TIPS Do Time-Travel With Commodities

Somewhere in our lives we all encounter the Three Great Lies. If we take a look at monetary policy, commodity prices and inflation, we can add three more Great Lies to the list with no trouble at all. These include the widespread belief looser monetary policy is the direct cause of higher commodity prices, last month's topic of speculative positions being the cause of higher commodity prices and this month's topic higher commodity prices are a cause of actual producer price inflation.

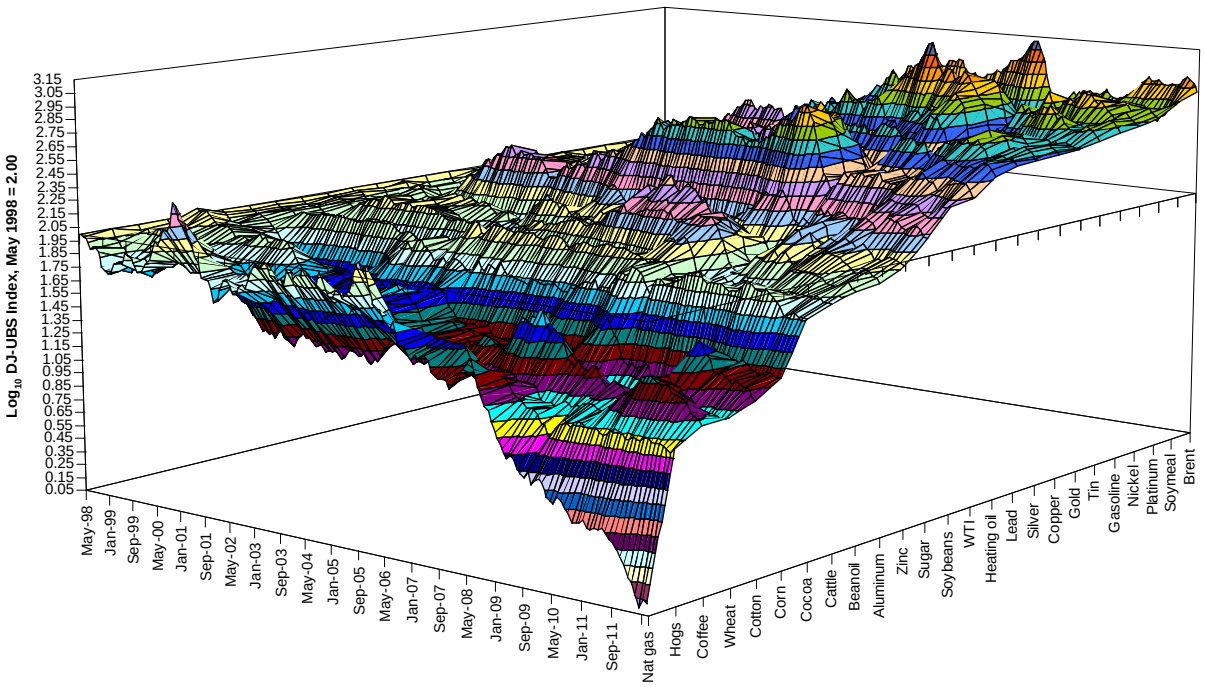
What we can see is individual commodity prices affect inflation expectations as measured by the ten-year TIPS breakeven rate of inflation and they do so almost instantaneously. This is nonsense of the first order. Not only do commodity prices move into the economic value chain via producer prices and not the ten-year forward-looking average rate of change for consumer prices, but they must do so with a lag. This can be illustrated simply by asking whether a commodity future is for immediate delivery or for future delivery (this is not a trick question). Once we recognize it is for future delivery, we should expect its effect on producer prices to occur not immediately, but several months after delivery as the new prices move through the processing chain.

The Test

We can use the Dow Jones-UBS return indices for twenty-five different commodities as the starting point to measure their effects on TIPS breakevens and on the PPI. As the PPI is a monthly series, both the daily DJ-UBS data and the TIPS breakeven data will be converted into monthly geometric averages; these are used in recognition of the continuous nature of commodity processes. These then can be correlated on a logarithmic basis for the PPI and an ordinal basis for the TIPS breakevens across a range of lags from zero to 42 months, or three and one-half years. The data sample begins in May 1998.

