of risk reversals and their relationship to major currencies concluded the relative demand for price insurance between currency options' call and put wings provided early warnings for turning points for those currencies (see "Going Forward With Reversals: The Majors"). Now let's repeat the exercise for a set of minor currencies including the Brazilian real, Indian rupee, South African rand, Turkish lira, Thai baht, Mexican peso and Taiwan dollar.

As a refresher, the relative willingness of call and put option buyers to buy these rights can be measured in a risk reversal, defined as the difference in implied volatility between call and put options of the same delta. Delta is the expected movement in the option's price relative to the underlying asset's price; call option delta ranges from 0 to 1 and put option delta from -1 to 0. When the bounds of 1 and -1 are reached, the options are so deep in the money and have so little time premium remaining they behave like long and short futures or cash market positions, respectively.

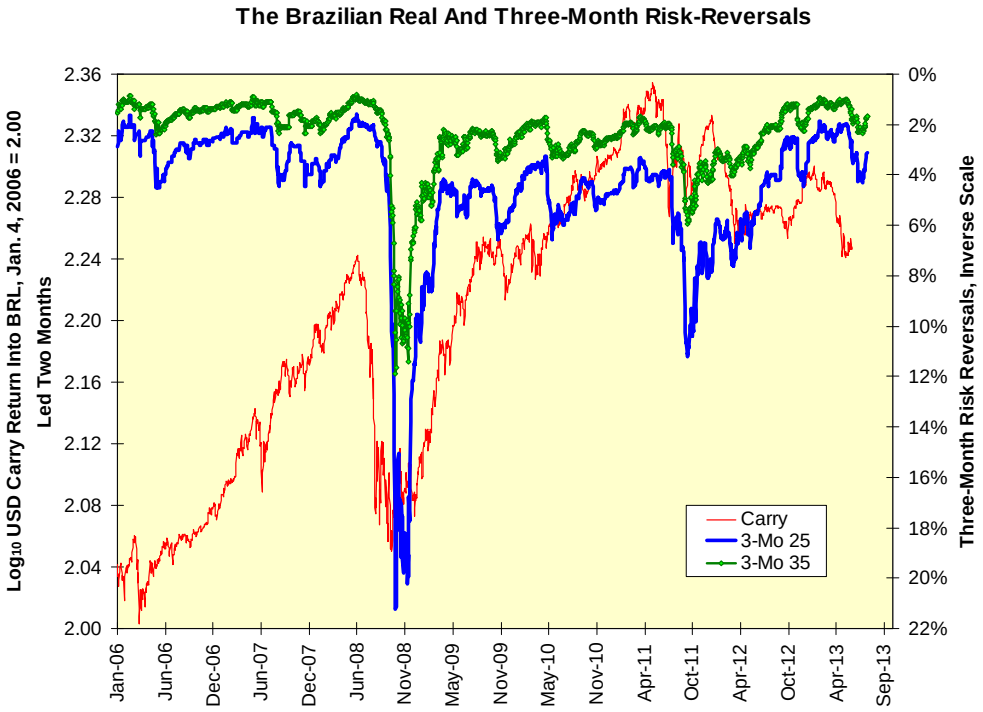
Two risk reversals will be used in the discussion below for minor currencies, the 25- and 35-delta risk reversals. As the 25-delta options are further out-of-the-money and are more levered, they tend to convey more information on relative anxiety and therefore are more useful for analysis.

Risk Reversals And The Minors

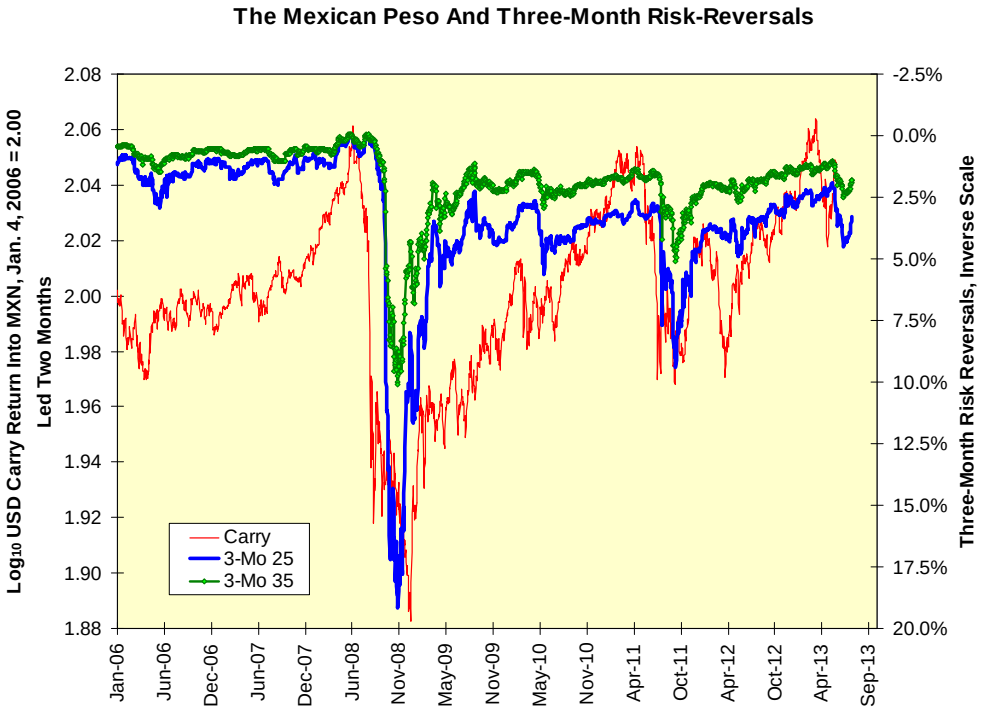
The data in the first set of charts below are based on cash markets for a set of minor currencies. The returns on the currencies are presented as the common logarithm of the total carry return from the U.S. dollar into those currencies reindexed to January 2006; this both approximates the return path of a continuous currency future and allows for the more intuitively appealing rising line depicting a stronger currency. The three-month 25- and 35-delta risk reversals are presented as well. All of these reversals are depicted on an inverse scale as a call option on a larger number of "units per USD" conveys a weaker, not a stronger, underlying asset.

