Commodities And Inflation

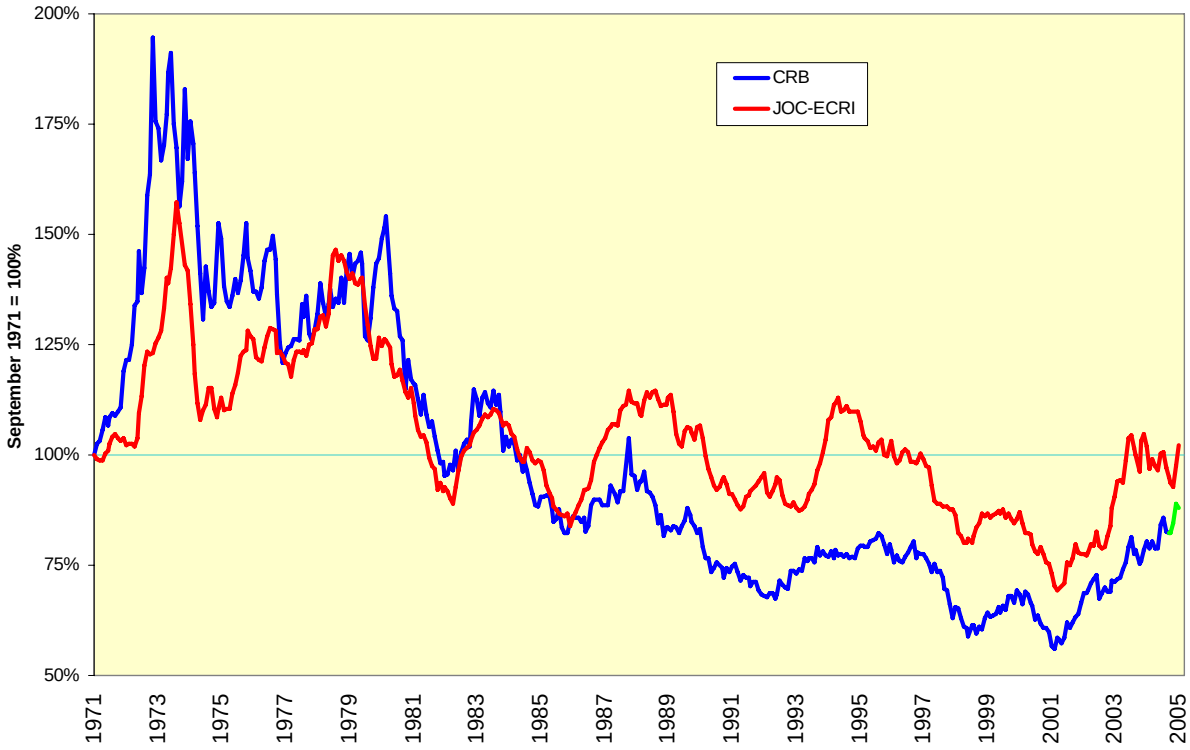
Lucky Ned Pepper laughed. He said, "I call that bold talk for a one-eyed fat man!"
Rooster (Cogburn) said, "Fill your hands you son of a bitch!" -- from "True Grit"

The 19th of October will be etched in traders' memories forever for two reasons. The first is the Crash of 1987; the second is an unusually lively – what the diplomats might call "frank and useful" – Columnist Conversation exchange on that date last week.

The question before the house is whether commodities are a good measure of inflation. At first blush this might seem to be a riddle on the order of who is buried in Grant's Tomb, but the answer is rather surprising. Let's take some very long histories of various cash commodities and deflate them by the Producer Price Index. Monthly averages of the cash market prices are used both to avoid single-day outliers and the contract roll problems associated with futures markets. All data presented in the chart below go back to 1946 except for coal (1984), aluminum (1951) and natural gas (1976). You may wish to keep in mind the world's population has more than tripled since 1946.

