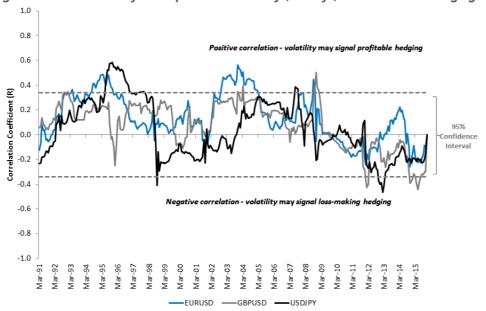
WE DON'T THINK VOLATILITY IS AN EFFECTIVE HEDGING SIGNAL. HERE'S WHY.

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In a recent blog post, we outlined why volatility is not among our preferred currency-hedging signals. To recap, by definition, volatility does not indicate a specific *direction* of a currency pair, and it would lead to opposite conclusions for U.S.-based investors compared to internationally based investors. But to expand on the analysis, consider the following: If there were a correlation between volatility and, say, U.S. dollar strength or weakness AND if an investor were willing to rely on this correlation persisting, then perhaps a more or less volatile environment could be taken to indicate the likeliness of U.S. dollar strength or weakness. However, although such correlations have been observed sporadically in the past, they have not proved persistent. The chart below shows the correlation between historic volatility (measured as the standard deviation of daily spot movements over a rolling 63-day window at successive month-ends) and the returns from being long U.S. dollar in a hedge against each of the euro, Japanese yen and pound sterling in the following month. Although there have been times when this correlation was positive at a statistically significant level, it has also been negative at times, and overall has proved highly sporadic and unstable over the full period shown. **36-Month Rolling Correlation: Currency Pair Spot Rate Volatility (63 days) vs 1m Passive Hedging Return (Long USD, 1m**



Confidence interval: A mathematical term referring to the amount of uncertainty associated with a sampling method.

Lag) Sources: WisdomTree, Record Currency Management Limited. Period from 3/29/1991 to 12/31/2015.

Using volatility as a

currency-hedging signal could therefore be a classic case of relying on a sporadic correlation that has emerged from time to time and naively assuming that it will continue into the future. It is worth asking, though, why this correlation emerged. We attribute it to the "safe-haven" status that the U.S. dollar acquired at times during the financial crisis of 2008–2009 (indeed, it's noteworthy that even in this period, returns from being long U.S. dollar frequently had the lowest correlation with volatility, and hence safe-haven status, when measured against the Japanese yen, itself a regional safe haven).



Should we expect this status to persist? To some degree, <u>U.S. Treasuries</u> will always be seen as one of the world's safest asset classes. However, if U.S. dollar <u>interest rates</u> continue to increase, it's possible the dollar becomes more of an "investment" than a "funding" currency in certain currency strategies, in which case we would expect its risk sensitivity to increase and safe-haven status to diminish. Therefore, relying on the sporadic correlation seen in the past could be even more unreliable in a rising U.S. dollar rate environment. All of this reinforces why we favor three directional signals in applying our <u>hedge ratios</u>. Higher U.S. interest rates, the momentum of the U.S dollar or an undervalued dollar will all signal to U.S. investors to hedge their euro exposure, while also being a signal to euro-based investors *not to hedge* their U.S. dollars. These three signals are thus consistent by virtue of being directional. Volatility does not share this feature and relies on a weak link between the correlation of U.S. dollar volatility and the strength of the U.S. dollar. Given the multitude of factors at play impacting currency markets, relying on this correlation of volatility to stay positive for an extended period seems a bet we would not be willing to take.

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DEFINITIONS

Volatility: A measure of the dispersion of actual returns around a particular average level. .

Currency hedging: Strategies designed to mitigate the impact of currency performance on investment returns.

Correlation: Statistical measure of how two sets of returns move in relation to each other. Correlation coefficients range from -1 to 1. A correlation of 1 means the two subjects of analysis move in lockstep with each other. A correlation of -1 means the two subjects of analysis have moved in exactly the opposite direction.

Standard deviation: measure of how widely an investment or investment strategy's returns move relative to its average returns for an observed period. A higher value implies more "risk", in that there is more of a chance the actual return observed is farther away from the average return.

Spot currency: The foreign exchange rate of a currency available for immediate delivery.

Long (or Long Position): The buying of a security such as a stock, commodity or currency, with the expectation that the asset will rise in value, the opposite of Short (or Short Position).

Safe-haven: Characterized by being a potentially desirable focal point of investment flows during periods of increased volatility and market risk. Safe-haven is not synonymous with risk-free.

Treasury: Debt obligation issued by the U.S. government with payments of principal and interest backed by the full faith and credit of the U.S. government.

Interest rates: The rate at which interest is paid by a borrower for the use of money.

Hedge Ratio: The specified percentage of currency exposure being hedged, with 0% indicating that none of the currency exposure is being hedged and 100% indicating that all of the currency exposure is being hedged.