If risk reversals are to have any value in trading and market analysis, they should lead the return series and do so with a two-month lead-time on average. Accordingly, the carry return series are shifted by two months on the charts below. This first set of charts is presented below.

The outstanding feature for the Brazilian real is the steady-state nature of the risk reversals with two exceptions, the 2008 financial crisis and the 2011 confluence of the U.S. debt ceiling and European sovereign debt situations when they correctly expanded prior to the currency's rebound. Regardless of the long periods of BRL appreciation prior to 2011 or its downturn since then, the risk reversals tend to be weakly bullish.

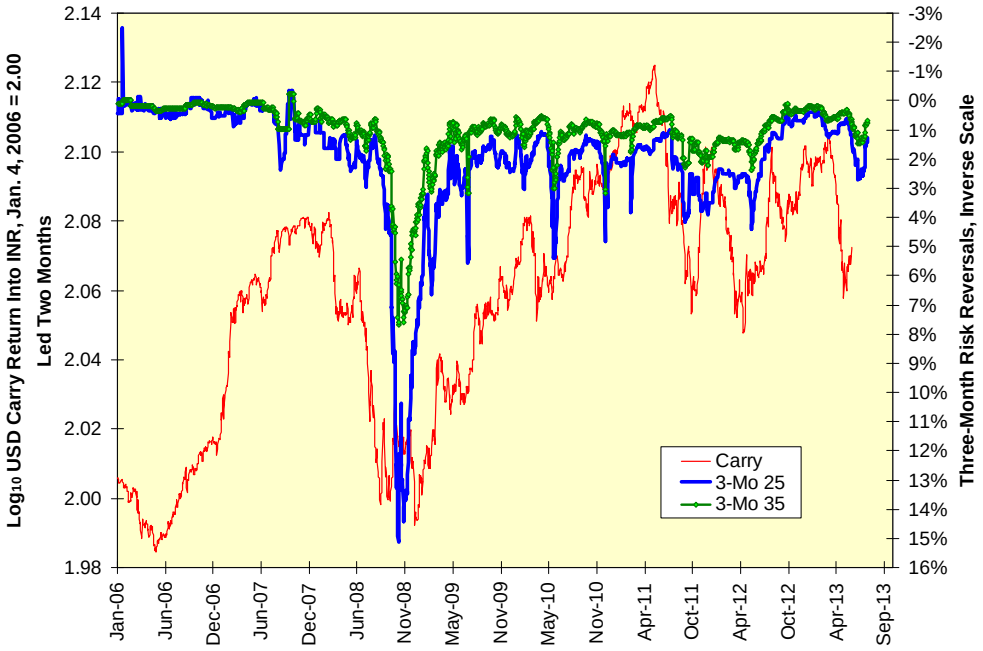


The Mexican peso's risk reversals look somewhat similar to those seen for the BRL: A general steady state punctuated by two bullish expansions, one during the 2008 financial crisis and one during the 2011 U.S. and European debt situations.



