

Decomposing The Dollar Index

One of the cultural annoyances new traders have to overcome is the difference between the interbank and Chicago Mercantile Exchange's International Monetary Market (IMM) conventions. The interbank market, with certain prominent exceptions such as the euro, British pound and both the Australian and New Zealand dollars quotes currencies in "per USD" terms. The IMM convention is to quote everything in "USD per" terms.

One writer was told back in the 1970s the IMM convention was necessary for purposes of clearing and margining, and this does in fact make sense; a customer's account could hold just a single currency, the U.S. dollar and be managed accordingly. A more cynical answer was proffered in the 1980s: When currency futures started during the early 1970s, the sentiment was overwhelmingly dollar-bearish, and by quoting the futures in terms that rose when the dollar weakened, a bullish bet on the yen or Deutsche mark would be accompanied by a rising number if successful.

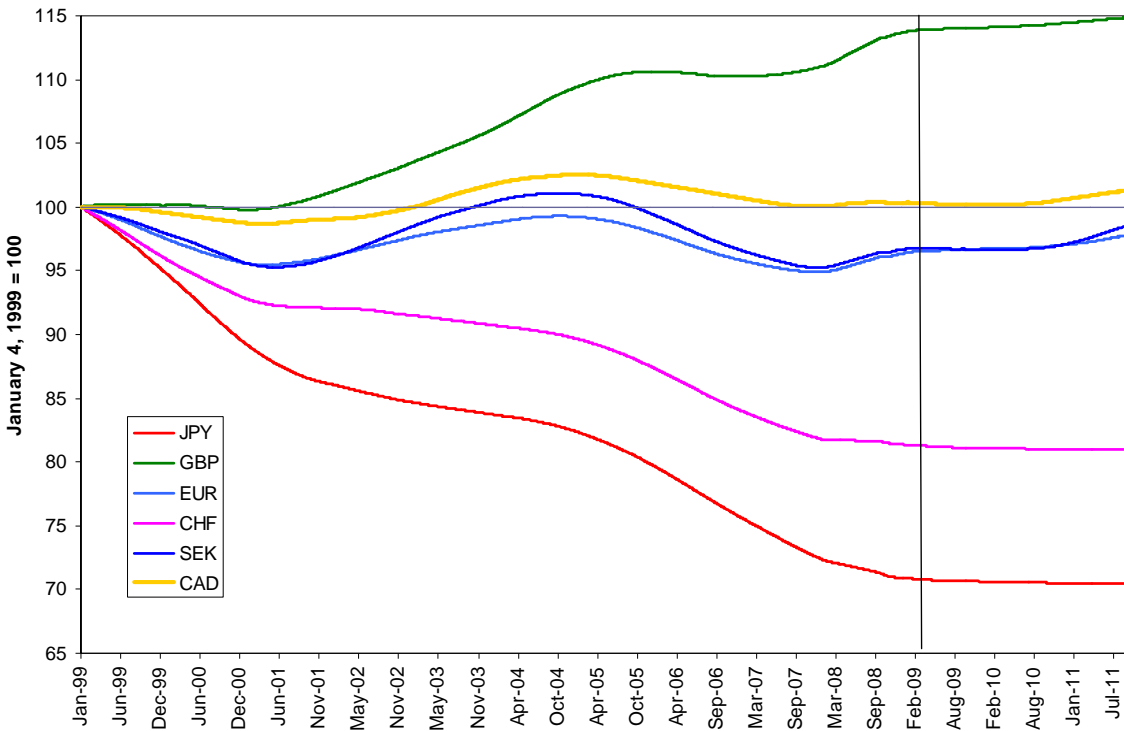
Why the introduction? The answer, for purposes of this article, is simple: We will be discussing carry trade returns into the dollar index' six components and summing those returns into an index. Thus a successful bullish bet into the dollar index' components will have a rising number whereas a successful bullish outlook on a dollar index (DXY) position itself is expressed as a bearish opinion on the DXY and produces a lower number. A higher carry return into the six components and a lower DXY index reading are two ways of expressing the outcome, but they can be confusing. As an aside, futures traders who think of bonds in terms of price often stumble when they enter the cash market and are forced to think in terms of yield.

