Of Commodities And Currencies

The topic of whether a weaker dollar led to higher commodity prices came up in a Columnist Conversation last week. I knew when I made my original post there would be a moment of disbelief. This, after all, is one of the truths we hold to be self-evident.

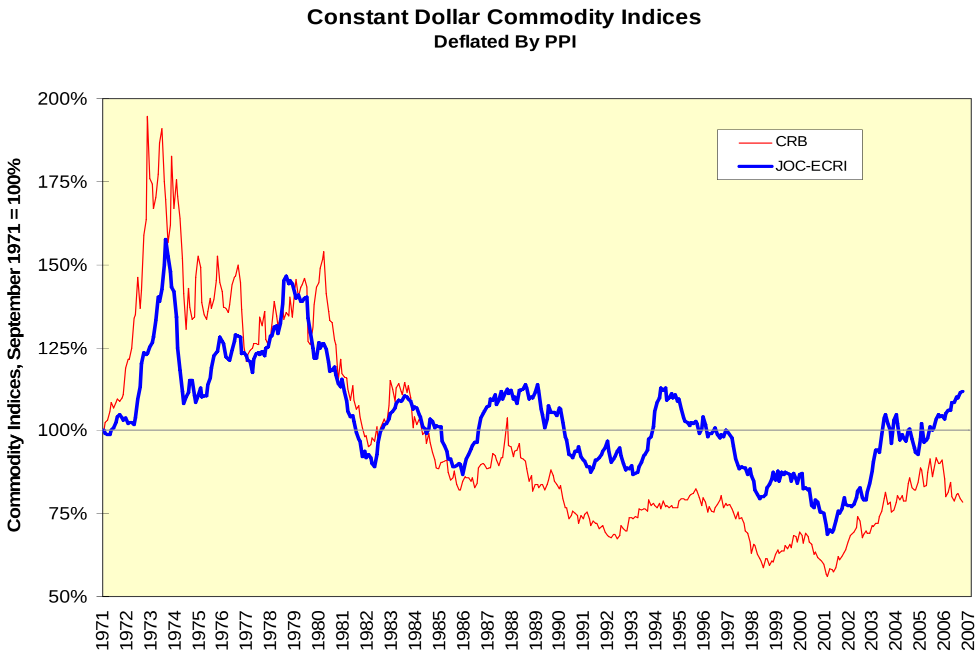
But when Bill O'Connor noted how some of his e-mailers were "shaking their heads," I knew I had to act and act fast. Some of those heads could have belonged to gold bugs and could become detached quickly upon shaking or, worse, they could have turned them skyward into the rain and drowned.

This is a topic that lends itself readily to large-scale data analysis, some of which I employed while answering the question of whether the dollar has a leading relationship to an index of commodities (no, it does not for either the Reuters/Jefferies CRB index or the Journal of Commerce-Economic Cycle Research Institute index). And let's just say I have cranked enough numbers out to both exceed my allotted space and to bore all of the non-statisticians in the crowd. So let's just sample a few of the myths involved.

Commodities And Inflation

If the argument a weaker dollar leads to higher prices for commodities is based on the simple and very intuitive argument that if each piece of paper is worth less, then the paper price of stuff must rise, the same argument should apply to inflation and commodities. How well have the two commodity price indices – and here I will load the argument in favor of commodities by displaying only the price of the index, not its return after various rolling costs and interest rate charges are taken into account – kept pace with the producer price index since the JOC-ECRI index' start in September 1971?

The answer is, "Not at that well." At the end of May 2007, the last PPI datum available, the deflated CRB index is but 78% of its September 1971 value, while the JOC-ECRI is at 112%. For purposes of comparison, the average annual total return on the Dow Jones Industrial Average has been 11.8%, well in excess of the average annual producer inflation of 4.7%. That ought to make a few gold bugs' heads explode when they are done shaking them.

