Commodities' Economic Link Depends On The Index Used

Two weeks ago, exchange-traded commodity futures looked as if they had accomplished an upside breakout, one of those celestial moments dreamed of by traders. All systems were go: The economic data continued to be strong, the dollar was weakening, the Federal Reserve had committed to keeping the fed funds rate low, and global demand, especially in China, was growing. Nothing between rising futures prices and the end zone but green grass and the French army.

But then in the seven trading days between November 14 and November 25, the grain-laden CRB index dropped by 4.5%, the energy-laden Goldman Sachs Commodity Index dropped by close to 5.1%, and the more balanced Dow Jones-AIG index fell by 4.4%. Each move had an associated story, to be sure, such as the threat of tariffs on Chinese textiles, a few cancelled grain export orders, and the say-it-ain't-so shocker that OPEC was exceeding its production quotas. But these sorts of moves in the major commodity indices in the past had been associated with major psychological shocks or news events, such as the October 1987 crash, the 1991 Gorbachev coup, or September 11, 2001, and in all cases were accompanied by major moves in the financial markets.

Instead, the dollar index and stocks both rose a little and note yields fell a little, but nothing more. The question had to be asked whether physical commodity prices, which are less expectational in their forward pricing structures than are financial market prices, were measuring a drop in current economic demand. Is so, would both the backward-looking economic data and the forward-looking financial markets eventually have to catch up, perhaps violently?

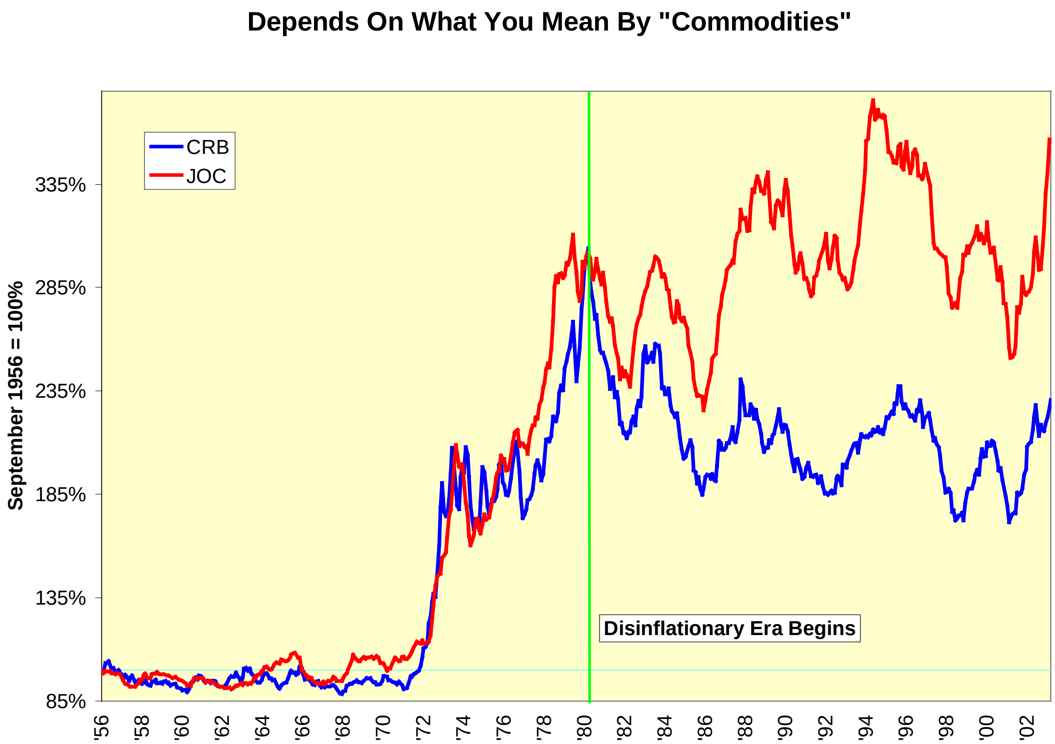
The Yardstick Determines The Answer

One of the little side benefits of chaos theory was dubbed the Seacoast Paradox. If you set out to measure the length of the U.S. East Coast, for example, with a mile-long ruler you will arrive at a set answer. Chop the ruler in half, and you will get a longer answer, as the shorter ruler will be able to measure smaller deformations in the coastline. Each successively shorter measuring stick will produce a longer coastline until you reach the quantum level, at which point your answer will be indeterminately long.