Carry Components

The dollar carry trade (see "The Short, Awful Life of The Dollar Carry Trade," August 2008) can be decomposed into two components, the net interest rate spread from borrowing the USD and lending into another currency, and the spot rate return. Over time, the interest rate spread for high-yielding currencies such as the Argentine peso or Turkish lira can overwhelm their negative spot rate returns and make them good investments for dollar-domiciled investors.

The interest rate spread returns since the January 1999 advent of the euro are depicted below. Surprisingly, only the return into the British pound has been significantly positive. The March 18, 2009 date when quantitative easing began is marked with a vertical line in the charts below.

Interest Rate Spread Return For Dollar Index Components

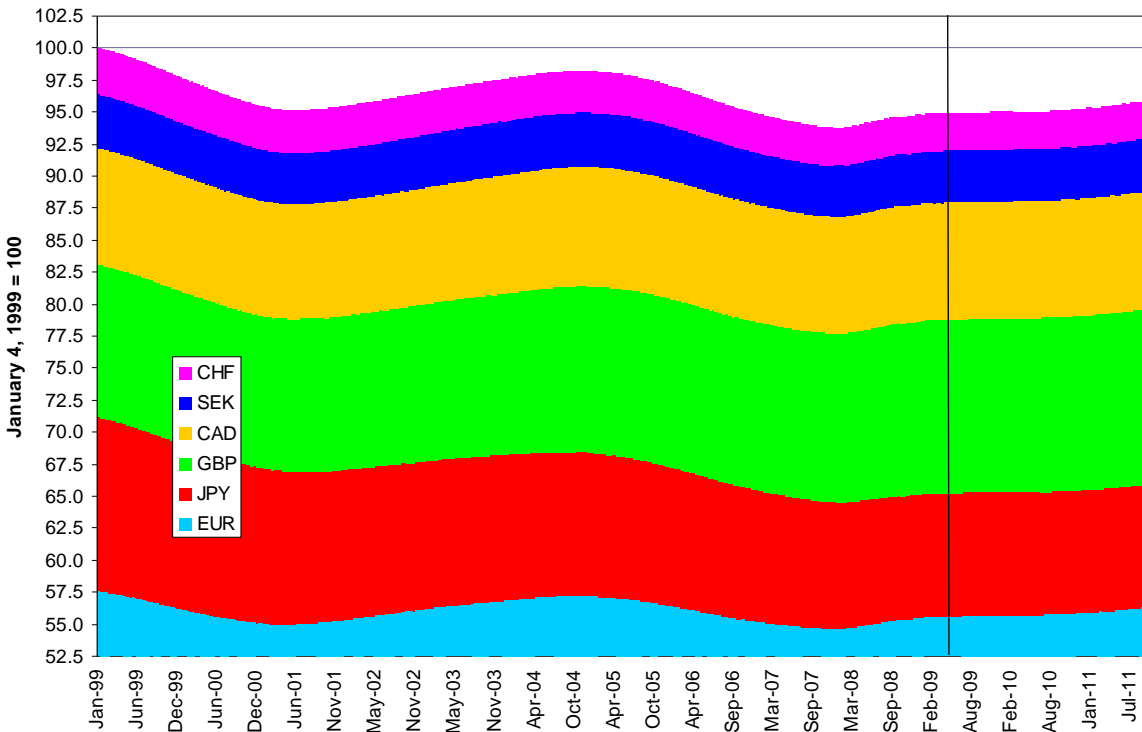


Now let's weight these spread returns by the fixed weights of the DXY's components, which are:

