INTEREST RATE DIFFERENTIALS IMPLY THE BRITISH POUND MAY WEAKEN

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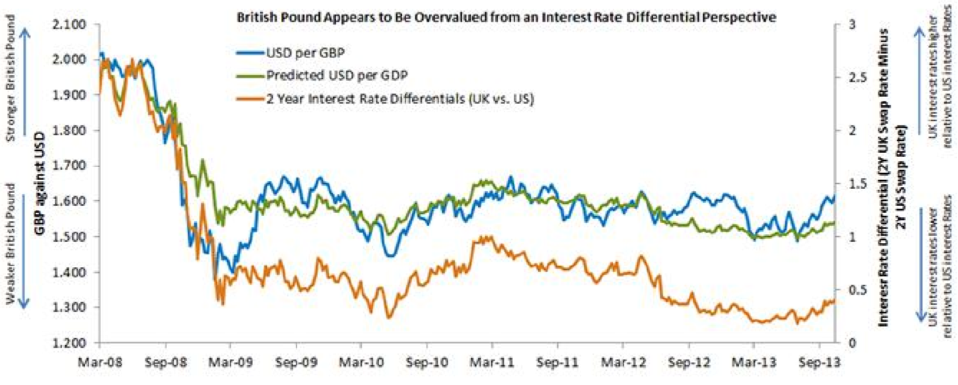
11/25/2013

In assessing the fair value of a currency, interest rate differentials play a significant role in determining a currency's valuations. The trend in interest rate movements in the United States and the United Kingdom suggests that recent strength in the British pound (GBP) cannot be explained by the change in interest rates and thus may be considered unwarranted. **What's the Link?** Interest rates impact currencies because a rise in domestic real interest rates will attract foreign capital inflows, thereby bringing on an appreciation of the domestic currency. This implies that the relative movements matter—and as interest rates rise, the currency theoretically should move in the same direction. **Creating a Model to Explain Currency Moves** In order to quantify the impact of interest rate differentials on the British Pound, we ran a regression model that relates interest rate differentials to currency moves. This model can potentially help us determine if the currency is over- or undervalued relative to what the interest rate differentials imply. This model is based on the historical relationships between the British pound and its interest rate differentials[1] and is no guarantee of future performance. However, this type of model analysis can provide a quantifiable framework to assess whether a currency's current valuations appear to be stretched based on past trends. Below is a chart of the GBP exchange rate along with interest rate differentials and what the model implies the level of the GBP would be based on the changes in interest rate differentials. The model shows a substantial link between interest rate differentials and the currency, as will be discussed below.



Sources: WisdomTree, Bloomberg. Past performance is not indicative of future results.
Regression analysis period: 01/02/2008 to 10/16/2013; Time period was chosen to incorporate one cycle of a bull and bear market.

• The two-year interest rate differentials are a significant factor explaining currency changes with a positive relationship—i.e., that when two-year rates rise in the UK compared to the U.S., the British pound tends to strengthen against the USD. The two-year interest rate differentials (orange line) have been on a downward trend, implying that two-year rates in the UK, while higher than those of the U.S., have been on a decline since 2011. • This model implies that the warranted rate of the GBP against the USD based on changes in interest rate differentials would be 1.539. This suggests that the current level of the pound—of 1.617—may be approximately 4.8% too high, given the changes in interest rates we have seen. • What is most interesting about this regression analysis is that the current (10/16/2013) predicted value of the GBP vs. the USD (green line) deviates significantly from the actual value of the GBP vs. the USD (blue line). This 4.8% deviation is rare by historical standards and has occurred less than 10% of the time since 2008. • One measure for how accurate these statistical models are is “goodness of fit,” as measured by the R-squared of the analysis. An R-squared of 0% suggests that the model is unable to explain the variability of the British pound based on the two-year interest rate differentials. An R-squared of 100%, on the other hand, suggests that the model is able to explain all of the variability of the British pound based on the two-year interest rate differentials. This particular model had an R-squared of 76.8%. For statistical analysis, this is a fairly high percentage. In conclusion, economic theory and empirical evidence suggest that the British pound has room to depreciate against the U.S. dollar. While good economic data out of the UK has buoyed sentiment around the currency, disappointing economic data could trigger a sell-off, causing the currency to trade more in line with its interest rate differentials. For those who are allocating to United Kingdom equities, currency-hedged strategies can be an important tool. [1]The interest rate differentials used were based on interest rate swaps. These are a highly liquid financial derivative instrument in which two parties agree to exchange interest rate cash flows, based on a specified notional amount, from a fixed rate to a floating rate (or vice versa) or from one floating rate to another. An alternate measure of interest rate differentials are the respective government bond differentials, but they tend to have distant maturities and are subject mostly to sovereign related stresses.

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DEFINITIONS

Interest Rate Differentials : The Difference between the 2 Year interest rate swaps of the United Kingdom vs. the United States.

Valuation : Refers to metrics that relate financial statistics for equities to their price levels to determine if certain attributes, such as earnings or dividends, are cheap or expensive.

Regression analysis : statistical process for estimating the relationships among variables. It helps one understand how the typical value of the dependent variable (Y-variable) changes when any one of the independent variables is varied, while the other independent variables are held fixed.

Significant factor : Possesses a p-value less than 0.05, implying that the variable is significant at the 95th percentil.

R-squared : Represents the percentage of a fund or security's movements that can be explained by the independent variable.