

## There Are No Amber Waves Of Currencies

One of the enduring tales of the Odyssey is our hero, you-know-who, running the straits between Scylla and Charybdis while resisting the Sirens' Song. If this bears any resemblance to the life faced by most traders it surely must derive from resisting the Sirens' Song of Nonsense (album-filler, for those of you old enough to remember albums) about currencies and commodities.

That off-beat cacophony derives from the logic, seemingly impeccable but actually quite peccable, holding if a commodity is priced in dollars then a weaker dollar must lead to the conclusion more of them will be required to claim a given unit of gold, wheat, sugar or dirt. This might be true if we had a one-commodity and a one-currency world where both supply and demand for the commodity in question was both fixed and known and where the prospective changes in the purchasing power of the currency had no effects on behavior. In the real world, however, factors such as supply shocks, substitution, price and income elasticities of demand, changes in interest rates, changes in supply and demand preferences across commodities, taxes, seasonal factors and a host of other messy variables come into play and distort the simple notion of "dollar-down / commodities-up."

With this in mind, let's go about answering a question often arising in the global grain market as to what the effect of a weaker dollar/euro exchange rate will be on grain prices.

### No Such Thing As Commodities

First, let's stipulate there is no such thing as either "commodities" or "the dollar." (Please see "Had Enough of the Dollar and Stuff?" and "Deconstructing the Commodity Price Surge," *Active Trader*, March and November 2008, respectively). To summarize two long arguments, what we refer to as the collective entity of "commodities" is a group of markets really related only by 1) they are exchange-traded and 2) they are tangible. These markets in turn can be divided into three broad categories, those that are extracted without replacement or recycling, such as crude oil, those that are extracted and recycled indefinitely, such as copper, and those that are regenerated continually, such as grains, oilseeds and soft commodities.

Second, these markets have very, very unstable correlations of returns both on the individual and on the sub-index levels; they can be demonstrated to oscillate between positive and negative levels with irregular periodicity. This means a long index position may include commodities moving in opposite directions from each other; yes, this would provide diversification but, no, it makes no sense for those who seek to maximize return.

If we turn to the concept of currency indices, the admonition offered in July 2011's *Weighting For Correlation* remains valid: "Don't get into the business of index management." As the objectives behind all currency indices are uncertain – Are they supposed to be trading instruments, hedging instruments, economic indicators or some combination? – they exist in a world without concise purpose. Banding six of them together in a four decade-long fixed-weight package into the dollar index, banding ten of them together in a statistically elegant but hard-to-trade and constantly changing correlation-weighted index or banding them together in a trade-weighted index or set of indices that cannot be traded leaves no one satisfied.

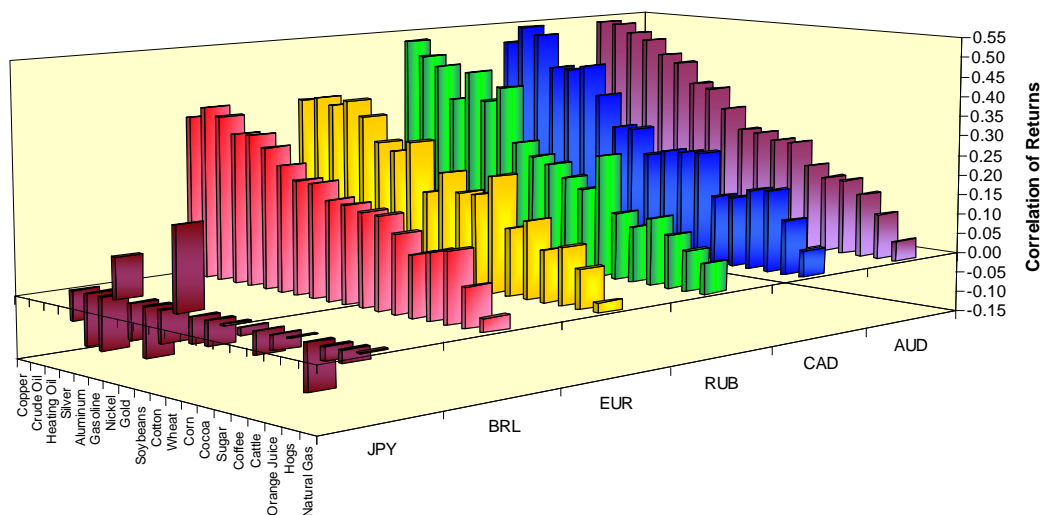
The author has a simple translator: When people say, "the dollar," they mean the dollar index, which is 57.6% the euro by weight. When people say, "commodities," they mean the petroleum complex, will account for 67.7% of the S&P/GSCI commodity index in 2013. Everything else in both cases is there simply to be sociable.

### Time Dependencies

If the correlations between commodities are variant and unstable and if the correlations between currencies change over time, it stands to reason the correlations between individual commodities and individual currencies change over economic and market regimes. Let's stipulate the work has been done in support of this statement and move on to examine the set of correlations of returns between six different currencies and 19 different commodities over the entirety of the post-March 2009 era of quantitative easing. The currencies include the euro, yen, ruble, real, and both the Australian and Canadian dollars. The European Union is a surprisingly large producer of a host of commodities; the yen is included almost as a straw dog in this regard. The RUB, BRL, AUD and CAD all represent commodity-export powerhouses.