- EUR: 57.6 percent
- JPY: 13.6
- GBP: 11.9
- CAD: 9.1
- SEK: 4.2
- CHF: 3.6

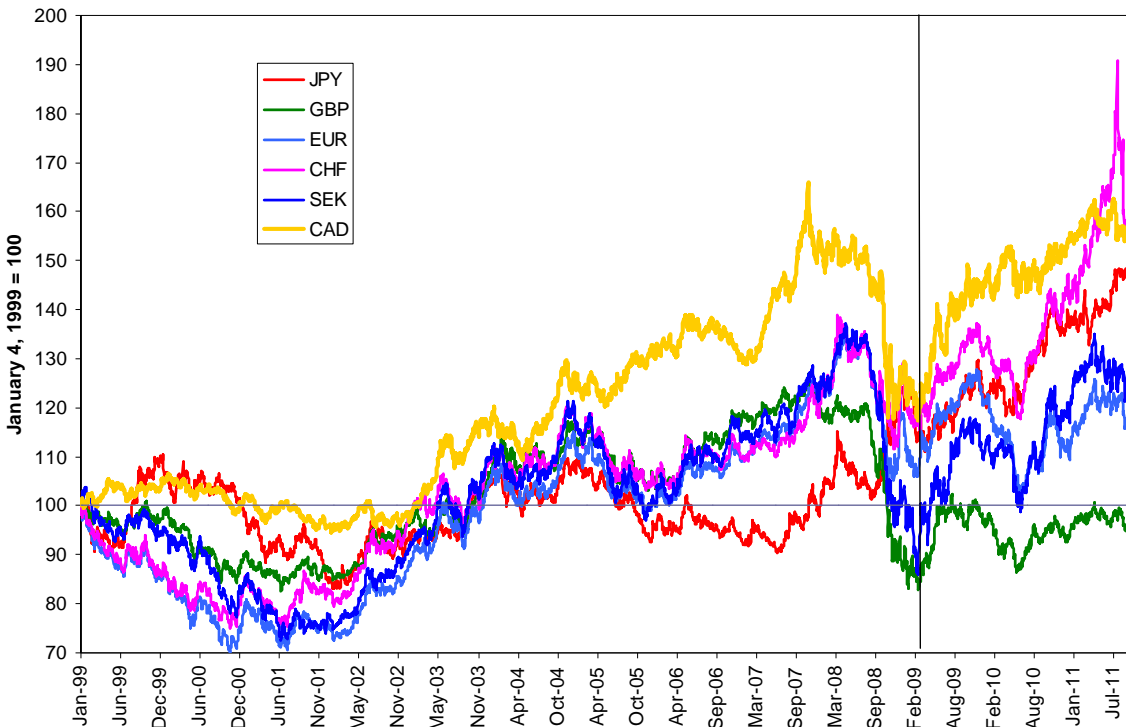
The combined net interest rate spread for borrowing the dollar and lending into the DXY components has been negative over time, which is hard to imagine today given the Bernanke Federal Reserve's money-printing proclivities.

Interest Rate Spread Return For Dollar Index Components (Index-Weighted)