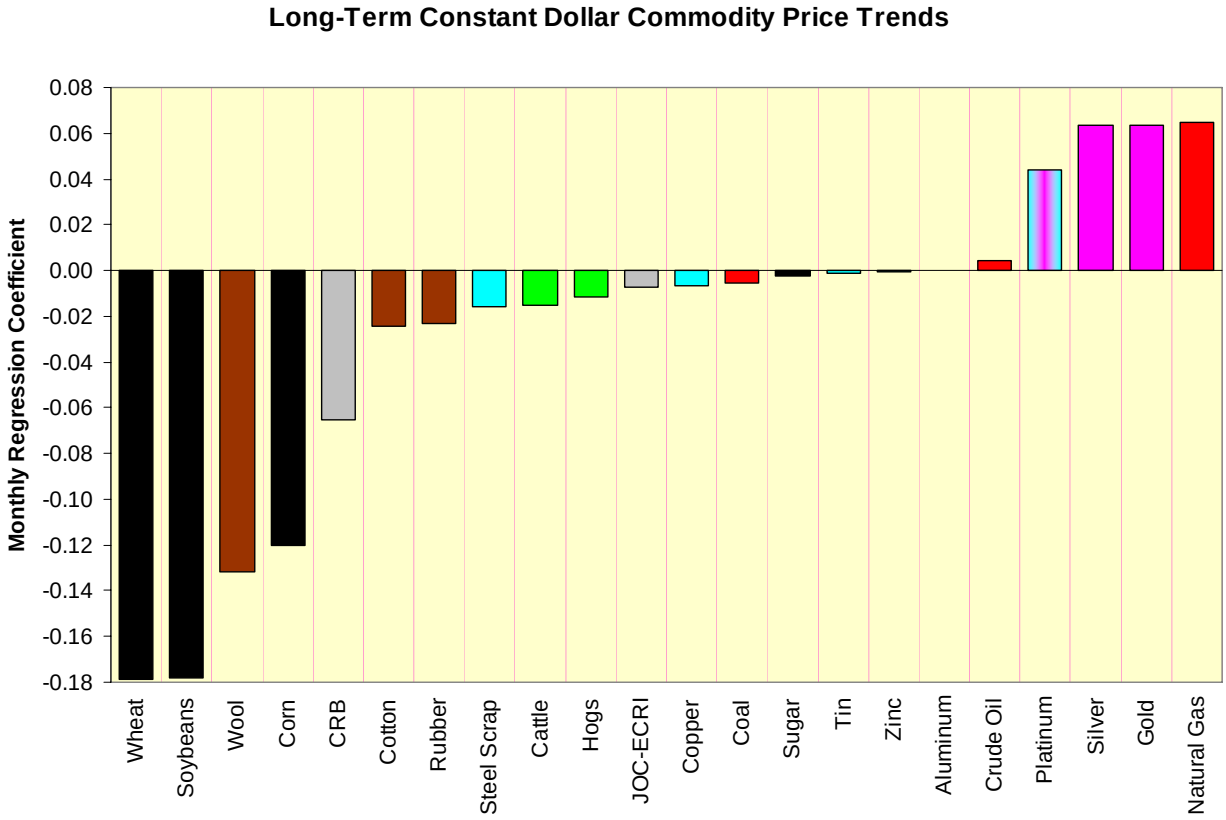
Two indices, the Reuters/Jefferies Commodity Research Bureau (CRB, 1956), and the Journal of Commerce-Economic Cycle Research Institute (JOC-ECRI, 1971) are presented as well. As a rule, I do not like the entire concept of commodity indices as they involve combining negatively correlated assets, but even these measures have not shown long-term uptrends. The CRB data since June 2005 is colored differently to note the change in index composition.

Constant Dollar Commodity Indices



Individual Commodities

If we regress individual inflation-adjusted commodity prices against time, we should see positive coefficients for those commodities whose prices on average rose faster than the PPI and negative coefficients for those commodities whose prices failed to keep up with inflation. The coefficients are color-coded into groups: Black for grains, brown for renewable industrials, gray for indices, light blue for industrial metals, green for livestock, red for energy and magenta for precious metals. Platinum is dual-coded to reflect its industrial and precious metal duality.