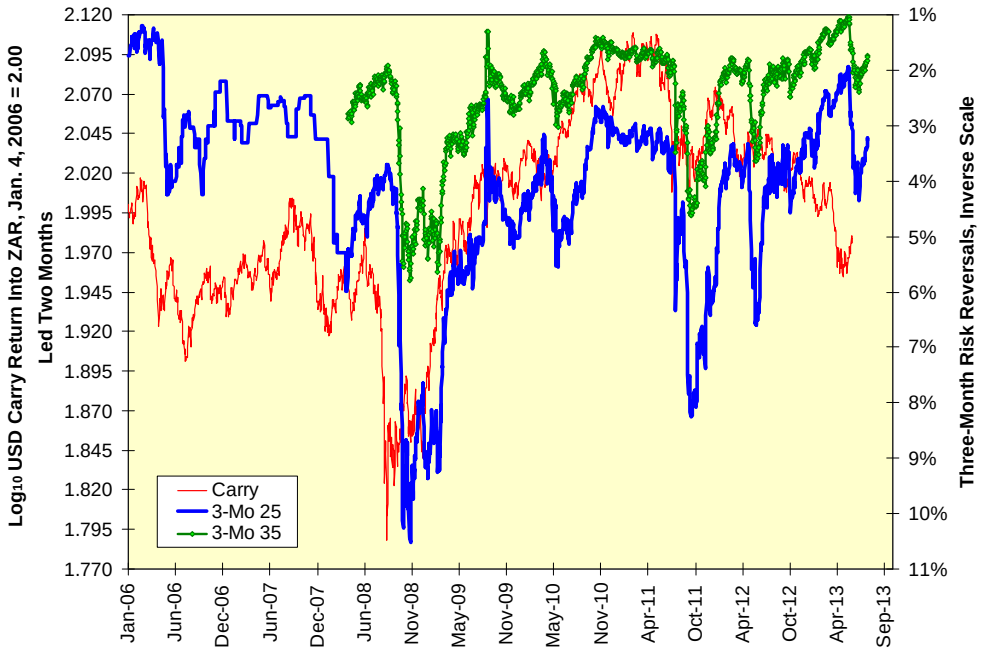
The Indian rupee's chart has a similar asymmetry with a similar steady-state bias toward weak appreciation for the carry return into the INR as seen for the BRL. As the INR, like the BRL, had a long period of appreciation between the 2008 financial crisis and mid-2011 followed by a downward-pointing trading range, the stickiness of the option market is puzzling. As in the case of the BRL, the two major upturns in the risk reversals correctly called impending bottoms in the currency.

The Indian Rupee And Three-Month Risk-Reversals



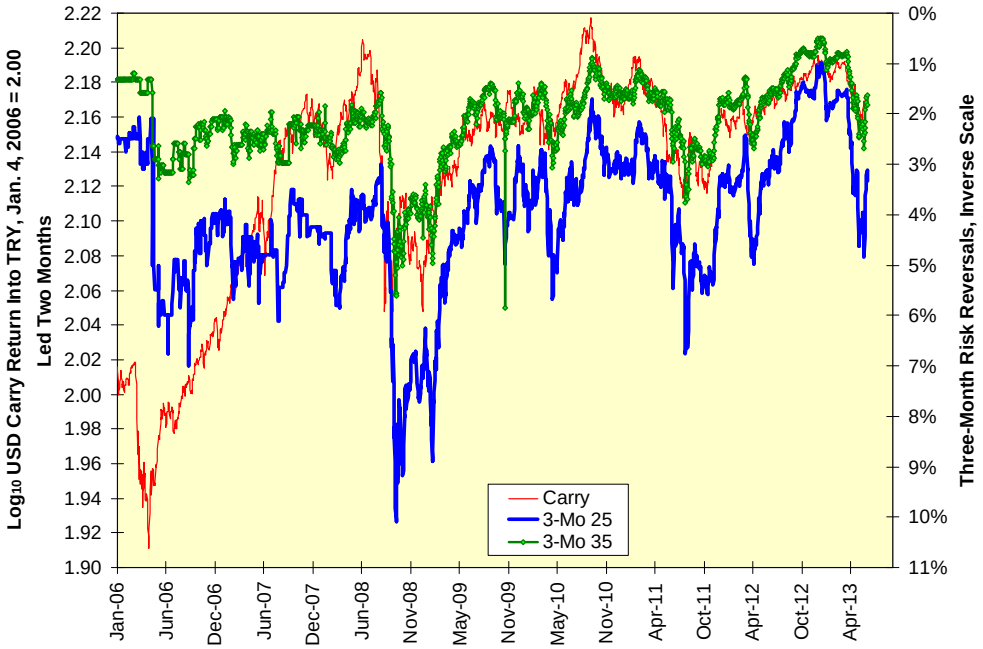
Lest you think the BRL and INR define a pattern for the minor currencies, consider the South African rand. Here the risk reversals swing about frequently and in both directions. The 25-delta risk reversal was a late to the rebound from the 2008-2009 low, but it anticipated the other shifts in the ZAR reasonably well.