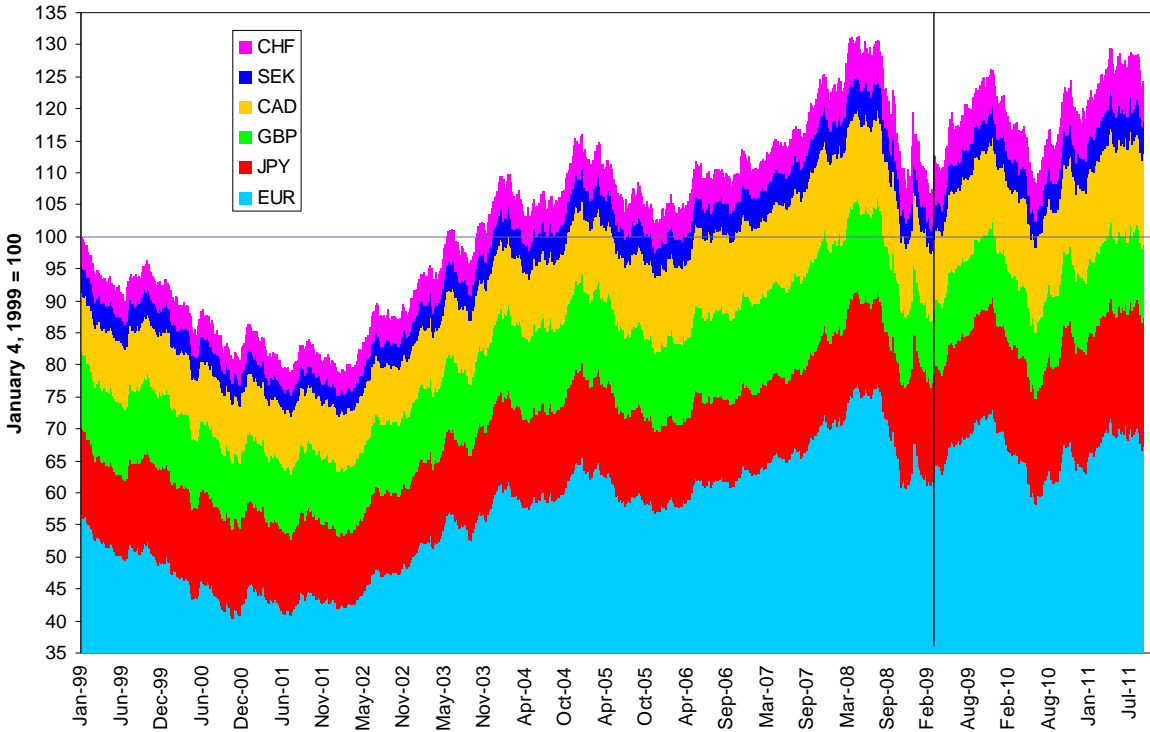
Let's repeat the exercise with the spot rate returns. On an unweighted basis, five of the six components have gained on the USD over time, with the GBP being the one exception.

Spot Rate Return For Dollar Index Components



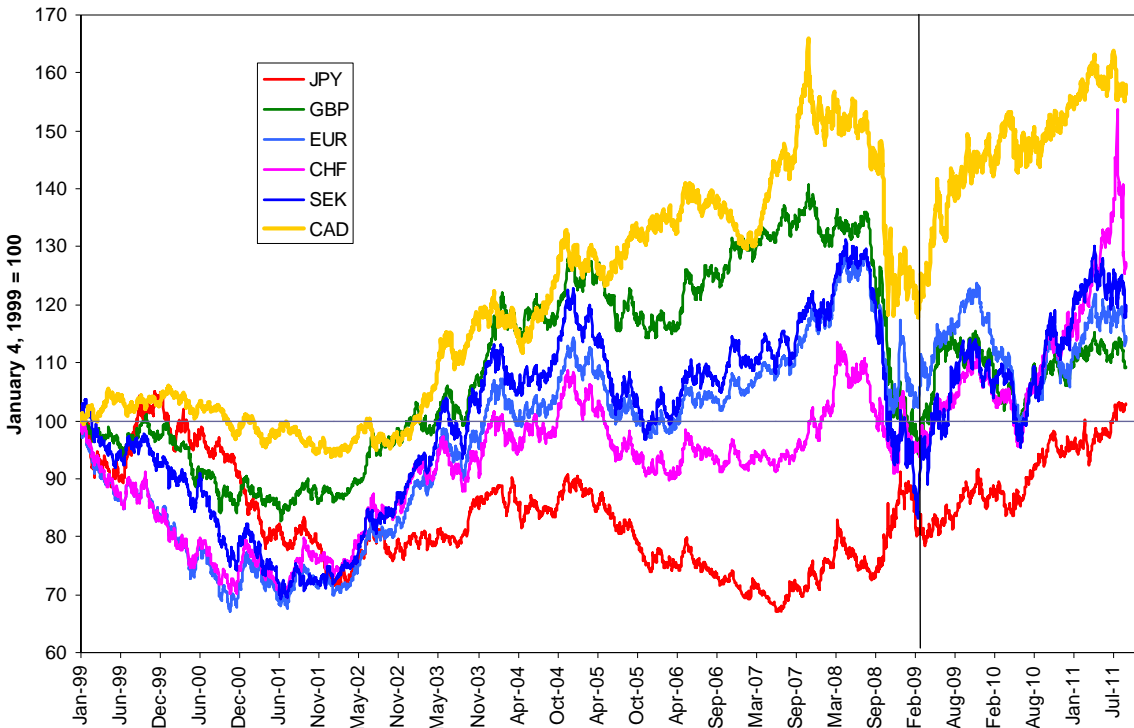
Once we apply the index weights, the combined spot rate return over time has been less impressive than we have been led to believe; indeed, the peak occurred just before the 2008 financial crisis hit.