Whether commodity prices have been rising or falling also depends on your measuring device; as has been noted both above and previously in this space, different indices have different construction and therefore produce different answers. If we compare two indices with vastly different construction and purpose, the Journal of Commerce-Economic Cycle Research Institute's Industrial Commodity Price Index with the Commodity Research Bureau's futures price index, we unsurprisingly will arrive at different outcomes. The composition of the two indices is depicted below, with the three overlapping commodities of copper, cotton and crude oil broken out separately.

JOC-ECRI	CRB
Copper	Copper
Cotton	Cotton
Crude oil	Crude oil
Aluminum	Cocoa
Benzene	Coffee
Burlap	Corn
Ethylene	Gold
Hides	Heating oil
Lead	Lean Hogs
Nickel	Live cattle
Plywood	Natural gas
Polyester	Orange juice
Red Oak	Platinum
Rubber	Silver
Steel	Soybeans

Tallow	Wheat
Tin	World sugar
Zinc	



The two indices matched each other closely between September 1956, the CRB's start, and December 1980. Paul Volcker's restrictive monetary policies and the expectation of tax cuts under the incoming Reagan administration began the disinflationary era we have been living in since. At that point, the CRB index broke, and despite a few attempts to move higher since, it has never regained or even approached its early 1980s levels.

The JOC-ECRI index continued to move higher, albeit erratically, eventually peaking in September 1996. This peak came well before either the Asian crisis of 1997-1998 that disrupted so much in world trade or the post-bubble recession of 2001. It would be a stretch of the Sorcerer's Art to claim it declined in anticipation of either event. Its rebound since November 2001 has been a spectacular 42.2%; a claim here of commodity prices anticipating either recovery or at least no deeper recession is more credible.

Markets Matter

That the two indices diverged at the onset of disinflation is no accident. Many of the commodities in the CRB index are produced in countries heavily dependent on commodity exports for their national revenue stream: Crude oil in the OPEC countries, cocoa in Ghana and the Ivory Coast, coffee in Vietnam or Kenya, platinum in Russia or South Africa, sugar in Brazil, etc. Producers cannot add value to these commodities; incremental revenue in the absence of a supply or demand shock comes simply from increased supply. In such an environment, the nominal price can rise only if expected inflation exceeds the carrying cost of the commodity. More important, producers often are more anxious to hedge the downside risk of these commodities as buyers are to hedge the upside risk. This makes them a natural for futures markets - and for inclusion in the CRB index.

Many of the JOC-ECRI index members, on the other hand, can rise in both price and economic value along with economic growth. The base metals, steel, benzene, ethylene, burlap and plywood all have obvious industrial demands, as does polyester, which somehow made it out of the 1970s alive. A more important consideration for this group is the multiplicity of grades in products such as steel and the concentration of hedge demand on the buy side. They have not been, as a rule, good underlying assets for exchange-traded futures.

It should be noted in fairness, however, that certain elements of the JOC-ECRI index are exchange-traded. Aluminum, lead, nickel, tin and zinc all are traded on the London Metals Exchange, and the LME has discussed a contract on hot rolled steel coil. Rubber is listed on the Tokyo Commodity Exchange, and the Chicago Mercantile Exchange tried listing an oriented strand board (plywood) contract. Hides, burlap, benzene, ethylene, polyester and red oak lack futures contracts, and any contract on tallow may have to wait for the ultimate triumph of the Atkins Diet for CFTC approval.

Looking For The Missing Link

To return to the original question, whether the recent downdraft in commodity prices as measured by the exchange-traded indices portends something serious in the economy, let's ask whether these moves were confirmed by the JOC-ECRI index (JOCIINDX <Index> <Go> on Bloomberg). The answer is not really: That index dropped only a trivial 1.2% over the period in question. The aforementioned moves in the financial indices all were within the range of expectation as well.

A more interesting analytic question is whether the long-term intermarket relationships discussed here in August 2002 obtain if the JOC-ECRI index is used as the proxy for commodity prices. That will be examined here next week.