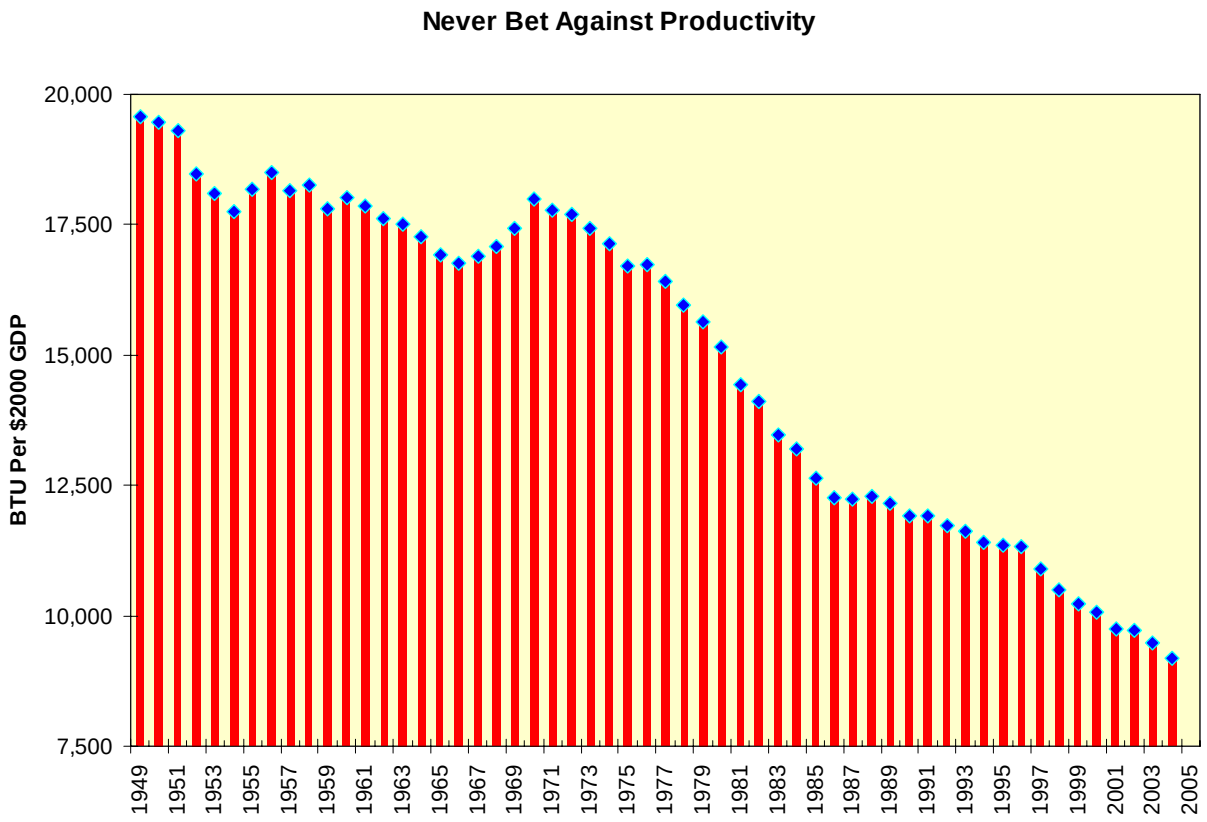
Productivity

The groupings tell a story in and of themselves. Renewable resources, whether they are grains, renewable industrials such as wool, cotton or rubber and livestock, all have fallen steadily over time. Rubber, addressed here in August 2000, is particularly striking, inasmuch as the world's tire population has grown considerably since 1946, and modern radial tires require natural rubber. Even recyclable industrial metals such as steel scrap and copper have declined steadily over time. Other industrial metals, such as zinc, tin and aluminum, essentially have kept pace with inflation.

That leaves us with precious metals and energy. Both natural gas and crude oil are somewhat misleading as they were under price controls or cartel controls for much of the available history. Even gold, the most inflation-sensitive commodity was under price controls until the mid-1970s. And silver's positive coefficient is an artifact of the Hunt brothers' 1979-1980 escapades.

