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How Risky is Active Currency Management? Part II

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On 21-July-2005, the long-awaited change to the Chinese currency regime of managing the Renminbi in a fairly tight "peg" to the US Dollar was announced. While many details remain unclear about the constituents (and their weights) both today and going forward, enough have been provided that we would refer you to our original study on this topic, "Square Pegs and Round Holes", published as the First Quadrant Currency Monitor for February 2005. Please feel free to request a copy of that article, but in the meantime, please enjoy this article, which is the second part of our series on risk and the currency markets.

Last month we introduced some of the ways to measure "risk", with an eye towards eventually focusing on the question in the title of this FX Monitor. First, we'll look to see how "risky" the currency markets are, then we'll move on to ask how "risky" active currency management is, since as we saw last month it is quite possible to create a quite "normal" active management program out of apparently "abnormal" markets.

How "Normal" are the Currency Markets?

As part of answering the question posed in the title of this Monitor, we're first going to take a quick look at one of the key features of the currency markets (or, for that matter, any market): How "normal" are the markets?

By "Normal", we have a quite specific definition in mind. First, we mean that the market be "I.I.D."[1]. Second, we mean that the returns be "Gaussian" (i.e. the "bell curve" so often pictured in statistics textbooks).

Rather than dive into a rather large econometric study, using all sorts of fun statistical tests like "Bera-Jarque" or "Shapiro-Wilks", or the relatively new "Brown-Hettmansperger", we'll study just a few statistics[2]: Skew, Kurtosis and Serial Correlation. Or, if you prefer descriptions in place of numbers, "How symmetric is the distribution of returns?" "How fat-tailed is the distribution of returns?" and "Is there momentum in the returns?"[3]

Market or Markets?

When we studied the stock and bond markets in the previous article, we used the S&P 500 and US T-bond as a proxy for those markets. Is there an equivalent for the currency markets?

The first problem is that currencies are naturally composed of two parts. People may talk about "how the Euro is doing", but what they really mean is "how the Euro is doing relative to the US Dollar". In other words, there is no such thing as the "Euro Market". Instead, we have to look at all currencies together.

How we will do that here is to take each of the Developed Market currencies[4] and measure them relative to the World Currency Basket[5]. If we want to compare two currencies, we can do so by comparing them "through" the World Currency Basket, since each currency is compared to the *same* World Currency Basket.

When we want to study all the markets in one group, we will average the particular measure across all currencies (where each currency is measured relative to the World Currency Basket).

And now, on to the show...

Normal is as Normal Does...

When we look at the Skew, Kurtosis and Serial Correlation of the "Currency Markets", and compare them to the US equity and bond markets[6], here is what we see:

	"Normal"	S&P 500	US T-bond	**US Dollar**	**"Currency Markets"**
Skew	0.000	-0.354	0.369	**0.007**	**-0.357**
Kurtosis	3.000	4.975	5.334	**4.001**	**6.278**
Serial Correlation	0.000	-0.006	0.069	**0.069**	**0.037**

We have added a column for "Normal" for comparison.

For the "Currency Markets", seeing a Skew of -0.357 would suggest (to an econometrician, at least) that they are slightly (but not enormously) asymmetric, with a longer "tail" to the left (i.e. negative), and a shorter "tail" to the right. A Kurtosis of 6.278 is quite a bit over the normal

value of 3.000, which does suggest that currency returns are somewhat "fat-tailed". Finally, the Serial Correlation of 0.037 suggests a slight amount of momentum in the currency markets, though that value is almost exactly the average of the S&P 500 and US T-bond value.

Note that, of all the markets shown above, from the viewpoint of Skew and Kurtosis, the US Dollar is the most "normal" market!

Is Active Currency Management "Normal"?

We are going to use two ways to study how "Normal" active currency management is. First, we will use a simplistic active process, based only on momentum, and see what the characteristics of the return series produced by the process are. Second, we will use a public currency manager "index" and study the same characteristics.

First, though, we need to describe our "simple" momentum-based strategy. Again, we will use the same 13 developed market currencies, but we will apply a rule. If a currency appreciated versus the World Currency Basket last month, we will go long one "unit" of that currency this month. If a currency depreciated versus the World Currency Basket last month, we will go short one "unit" of that currency this month.

How "normal" is that strategy?

	"Normal"	"Currency Markets"	**FX Momentum**
Skew	0.000	-0.357	**0.103**
Kurtosis	3.000	6.278	**4.691**
Serial Correlation	0.000	0.037	**0.006**

Pretty normal! Statistically, a Skew of 0.103 is insignificantly different from zero, so the excess returns from the Momentum strategy are almost perfectly symmetric. And while the Kurtosis is still measurably above the normal value of 3.000, it is definitely much more normal than the underlying markets!

Since we studied the US equity and bond markets last month, how does such a strategy work in those markets?

	"Normal"	FX Momentum	**Stock-Bond Momentum**
Skew	0.000	0.103	**-0.276**
Kurtosis	3.000	4.691	**6.347**
Serial Correlation	0.000	0.006	**-0.005**

That is definitely less "normal" than our currency strategy!