The return paths of these commodity return indices over time reveal a much larger degree of variance than assumed in the casual reference to "commodities" as an undifferentiated asset class. Fully nine of the twenty-five returns have been negative since May 1998 on a nominal dollar basis despite the widespread perception we have been living in a long-term bull market in commodities since that time. The answer, now known to investors in commodity-index products, is the roll yield over time for many markets has been negative and has turned many apparent spot-market gains into an investment loss.

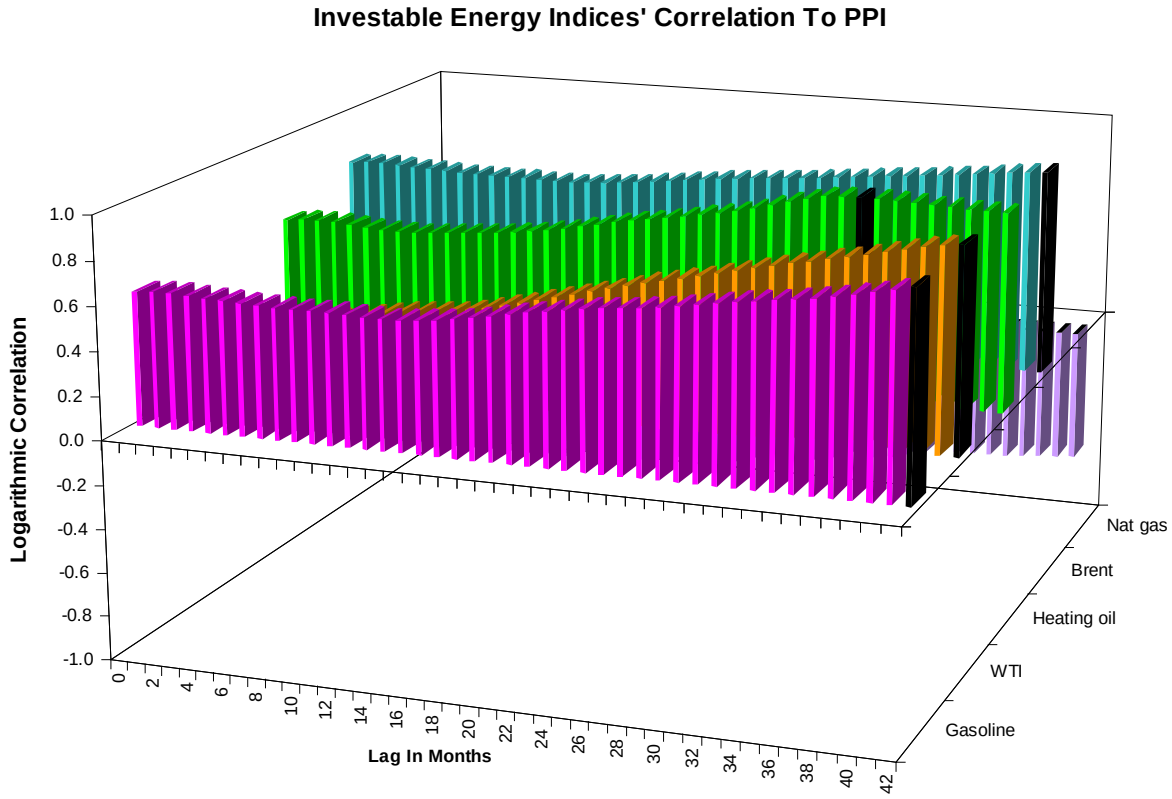
Commodity Returns Highly Differentiated Over Time



