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Why Commodity Prices Are Down and May Go Lower

A Monday Morning Musing from Mickey the Mercenary Geologist

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A multitude of mavens, pundits, sages, wizards, writers, and assorted talking heads with various but vested interests in the hard commodities sector have weighed-in on the supposed demise of the secular bull market in "stuff" over the past few months.

Reactions have been varied but predictable: the usual suspects in the gold- and silver-bug camps have played the market manipulation card to explain the overall weakness in precious metals prices; the China perma-bears have claimed the downtick in industrial commodities to be a foreshadowing of the pending collapse of that country's decade-long economic growth; and the hyper-inflationists have determined the cause to be big banks that will not loan their growing stashes of Federal funny money, thus leading to decreased demand for industrial metals and energy. Meanwhile, the deflationists have stated we are simply living in a deflationary economic environment. Many have commented on US dollar strength as a contributing factor to lower commodity prices.

I say nonsense to most of the above. In the words and charts that follow, I will provide irrefutable evidence that the weakness in hard commodities over the past four months can be overwhelmingly attributed to t*he strength of the US dollar.* My argument is based on elementary statistics, a general math requirement to earn a college degree.

As an aside, I had14 hours of high-level mathematics beginning with engineering calculus in college, but did not take statistics, a low-level course that would not credit toward my undergraduate degree. However, it was a requirement when I entered graduate school at the University of New Mexico. To get around taking a freshman-level math class, I convinced the geology department that a course shown as "Statics and Dyn" on my undergrad transcript, was a sophomore statistics course. In actuality, it had nothing to do with statistics but was a civil engineering course called "Statics and Dynamics". LOL.

Let's start by reviewing a key concept in statistical analysis: the correlation coefficient. I'm sure this is way more than most of you need or want to know but realize I'm a scientist who strives to help lay people understand the concepts and evidence that support my opinions.

Correlation can be defined as the systematic relationship between two variables. The *correlation coefficient* is an equation that exactly quantifies the linear relationship between data sets.

A perfect positive correlation coefficient (+1) means that when one variable increases the other also increases in an exact relationship; these data will plot as a straight upward-trending line on an x-y graph. A perfect negative or inverse correlation coefficient (-1) means that as one variable increases the other decreases in an exact relationship; data will plot as a straight downward-trending line on an x-y graph. Complete randomness between two variables, a non-linear correlation, or other confounding variables all result in a 0 value and the data will be scattered across an x-y graph.

The really important thing to note here is the correlation coefficient is a number that ranges from +1 to -1.

However, rarely in the real world of measurements, values, prices, or whatever will the relationship be absolutely perfect between two variables.

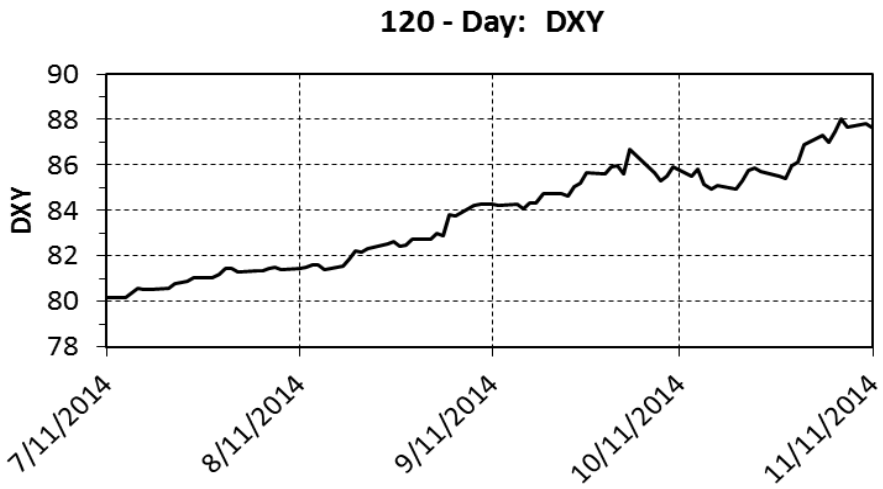
As you know, I like rules of thumb and they certainly apply here. The following parameters are used by statisticians to categorize the correlation between two variables:

- Correlation coefficients between 0.9 and 1.0 indicate variables that are *very highly correlated*.
- Correlation coefficients between 0.7 and 0.9 indicate variables that are *highly correlated*.
- Correlation coefficients between 0.5 and 0.7 indicate variables that are *moderately correlated*.
- Correlation coefficients between 0.3 and 0.5 indicate variables that have *low correlation*.
- Correlation coefficients less than 0.3 have *little if any linear correlation*.