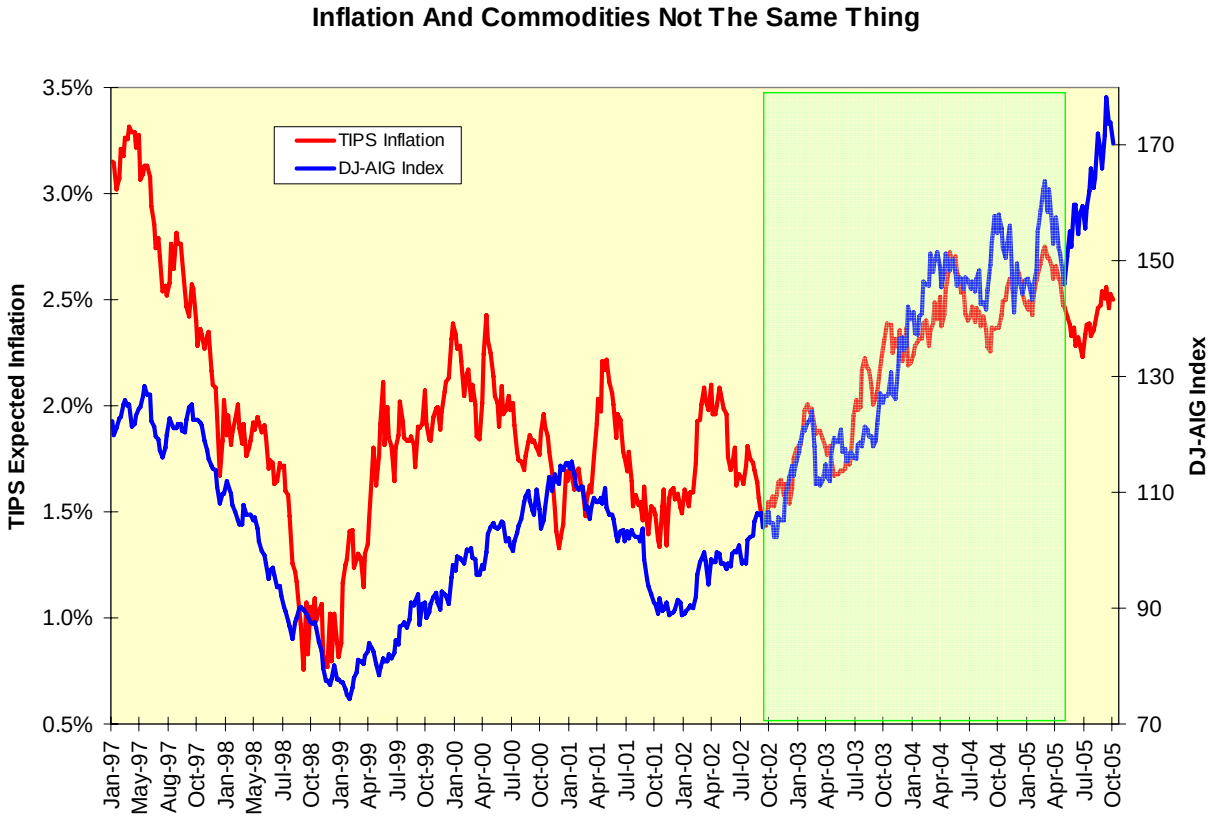
Let's stipulate that conventional crude oil and natural gas, crude oil in particular, are rising in price faster than inflation. They are not renewable resources and they are not recyclable in any economic sense. As we extract the cheapest resources first, we should expect to encounter higher marginal extraction costs and diminished returns on investment; this is the "peak oil" argument. But even here the laws of economics have not been repealed: The energy cost of producing a constant dollar of GDP has fallen steadily for three decades and shows no signs of slowing anytime soon. The current surge in prices provides increased incentives for energy productivity, and so we should expect the decline in the chart to accelerate in the years ahead.

Productivity mandates declining real commodity prices over time. Commodities are not financial assets, they are factor inputs to production. If their real price does not decline, they will lose market share to substitution and conservation. This is very different from, say, a stock, which can become more attractive at a higher price.



Great Expectations

One of the great mysteries of economics is why analysts totally familiar with the historic volatility of the past are so willing to project smooth paths for the future. Markets do the same; let's take an expectation variable such as the TIPS market's implied rate of inflation for the next ten years and map it against the Dow Jones-AIG index. This expectation has matched the commodity index only for a brief time, between the stock market low of October 2002 and the bond market's acceptance of ever-tighter monetary policy in April 2005. Economic growth and monetary policy must coincide for expected inflation and commodity prices to correlate. At present, the two have diverged until the weight of the Federal Reserve's rate increases.



Inflation

I am beginning to conclude we are at a Potter Stewart moment, named after the late Supreme Court justice who famously knew obscenity when he saw it. We all think we know inflation when we see it, and suffice to say very few of us feel our individual costs of living are measured well by the government's price indices.

Inflation as a concept includes the length of each of our planning horizons and our perceived personal financial risks as well as the backward-looking measures employed in the price indices. It is a forward-looking market, a change in behavior. No thermometer can measure it, certainly not that of the commodities markets.