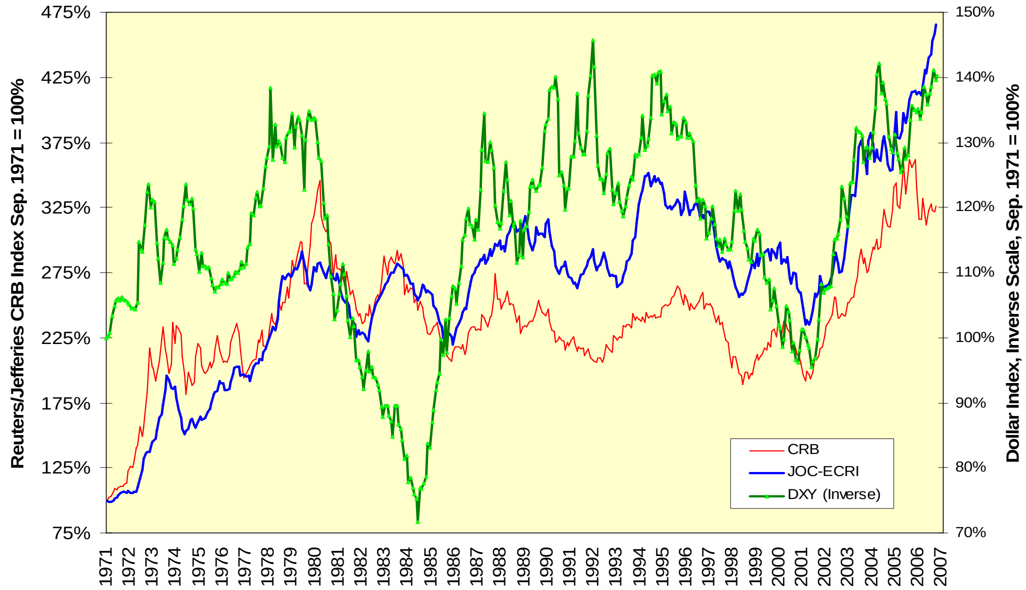


Commodities And The Dollar: Index Basis

Now let's compare the two commodity indices against the dollar index. The dollar has lost 40% of its value relative to the basket of six-currencies used to comprise the DXY since September 1971, and it certainly has lost more than that on a fixed-purchasing power basis. No argument here: The world's governments have done an absolutely miserable job in preserving the purchasing power of their constituents.

The two commodity indices have "appreciated" more, 326% for the CRB and 465% for the JOC-ECRI. And, yes, much of those gains occurred after the 2001-2004 experiment in ultra-easy credit began. But that is one small time interval out of 36 years. Overall, the monthly r-squared achieved by regressing the returns of the CRB and JOC-ECRI indices against those of the DXY have been .013 and .003, respectively. In other words, the dollar index explains a gaudy 1.3% and 0.3% of the variance of commodity index returns.

Does A Weak Dollar Lead Commodity Rallies?

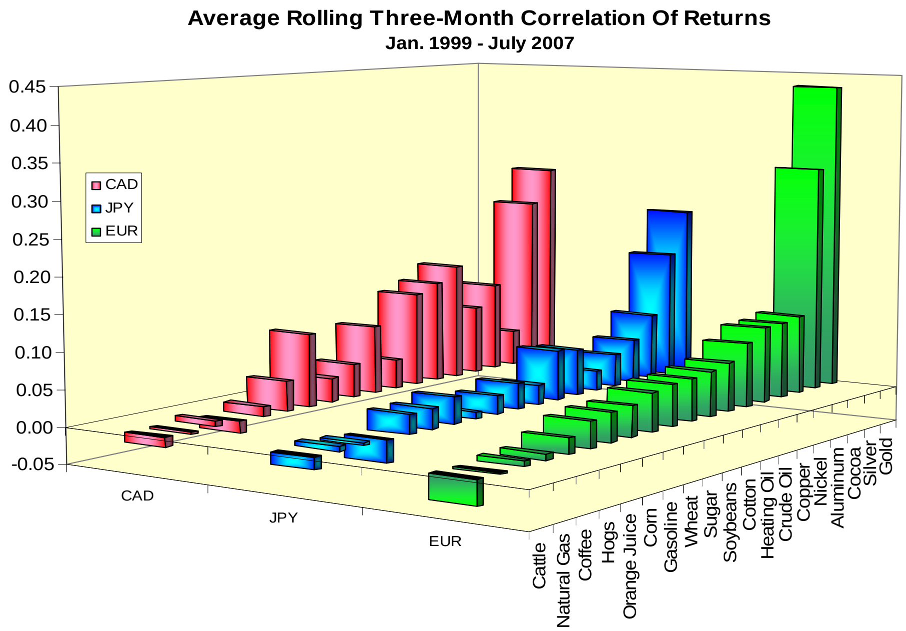


Commodities And The Dollar: Non- Index Basis

Now let's turn to a very short summation of a very large data study. Just as some wags claim it is a market stocks and not a stock market, we have to treat individual commodities and currencies as separate markets; I began discussing the reasons why in May 2004.

We can take the returns on nineteen different cash commodities – not the futures except for orange juice – and correlate them to the returns on three different key currencies, the Canadian dollar, the Japanese yen and the euro over rolling three-month periods since the January 1999 advent of the euro.

These correlations are anything but stationary in the mathematical sense: They have trends, they have unstable variances and they have what are called autocorrelation structures. In other words, in the interests of simplifying the output for presentation purposes, I am hiding several of the reasons why the commodity-currency correlations are actually much worse than they will appear below.



Let's cut right to the chase. With the exceptions of gold and silver, none of the correlations rise to the level of even questionable significance. Several of the commodities, including hogs, coffee, natural gas and cattle, have near-zero or negative correlations with all three currencies.

Just because you wish a relationship to be true does not make it true. The commodity-currency link has an intuitive appeal, but you have to draw inferences and conclusions for trading and investment purposes off of quantitative, not intuitive, analysis.