**Spot Rate Return For Dollar Index Components
(Index-Weighted)**

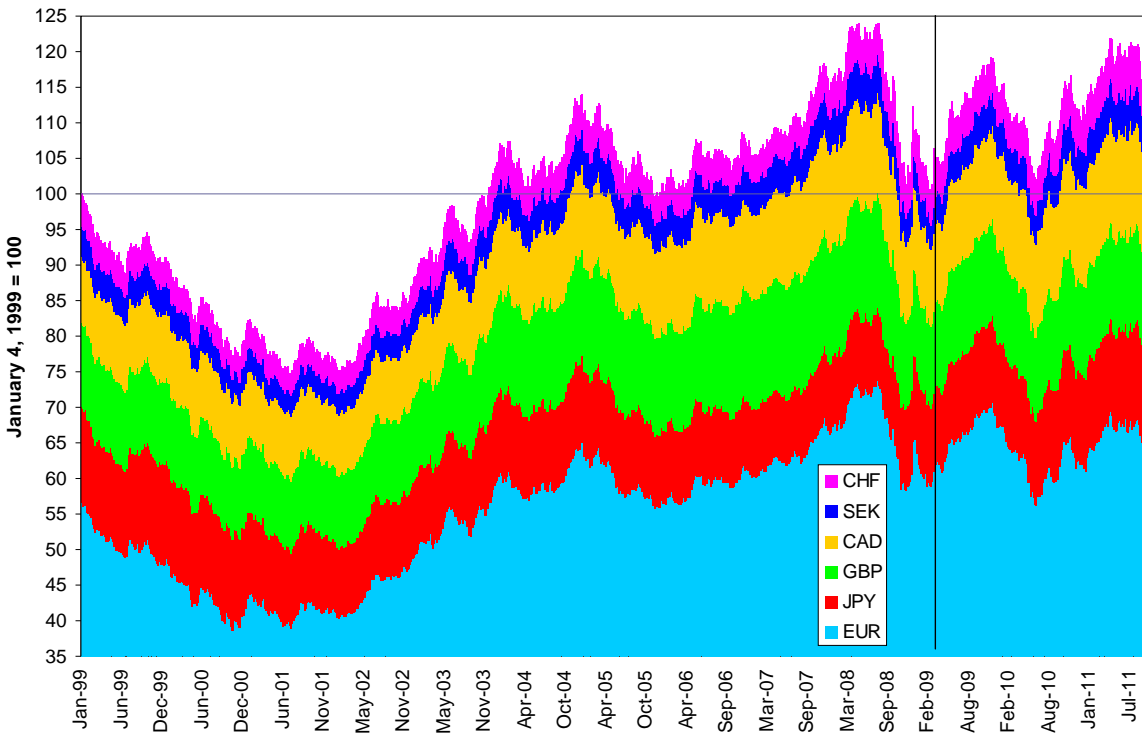


Finally, let's re-integrate the interest rate spread and spot rate components, first on an unweighted and later on a weighted basis.