What about a Currency Manager Index? We used the Parker FX Index, which is "a performance-based benchmark that measures both the reported and the risk adjusted returns of global currency managers."[7]

While the Skew is a bit higher (though positive skew may not be a bad thing!), the Kurtosis is even closer to "normal".

	"Normal"	"Currency Markets"	FX Momentum	FX Index [8]
Skew	0.000	-0.357	0.103	0.791
Kurtosis	3.000	6.278	4.691	3.205
Serial Correlation	0.000	0.037	0.006	0.098

A Normal Conclusion...

While it does appear that the "Currency Markets" *on average* have modestly "fat-tails" (though the US Dollar, for example, is *more* normal than either the S&P 500 or US T-bond), even a relatively naïve investment strategy can produce an excess return that is more normal than the underlying markets.

In fact, it produces more normal excess returns than the same model (a momentum-based one) used to choose tactically between the S&P 500 and US T-bond!

How risky is Active Currency Management? Not very. In fact, we'd say less "risky" than many other traditional active strategies!

Returns and Expectations

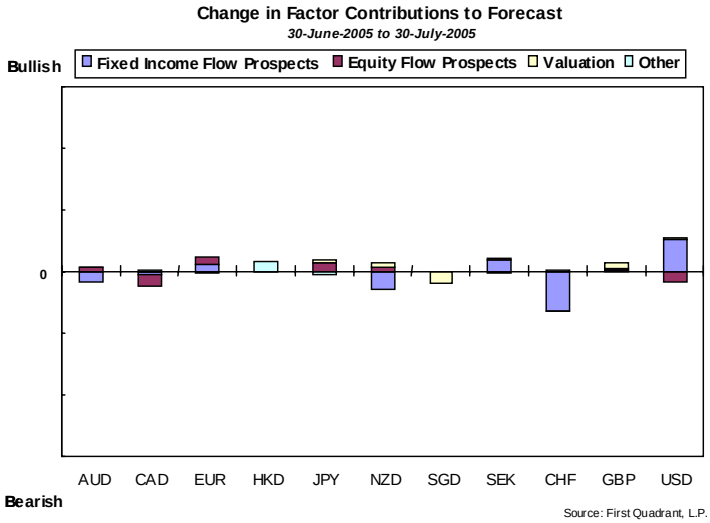
Seven developed market central banks met in July (the Bank of Japan met twice) to consider monetary policy, but in all eight cases chose to make no changes to their respective monetary policies. One monetary policy change that did occur outside of the developed markets was the announcement by the Peoples Republic of China that they would be changing the manner in which they managed their currency (the renminbi), which formerly had been closely managed ("pegged") to the US Dollar. They reported that they would switch to a "reference basket", the contents of which are still uncertain. Please see our note at the beginning of this Monitor regarding our views on this announcement.

While central banks were "quiet", the bond and cash markets were not. Bond yields rose by an average of 19bp around the world, with US yields rising 29bp, New Zealand yields falling 8bp and Australian and Swiss yields flat for the month. We saw a similar rise in US cash yields (up 27bp), though the average cash yield rose on 10bp over the month.

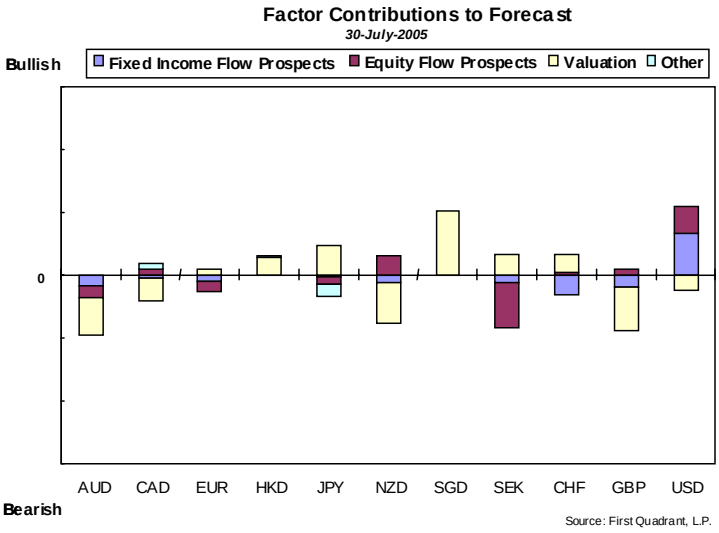
Equity markets experienced their second straight month of positive returns in all markets, with the average equity market rising over 3.6%. The Singapore stock market rose the most (up 6.16%), while the Japanese market rose the least (up 2.26%).

The currency markets, however, were a bit quieter, with the best performing currency (the Singapore Dollar) outperforming the worst performing currency (the New Zealand Dollar) by just over 3.4%, and the average currency moving by only 0.7%.