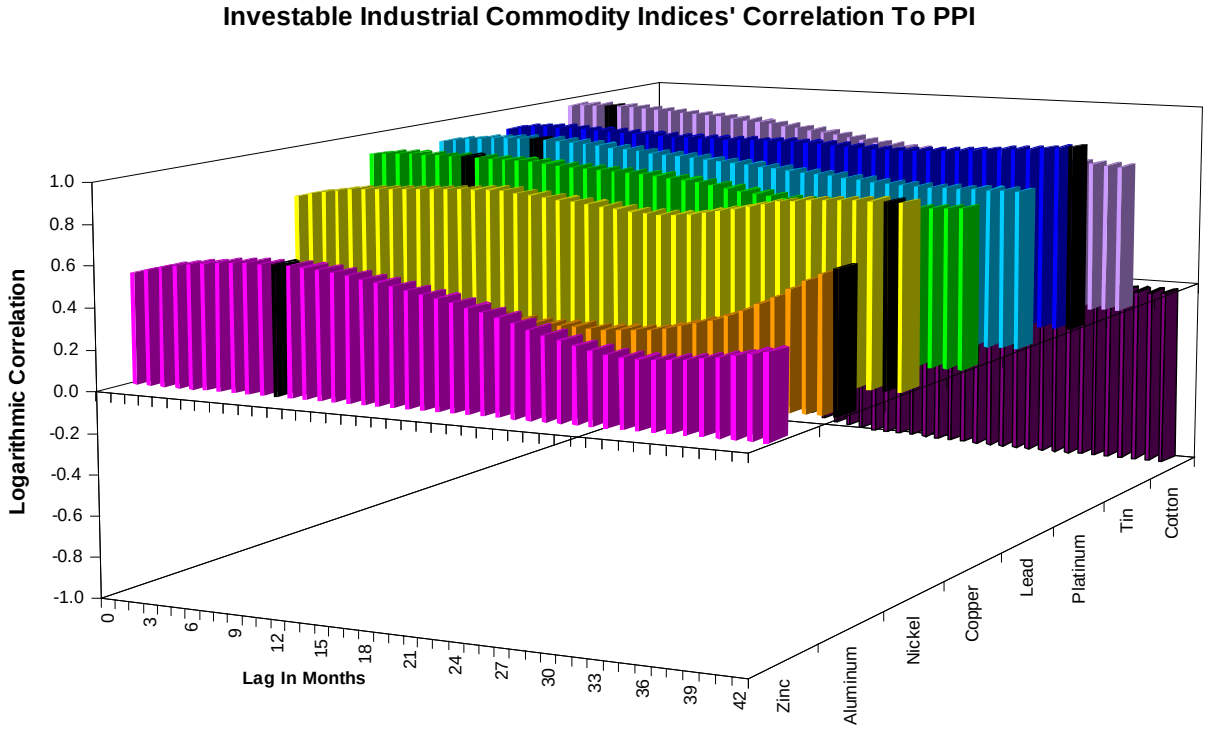
The twenty-five commodities can be broken down into six general groups, energy, grains and oilseeds, industrials, livestock, precious metals and softs. As a complete graphic display of the results of the six groups over two different dependent variables, the PPI and TIPS breakevens, would require twelve different charts, let's focus on just two groups, energy and industrials, as those are the two with the most direct impact on production processes and then summarize all of the results in a table. The correlation sets are presented in histogram form with the mode highlighted is positive correlation values are present.

Versus PPI

While you might think price changes in the investable energy indices would be transmitted very quickly into the PPI, the data say otherwise. Three of the four petroleum-based markets have correlation modes at the 42-month limit imposed on the analysis; the fourth, heating oil, has a mode at a lag of 34 months. This suggests energy buyers, a category inclusive of nearly every business, absorb a great deal of price volatility in their margins, hedge their exposures effectively or some combination thereof. Natural gas' correlations against the PPI are never positive; this is quite surprising considering the widespread and varied use of natural gas both as a process heat source and as a feedstock in the fertilizer and petrochemical industries. Much of this negative correlation can be explained by natural gas' very negative performance as an investment asset.