Whew!

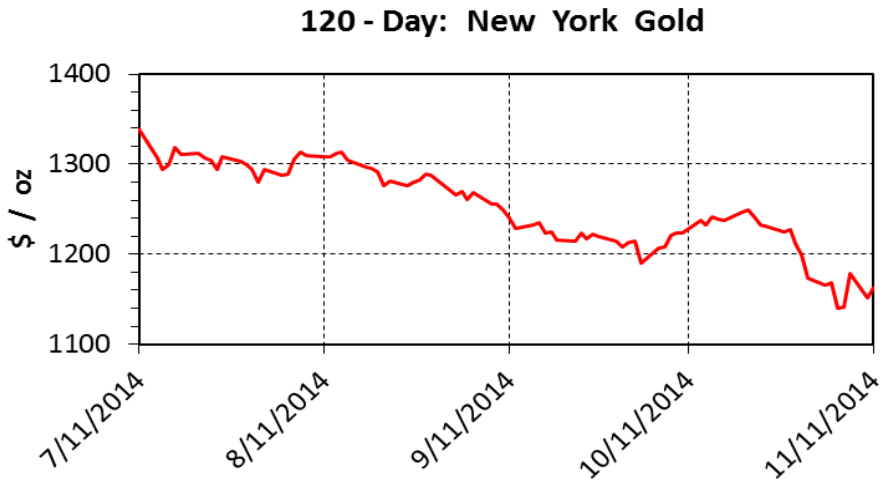
Now that we're finally done with freshman statistics class, let's look at four-month charts for the US Dollar Index (DXY) and the three major hard commodities (gold, copper, and oil) that are listed on integrated world exchanges. That means they are traded in US dollars via both physical (spot) and paper (futures, options, warrants, and ETF) markets.

A quick perusal of the first chart illustrates the recent strength of the US dollar with respect to a basket of world currencies (British pound, Canadian dollar, Euro, Japanese yen, Swedish krona, and Swiss franc). Four months ago, the US dollar index (DXY) was commencing its upward march; it has gone from 80.19 on July 11 to 87.60 on November 11 for a gain of over 9%:

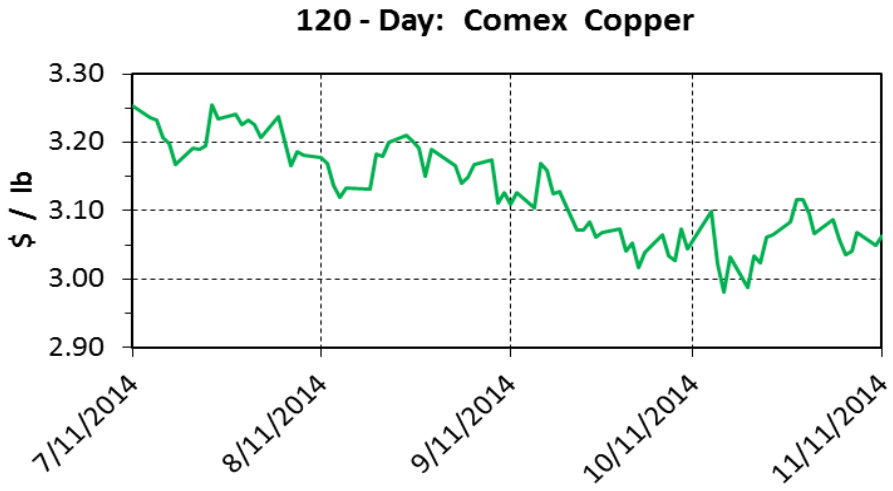


Meanwhile, prices for the world's most important precious metal (Au), its major industrial metal (Cu), and its North American energy benchmark (WTI) have all weakened significantly.

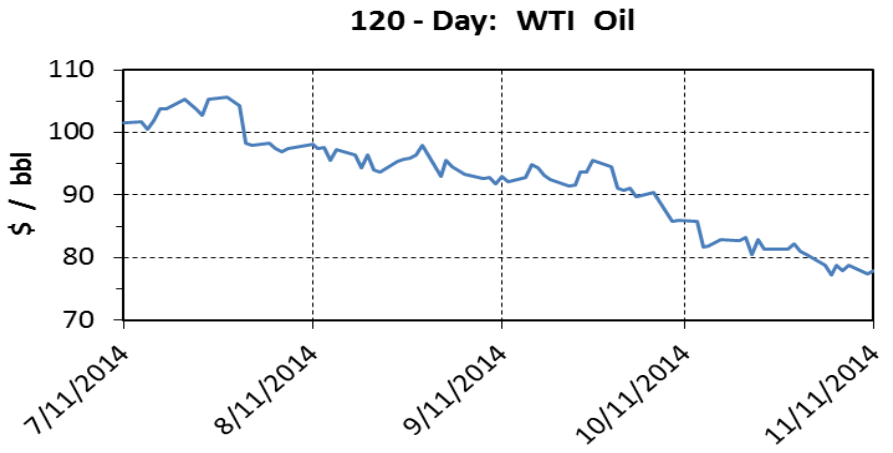
From July 11, when New York gold closed at its highest price since mid-March at $1339 an ounce, it has fallen to $1163. That's a loss of 13%:



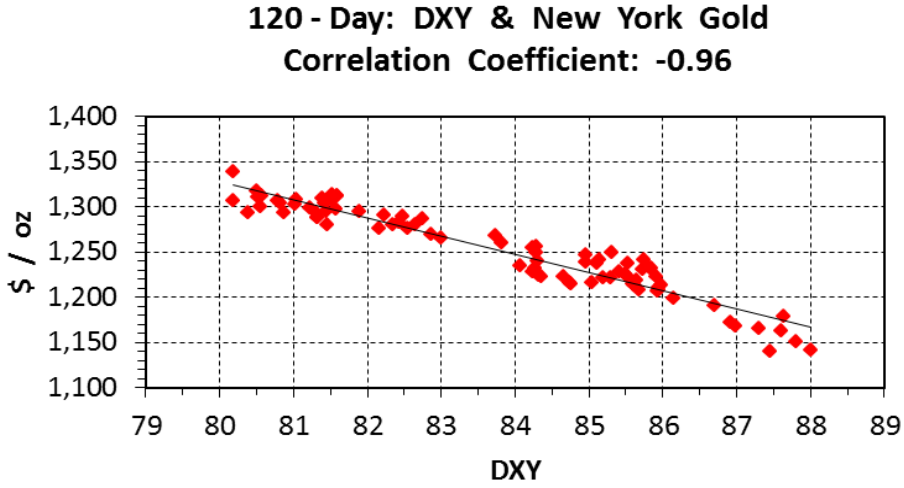
During this same period of time, Comex spot copper went from $3.24 to $3.06 per pound, a drop of 6%:

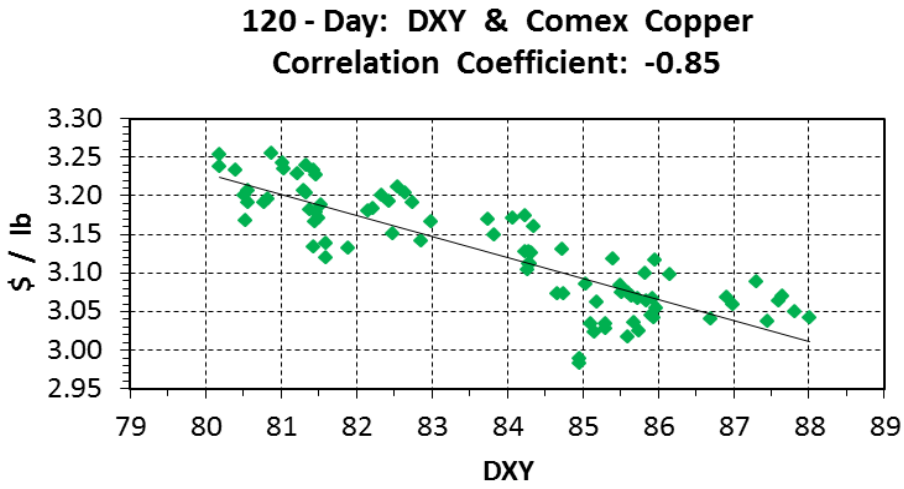


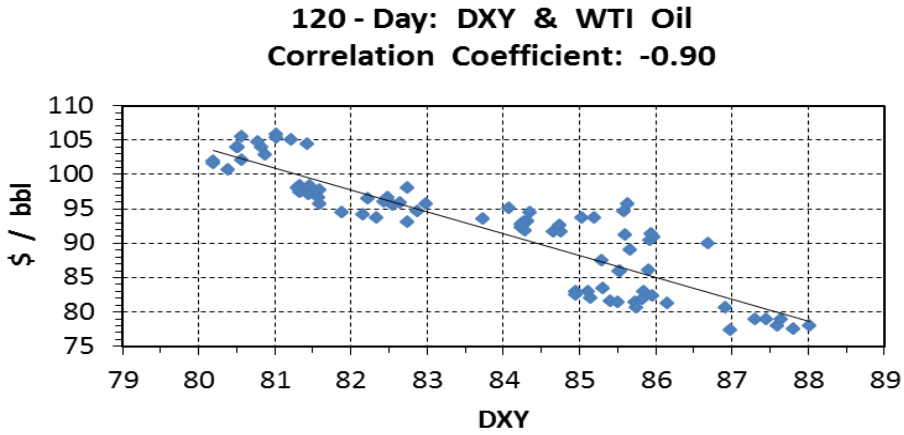
Concomitantly, the West Texas Intermediate crude oil price has collapsed from nearly $106 to just under $78 a barrel, off a whopping 26%:



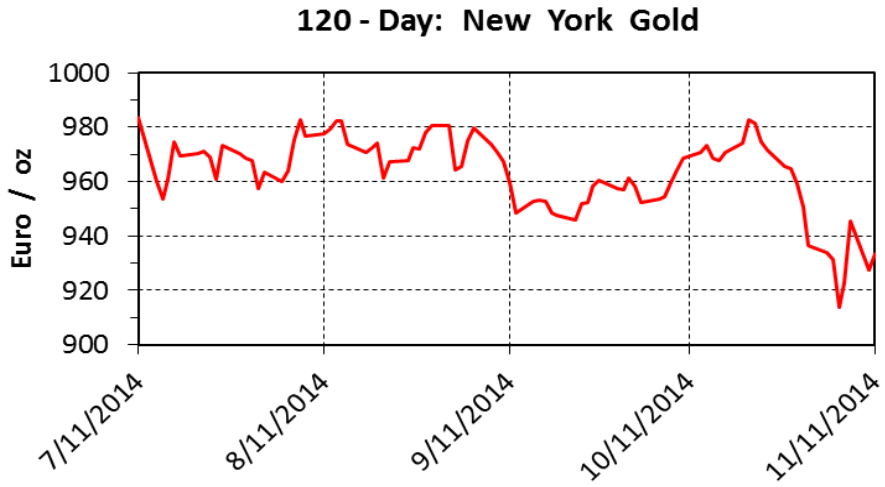
My contention that the 4-month weakness in commodity prices is directly due to the strong dollar is shown by the following correlation coefficients and charts. I think they are self-explanatory:







Further evidence supporting my premise is a 4-month chart showing the price of gold in Euros. Note the relatively minor 5% drop from € 984 to € 933, compared to the aforementioned 13% loss in US dollars:



The four-month commodity and dollar data produce *very high to high* correlation coefficients at -0.96 for gold, -0.85 for copper, and -0.90 for oil.

Although spot commodity prices are based on short-term supply and demand fundamentals, many other factors affect their daily fluctuations. Included are industry news, world events, geopolitics, weather, and natural disasters. Additionally, a good deal of gaming, arbitrage, and attempts at manipulation are thrown into the mix with traders and speculators trying to generate short-term profits via the paper and derivative markets.

Considering these often competing factors, I view the high negative correlation coefficients of the dollar index and major hard commodities over the past four months as quite remarkable.

My basic statistical analysis has shown the recent drops in major world commodity prices are simply due to the strength of the world's reserve currency, the almighty US dollar. This much-maligned fiat currency has suddenly and once again become the world's go-to safe haven.

It is my contention that given the current world economic paradigm, which includes a slowdown of growth in China, continuing struggles in other emerging market countries, European banking and currency woes, and an incipient recovery in America, the US dollar will continue to rise with respect to other major currencies.

And a higher DXY implies further deterioration in the US dollar price of all hard commodities traded on the world stage.

Ciao for now,

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The **Mercenary Geologist Michael S. "Mickey" Fulp** is a Certified Professional Geologist with a B.Sc. Earth Sciences with honor from the University of Tulsa, and M.Sc. Geology from the University of New Mexico. Mickey has 35 years experience as an exploration geologist and analyst searching for economic deposits of base and precious metals, industrial minerals, uranium, coal, oil and gas, and water in North and South America, Europe, and Asia.

Mickey worked for junior explorers, major mining companies, private companies, and investors as a consulting economic geologist for over 20 years, specializing in geological mapping, property evaluation, and business development. In addition to Mickey's professional credentials and experience, he is high-altitude proficient, and is bilingual in English and Spanish. From 2003 to 2006, he made four outcrop ore discoveries in Peru, Nevada, Chile, and British Columbia.

Mickey is well-known and highly respected throughout the mining and exploration community due to his ongoing work as an analyst, writer, and speaker.

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