The South African Rand And Three-Month Risk-Reversals



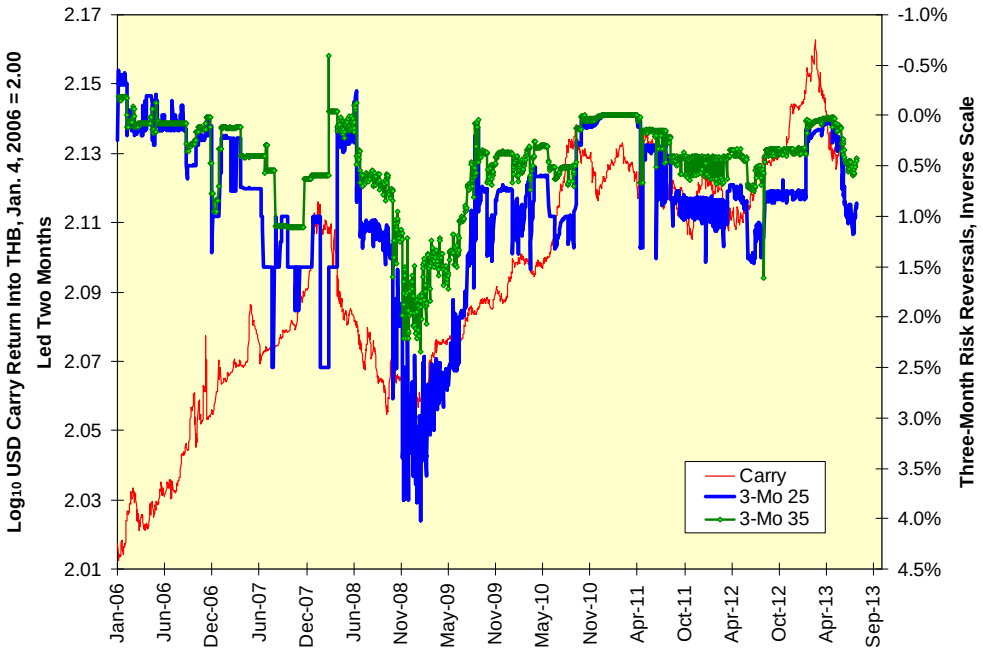
The Turkish lira's risk reversals, especially the 35-delta risk reversal, have anticipated moves in the TRY both higher and lower since mid-2007. This relatively tight correlation is surprising given the dominance of the interest rate spread as opposed to the spot rate change in the TRY's carry return (see "Turkish Lira And Eternal Crossroads," July 2012).

The Turkish Lira And Three-Month Risk-Reversals

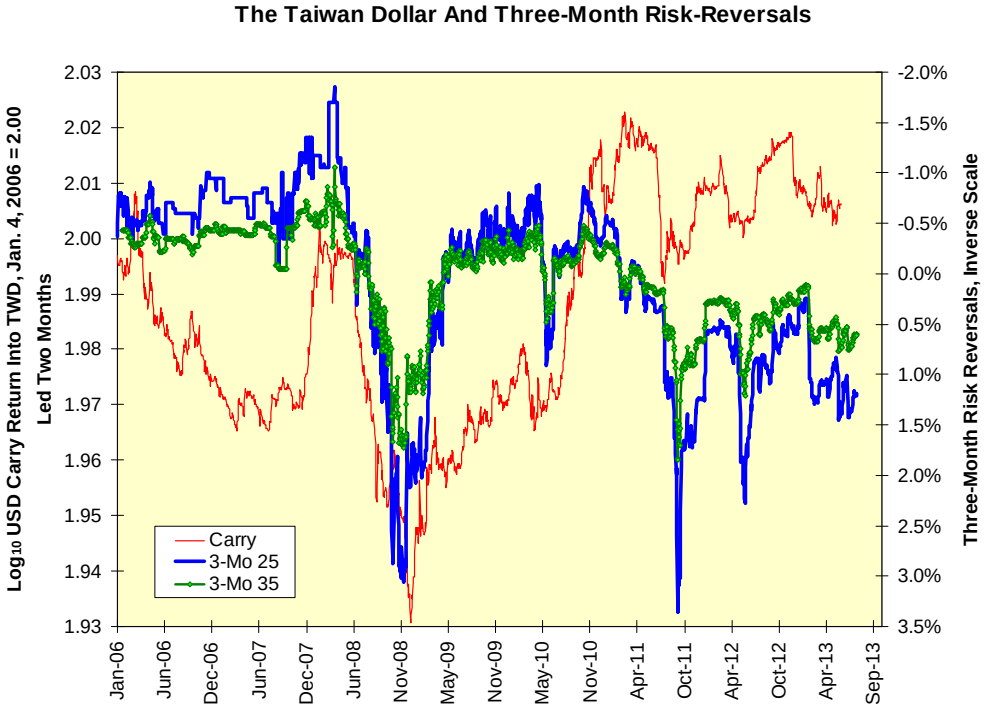


Thai baht's risk reversals expanded once, during the 2008 financial crisis, and have hovered at low positive levels otherwise. This has been an accurate assessment of the carry returns into the THB; the currency's carry return has oscillated within a small trading range since late 2010.

The Thai Baht And Three-Month Risk-Reversals



The Taiwan dollar's risk reversals shifted into an increasingly bullish phase throughout 2011 before the carry into the TWD turned lower and then remained bullish through the currency's subsequent rebound. This picture may seem boring, but what should be so boring about an indicator being correct most of the time?