It should surprise no one the average three-month rolling correlation of returns is strongest for the AUD, CAD and RUB, in descending order of relationship strength. Within these currencies, their strongest commodity correlations are those against copper, crude oil and heating oil, silver, aluminum and gasoline.

**Average Rolling Three-Month Correlation Of Returns**  
 March 19, 2009 - December 21, 2012

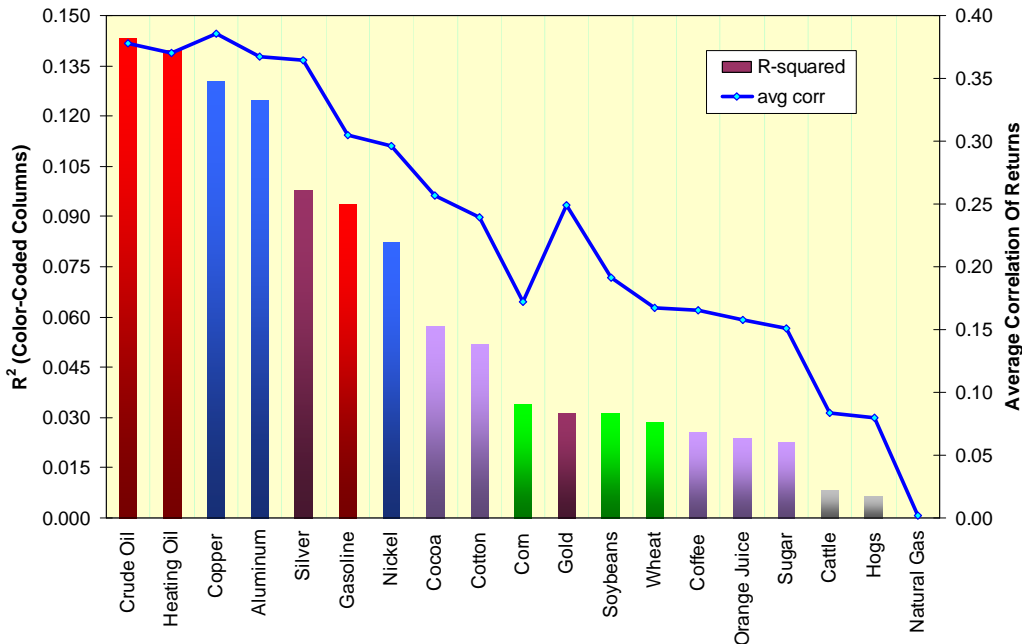


### Isolating The Euro

Correlations of returns seem to have a great intuitive appeal to many observers, but they are not as directly useful as the  $r^2$  of a regression relationship in answering the simple question of how much of the variance in a commodity price can be explained by a variable such as the euro. As these relationships can and do shift across market regimes, it is important to confine the analysis to a period where a dominant trend is underway. As the very nature of the euro and its internal cohesion changed during the sovereign debt crisis beginning in late 2009 (see “The Interest Rate Price Of A Currency Union,” March 2013), let’s use April 26, 2010 start date for analysis. This is when the forward rate ratio between six and nine months ( $FRR_{6,9}$ ) of the euro began to flatten. It should be noted that flattening ended in September 2011 with Mario Draghi’s increasingly aggressive stance at the ECB.

The  $r^2$  levels and average correlations of returns for a wide range of commodities are displayed on a color-coded basis. The strongest links for the euro, against petroleum and industrial metal commodities, are not very strong at all; none of the  $r^2$  levels exceed 0.15 and none of the average correlation levels exceed 0.40. Normally, we could stop right here if it were not for the overwhelming impulse of traders and analysts to define a linkage mentally between the euro and “commodity” prices. Please note the very low  $r^2$  levels for the three grain/oilseed markets displayed, corn, soybeans and soft red winter wheat.