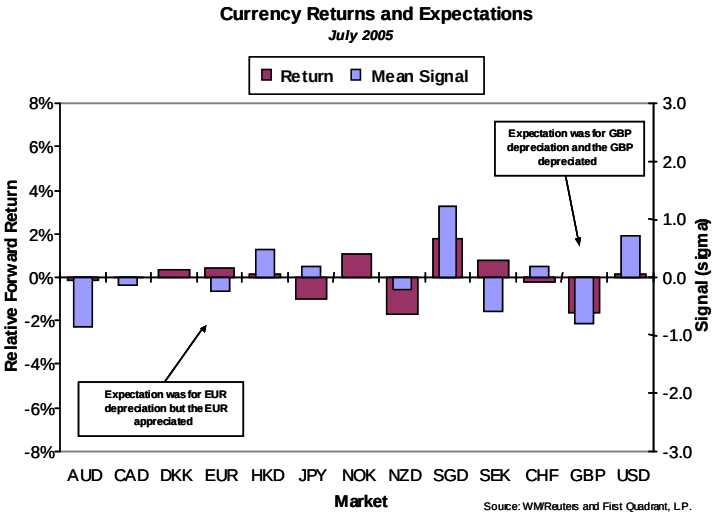
Interest rate changes drove most of the changes to our forecasts over the month, as the large movements in yields changed our cross-border fixed income flow forecasts. The largest changes were to the New Zealand Dollar, Swiss Franc and US Dollar forecasts, with minor contributions from the cross-border equity flow model.



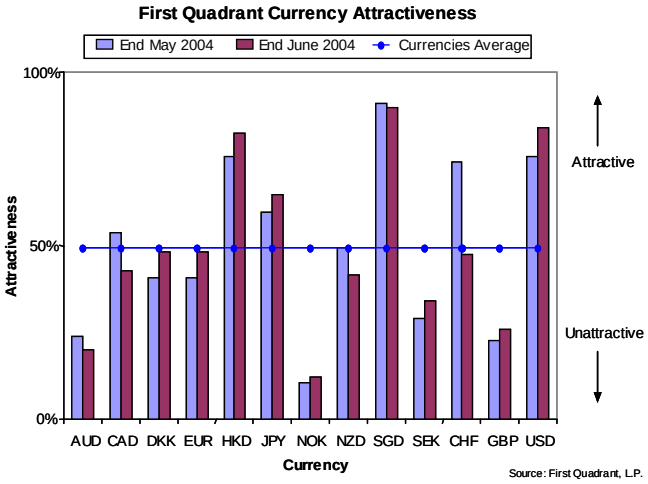
We continue to find the British Pound the most overvalued currency in the developed world, closely followed by the New Zealand Dollar, then by the Australian Dollar. The Japanese Yen continues to be the most undervalued currency of the "floating currencies", while the US Dollar has remained slightly overvalued. Prospective equity flows are expected to be strongest into the US, Canada and New Zealand equity markets, and strongest out of Swedish, EMU and Australian equities. Prospective bond flows are expected to be strongest into the US bond market, and strongest out of the Swiss bond market.



July was a generally flat month for the forecasts, with some forecasts working well (GBP) and other having a more difficult month (JPY and SEK).



Relative interest rate movements did mean that some forecasts changed significantly over the month. We have moved more bearish Australian Dollar, moved from neutral to modestly bearish Canadian and New Zealand Dollars, become neutral (from modestly bearish) Euro, moved from bullish to neutral Swiss Franc, moved modestly more bullish Japanese Yen, moved less bearish Norwegian Krone, Swedish Krona and British Pound, and become less bullish US Dollar.



(Endnotes)

1 *An acronym for "Independent and Identically Distributed".*

2 *While not complete, they can give us some idea as to how "normal" the markets are.*

3 *Which is just one of many questions that covers the question, "does the distribution tell me everything I need to know about the returns?"*

4 *We are using MSCI's definition of a Developed Market currency, which currently are: Australian Dollar, Canadian Dollar, Danish Krone, Euro, Hong Kong Dollar, Japanese Yen, New Zealand Dollar, Norwegian Krone, Singapore Dollar, Swedish Krona, Swiss Franc, British Pound and US Dollar.*

5 *To avoid any biases in the study, we are using the Equal-weighted basket of the thirteen currencies, so no one currency has any more "weight" than any other.*

6 *We are using monthly data from Jan-1973 through Jul-2005 for all market studied. Sources are Ibbotson for the US equity and bond data, and WM/Reuters and First Quadrant, L.P. for the currency data.*

7 *Source: http://www.parkerglobal.com/fxindex.htm as of 24-Aug-2005.*

8 *Source: Parker Global Strategies, LLC. http://www.parkerglobal.com/fxindex.htm,data from May-1995 through June-2005.*

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SIMULATED PERFORMANCE: The strategy used in the simulations presented in this article does not reflect any strategy or product offered or managed by First Quadrant. The simulated performance presented differs from live performance for the following reasons: The simulations assume that the guidelines are constant through the life of the portfolio, whereas the guidelines for live portfolios may have changed over the life of each portfolio. Simulated returns do not represent actual trading and may not reflect the impact that material economic and market factors might have on the adviser's decision-making if the adviser were actually managing a client's assets.

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