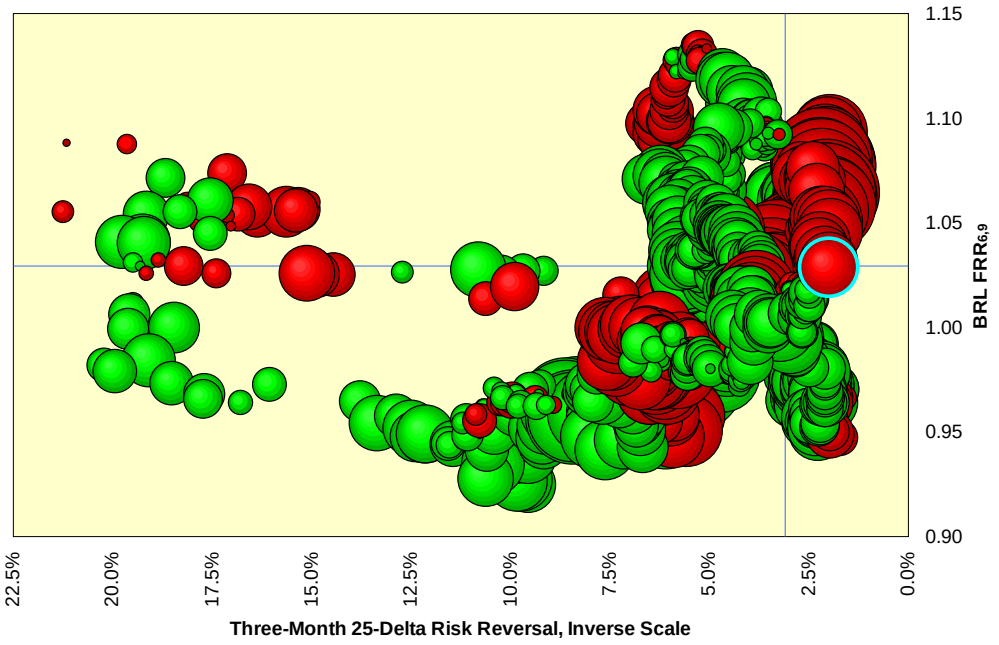
Prospective Returns

Now let's see whether three month-ahead returns appear to be a function of these risk reversals and of the forward rate ratio between six and nine months ($FRR_{6,9}$) for the minor currencies (see "Minor Currencies Less Affected By Great LIBOR Kerfuffle," July 2013). The $FRR_{6,9}$ is the rate at which we can lock in borrowing for three months starting six months from now, divided by the nine-month rate itself. The steeper the yield curve, the more this ratio exceeds 1.00; an inverted yield curve has an $FRR_{6,9}$ less than 1.00.

Positive prospective returns are depicted with green bubbles, negative with red bubbles; the diameter of the bubble corresponds to the absolute magnitude of the return. The last datum used, the end of April 2013, is highlighted and the end-July 2013 environment is marked with a bombsight.

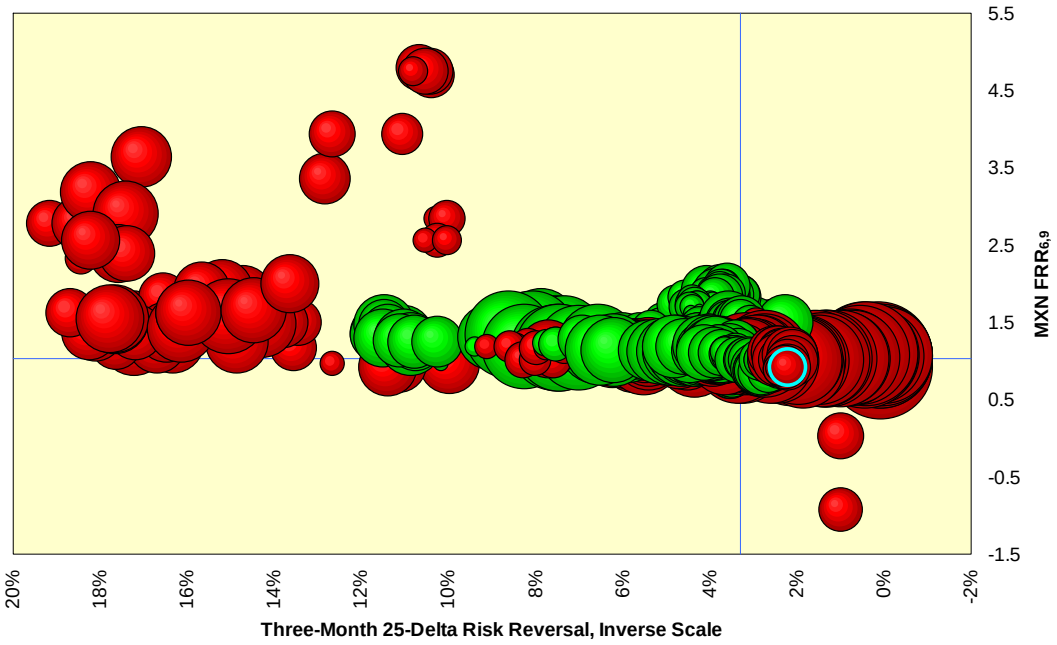
The most striking feature about the BRL chart is its cluster of negative prospective returns in the northeast corner of the map where risk reversals are low and the $FRR_{6,9}$ is increasingly positive. This is equivalent to saying the market expects a more expansive Brazilian monetary policy to result in a weaker BRL and adjusts its insurance trade accordingly.