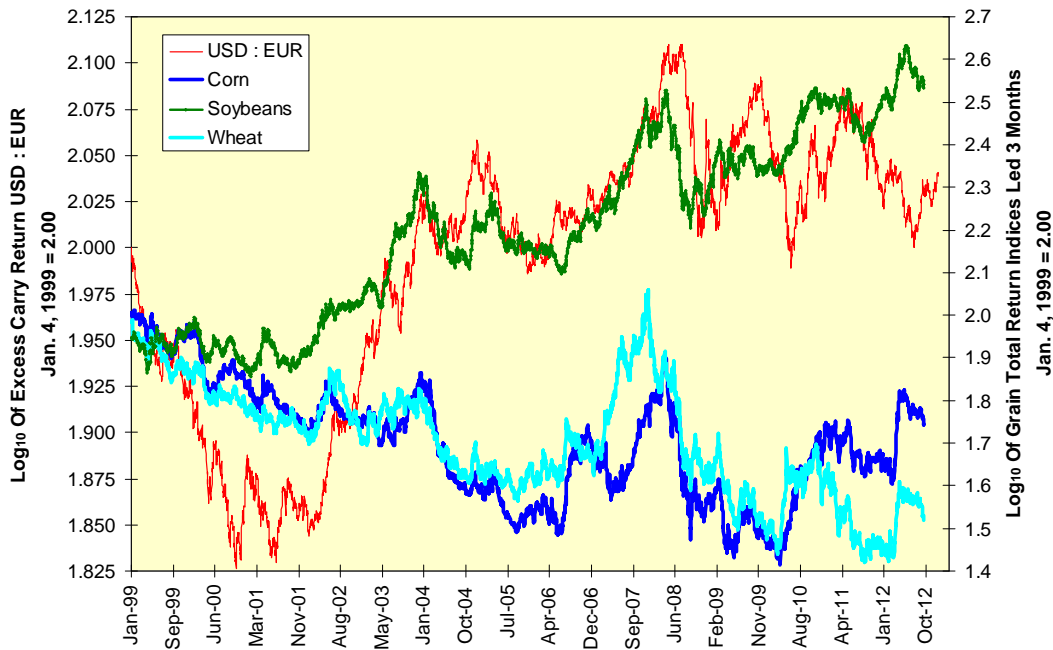
### Relationship Of Euro To Commodities Since April 26, 2010



### Isolating Grains

Now let's map the Dow Jones-UBS total return indices for these three grain markets against the excess carry return into the euro led three months on a common logarithmic scale going back to the euro's January 1999 inception. There had been a visible correlation between 2003 and 2011 of the return paths for the euro and for soybean futures and a much less visible one for corn and wheat futures. The corn and wheat return paths are so depressed because of the effects of negative roll yields when contracts are switched.

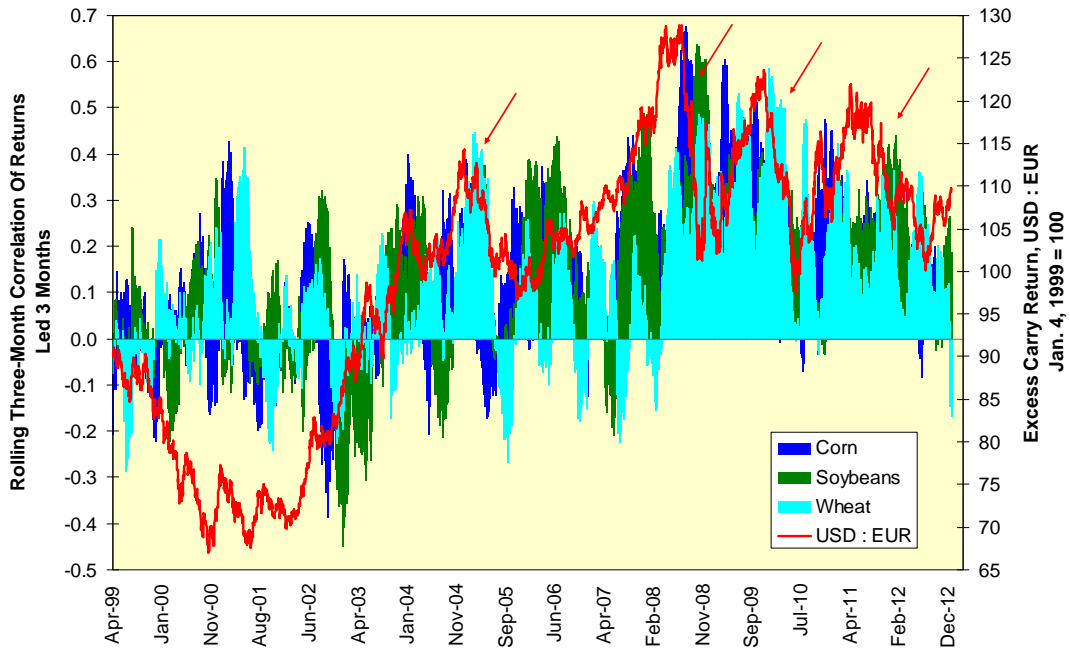
### Euro And Grain Prices Weakly Positively Correlated



The data can be rearranged from the time series displayed above to the more stationary correlations of returns seen below. Now when we map the excess carry return of the euro against the three-month rolling correlations of returns a defined pattern emerges and is highlighted with red arrows: The downturns in the euro lead declines in the three-month rolling correlations of returns by three months. This is the connection between one currency, the euro, and

three commodities; it certainly has to disappoint those expecting something a littler stronger. All that can be isolated is a one-sided relationship into an already-weak and statistically insignificant correlation of returns.

### Post-2002 Euro Weakness Led To Declining Correlation Of Returns



The impulse held by many to attribute various commodity price trends to changes in monetary policy as manifested in a single, albeit important, exchange rate needs to be resisted. If you want to analyze grains, look to Kansas and Iowa; do not look to New York City and Washington, D.C.