Excess Carry Return For Dollar Index Components



Excess Carry Return For Dollar Index Components (Index-Weighted)



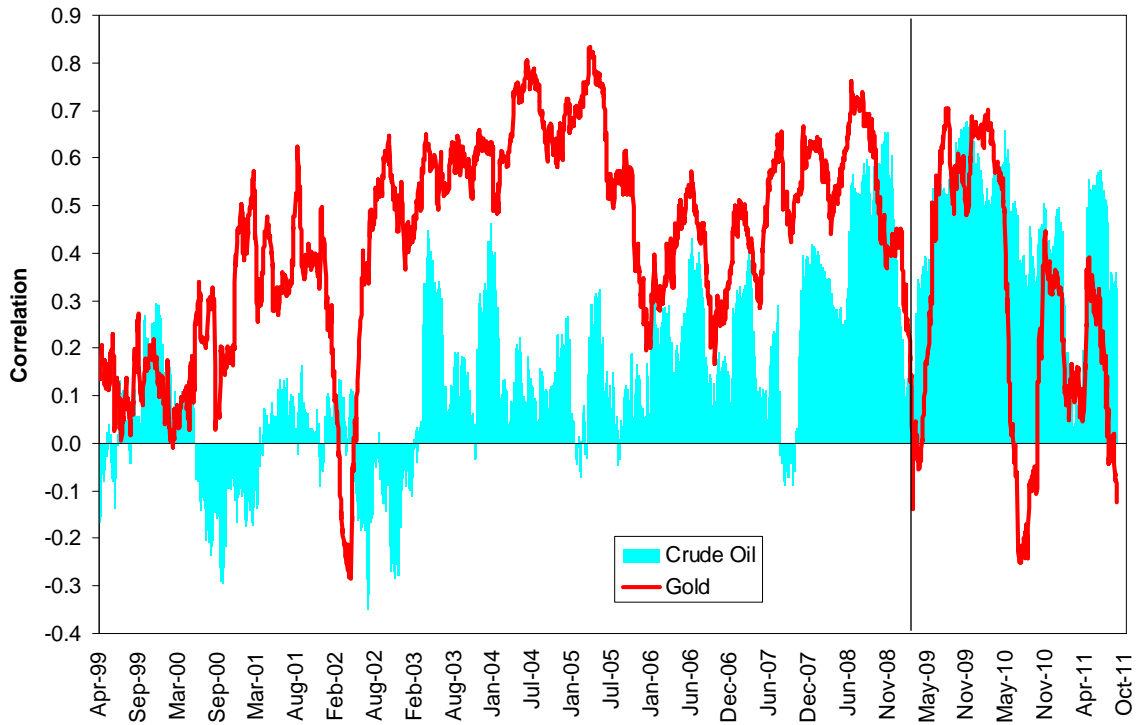
While many believe the bet against the dollar has been a one-way affair for forty years, the actual economic return of going short the dollar and long the six components has been a struggling affair. By September 2011, the net return on the trade was about the same as it was in November 2007.

Net Carry Returns And Other Markets

Finally, as many traders regard the linkages between the DXY and key commodity markets such as crude oil or gold or between the DXY and U.S. equities as constant, let's look at the rolling three-month correlations of returns involved.