Three Month-Ahead Returns On Dollar Carry Into Brazilian Real



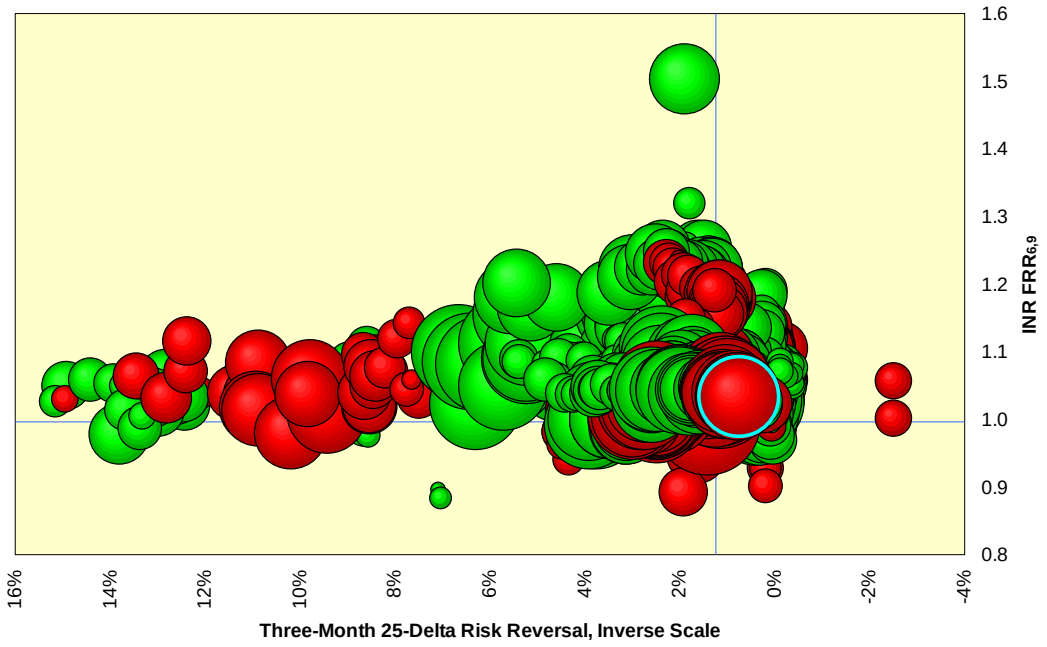
The picture for the Mexican peso looks very different. Here the dominant feature is a cluster of positive prospective returns with the 25-delta risk reversal between 2-12%; all other observations with the risk reversal either higher or lower are negative. This is an extraordinary reliable albeit "data-mined" pattern.

Three Month-Ahead Returns On Dollar Carry Into Mexican Peso



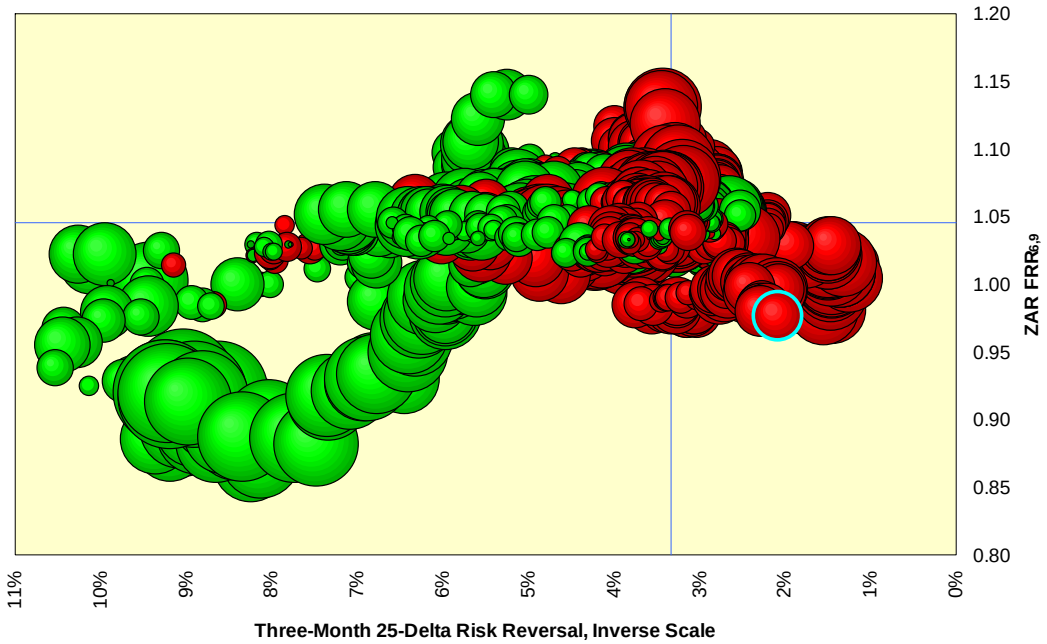
The pattern for the Indian rupee has been too mixed to be useful; here there are alternating bands of positive and negative prospective returns across the observed range of risk reversals.