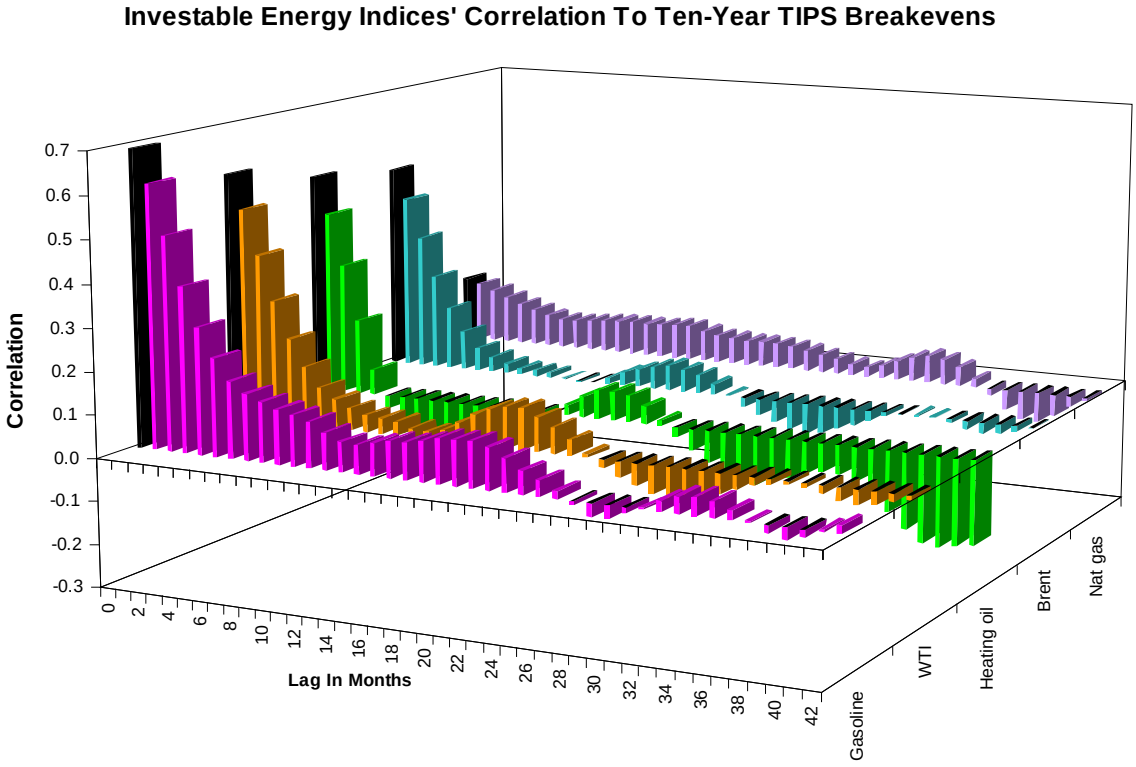


The picture is not quite as neat for the industrial commodities. Here some of the price changes are transmitted into the PPI very quickly; the lags for tin and copper are three and seven months, respectively, and those for lead and zinc are at seven and ten months, respectively. These commodities are not stored at the user site, are more expensive to hedge than are the energy commodities and processors apparently find it easier to pass on higher costs to their customers. However, the lags for aluminum, nickel and platinum all are much longer. The high prices and lack of substitutes for nickel and platinum encourage recycling, as do the always-compelling economics for recycling aluminum. Cotton's correlations, like natural gas' are negative in reflection of its poor investment history.