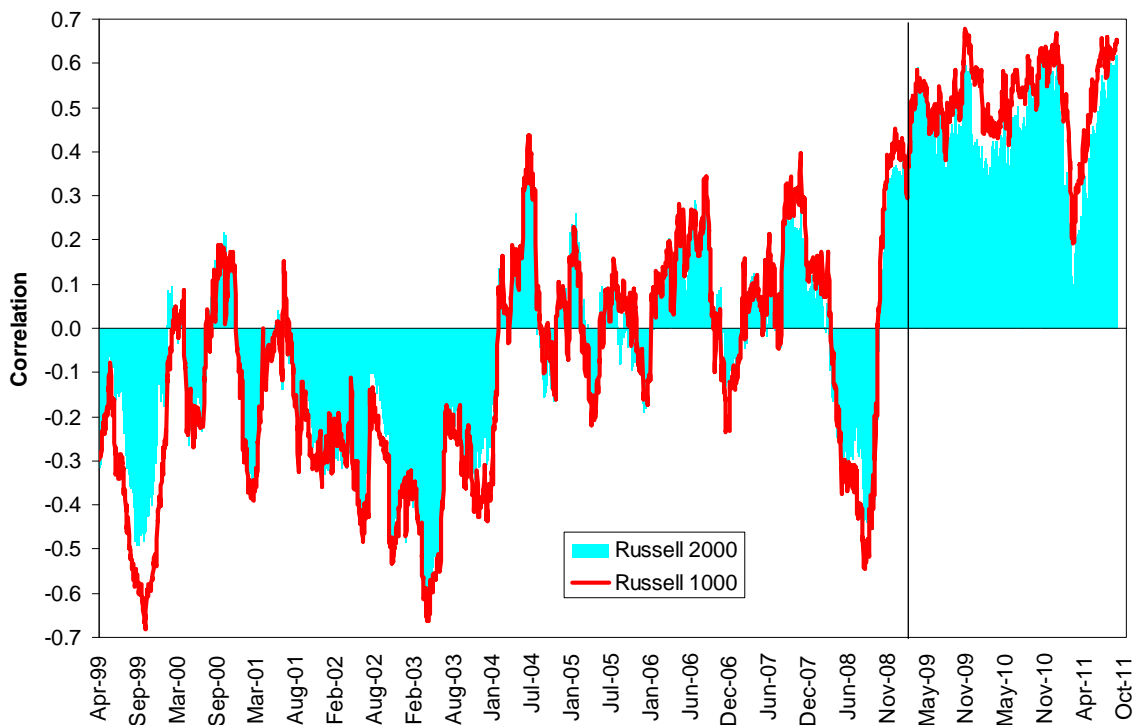
In the case of crude oil and gold, we will use the Dow Jones-UBS total return sub-indices for each commodity; these include the effects of roll yield and the return on collateral. The correlation of returns between the DXY carry index constructed here and gold is not only much lower than believed commonly, but it peaked in April 2005 and has gone negative thrice since then. The DXY and crude oil never had much of a link between them prior to the widespread adoption of long-only commodity index trading in the 2003-2004 timeframe, and that stands out in the chart below.

**Three-Month Rolling Correlation Of Returns:
 DXY Vs. Gold And West Texas Intermediate**



If we repeat the exercise for large- and small-capitalization U.S. equities as measured by the Russell 1000 and Russell 2000 indices, respectively, we see a similar time-dependent relationship. The carry returns for the DXY against both stock indices had been negative until 2004 and only climbed into strongly positive ground during and after 2009, with a prominent detour to the downside during the QE2 era.

**Three-Month Rolling Correlation Of Returns:
 DXY Vs. Russell Stock Indices**



In all cases above, traders should be careful about assuming relationships where none may exist outside of a momentary fashion in the markets created by policies such as quantitative easing or a stampede by institutions into vehicles such as long-only commodity index funds.

Conclusion

It is easy and understandable so many traders look at the spot rate return of going into the DXY basket and never stop to ask, “What is the opportunity cost? Am I incurring net interest rate spread losses as part of this trade? Which DXY components are contributing to what aspects of the total return picture?”

“Easy and understandable” are not synonymous with “excusable,” however. All trades involve the comparison of alternatives, and those alternatives have to be accounted for on a complete cost basis.