Three Month-Ahead Returns On Dollar Carry Into Indian Rupee



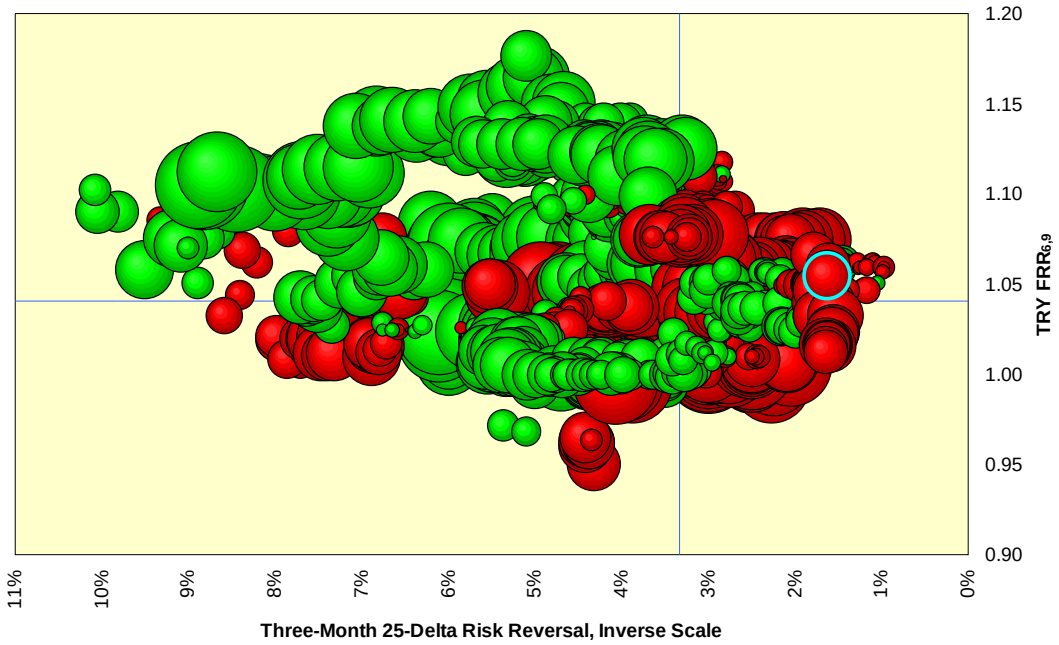
The South African rand has a much neater and therefore much more useful division. Here nearly all of the observations involving a 25-delta risk reversal greater than 5% and a flat-to-inverted yield curve have positive prospective returns and vice-versa. To echo the comment made for the BRL in reverse, the market associates an inverted yield curve with gains on the ZAR and prices relative insurance costs accordingly.

Three Month-Ahead Returns On Dollar Carry Into South African Rand



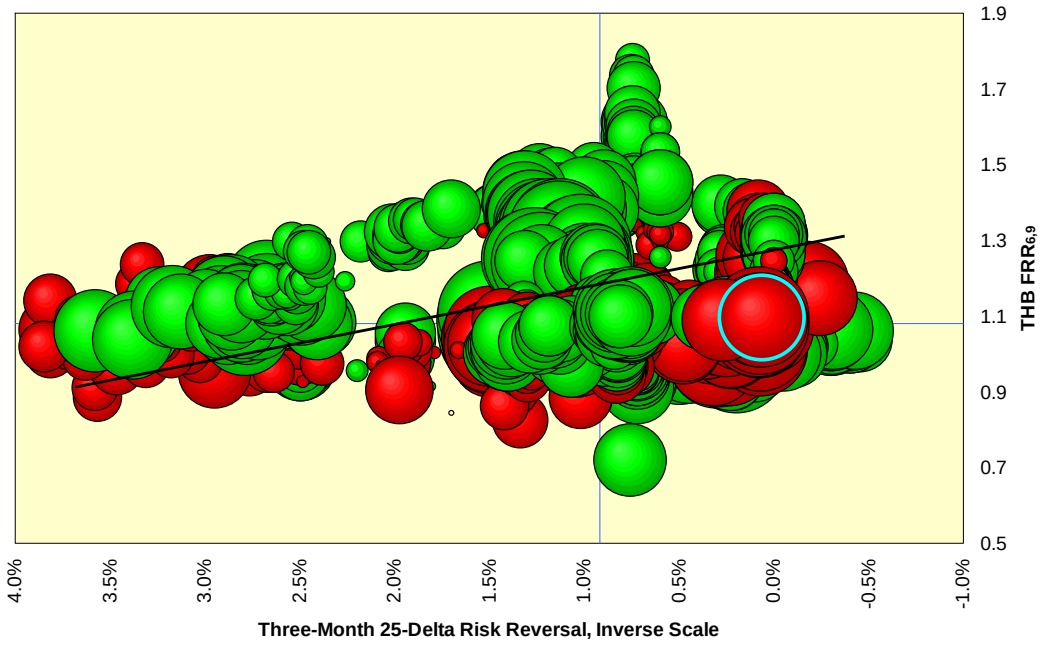
The Turkish lira has a different pattern. Here the major cluster of negative prospective returns is concentrated in the southeast corner of the map where the 25-delta risk reversal is less than 5% and where the $FRR_{6,9}$ is less than 1.08; positive prospective returns are clustered in the northwest corner.