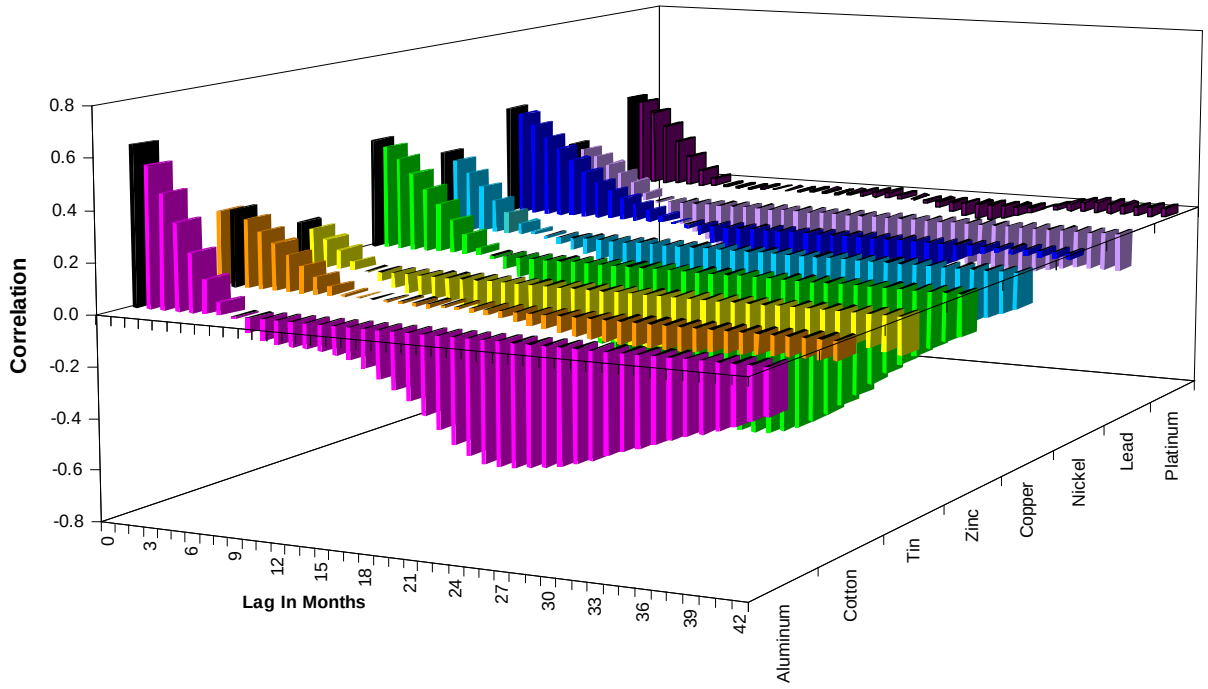
Versus TIPS Breakevens

Now for the amazing TIPS time-travel trick, the one wherein ten-year forward inflation expectations are set by prices for a commodity yet to be delivered. Do not try this at home; these traders are professionals. The maximum correlation for all of these markets is at lag zero. The only conceivable justification for this instant capitalization is…wait; there is none. It is categorically impossible and cannot be justified at all.



What about industrial commodities, nearly all of which require months to make it through the processing chain to where they might be measured by price indices? Here the answer is even more at odds with reality than what we saw with the energy commodities. Only cotton has a non-zero maximum lag, and this is just one. This defies common sense as the industrial metals, catalysts such as platinum and industrial fibers such as cotton all require time to move through the processing chain after their futures or forwards come to delivery.

Investable Industrial Commodity Indices' Correlation To Ten-Year TIPS Breakevens



The complete table of lags for both the PPI and TIPS breakevens is presented below. As the PPI measures reported inflation, it has a link to observable reality even if we wish to quibble with its methodology. TIPS measure expectations and thus are defined away from reality.

Traders thus are presented with one of those market paradoxes that make life worth living: As there is no percentage in being right when the market is wrong, you have to trade TIPS breakevens using commodity indications of inflation demonstrably wrong when compared against an actual gauge. If you follow actual inflation's much longer reaction to commodity prices, you will get run over, and who wants that?

Modal Lag

	PPI		TIPS B/E
Nat gas	Neg.		0
Heating oil	34		0
WTI	42		0
Gasoline	42		0
Brent	42		0
Corn	Neg.		36
Wheat	Neg.		0
Beanoil	2		0
Soybeans	3		0
Soymeal	38		27
Cotton	Neg.		1
Zinc	10		0
Aluminum	42		0
Tin	3		0
Lead	7		0
Copper	7		0
Nickel	41		0
Platinum	42		0
Hogs	Neg.		0
Cattle	42		0
Silver	4		0
Gold	2		1
Coffee	Neg.		0
Cocoa	25		23
Sugar	42		2