Three Month-Ahead Returns On Dollar Carry Into Turkish Lira



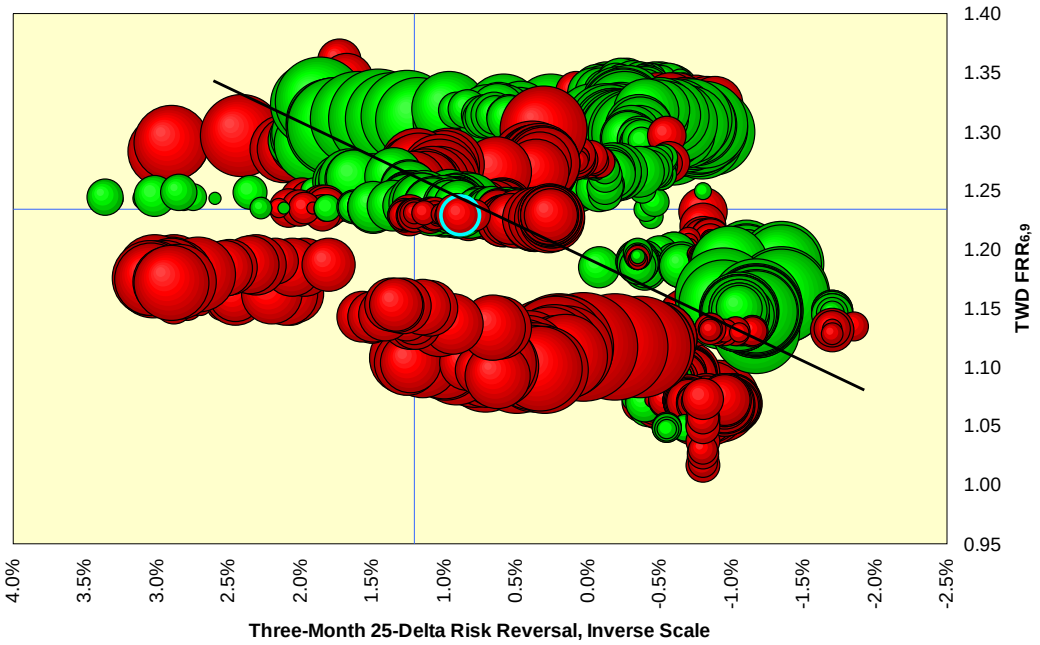
The prospective return map for the Thai baht shows a greater dependence on the $FRR_{6,9}$ than on the risk reversal, but the two measures combine to form a region dominated by positive prospective returns over the superimposed line and negative prospective returns below the line.

Three Month-Ahead Returns On Dollar Carry Into Thai Baht



The Taiwan dollar has an even more extreme division along the $FRR_{6,9}$ / risk reversal combination, but here the superimposed line runs from northwest to southeast. Here the negative prospective returns are associated with higher risk reversal levels combined with flatter yield curves.

Three Month-Ahead Returns On Dollar Carry Into Taiwan Dollar



The overall conclusion for the minor currencies is surprising to the extent the smaller and less-developed option markets on them seem to have cleaner relationships to their carry returns against the USD than was the case for the major currencies. A likely explanation here is the majors have been affected more by various programs of quantitative easing and sovereign debt constraints than have the minors and therefore are reacting to anecdotal impulses as opposed to basic market factors.

In addition, the conclusion stated for the majors last month applies here and is repeated verbatim:

What we can conclude from the data above is the principle of relative anxiety as expressed in the relative volatility measure of a risk reversal does provide some early warning of impending trend-changes. This is not infallible, but as is the case with so many market indicators it must be interpreted rather than applied in a simple trading rule.