

Lessons from history on commodity futures trading controversies

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Current debate on commodity futures trading

Let us first briefly examine the oil price spike of 2008. Was this caused by index investors or speculators? From examining data in CFTC (2008), it is unlikely that index investors were the source of this price spike, given that total over-the-counter and on-exchange commodity index investment activity in oil futures contract equivalents actually declined from 31 December 2007 through 30 June 2008.

Using data from the CFTC's Disaggregated Commitments of Trader report, Ribeiro *et al* (2009) found that oil prices and positions of banks and funds were correlated through common reactions to fundamental information. Further, from 2006 to 2009, the variability of oil prices was mostly due to (1) changes in the US dollar, (2) changes in oil market tightness; and (3) expectations of future changes in oil inventories.

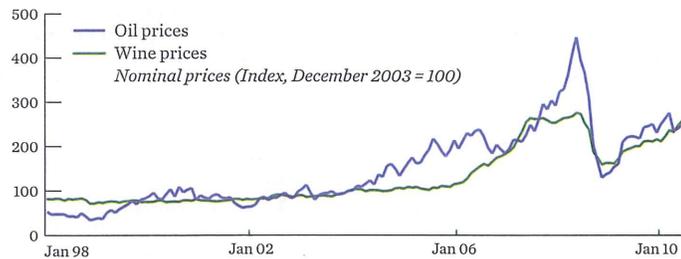
Lynch (2010) obtained unreleased CFTC reports through a Freedom of Information Act request. In one report, CFTC staff had found that, for crude oil prices from January 2003 to October 2008, price changes led position changes, rather than the other way around, as summarised in ITF (2009). If speculators were indeed driving price changes, one would have expected their position changes, instead, to have led price changes.

Last year two IMF researchers creatively contributed to the debate on what caused the extreme fluctuations in oil prices from 1990 to June 2010. When analysing two very distinct commodities – crude oil and fine wine, Cevik and Sedik (2011) found that there are common macroeconomic factors, which were the main determinants of each commodity's price changes. Although supply constraints were a factor for each commodity, the key factor for both commodities was aggregate demand growth. For both crude oil and fine wine, the researchers found that “advanced economies account for more than half of global consumption [while] emerging economies make up the bulk of the incremental change in demand,” which is a recent phenomenon. That said, “global excess liquidity ... [was] likely to have magnified the price pressures stemming from [each commodity's] supply/demand imbalances”.

As Cevik and Sedik discuss, Figure 1 shows how the prices of oil and wine rose “in tandem between 2003 and mid-2008 and [then collapsed] ... simultaneously in the second half of 2008,” which “makes it difficult to ignore the influence of common economic factors”.

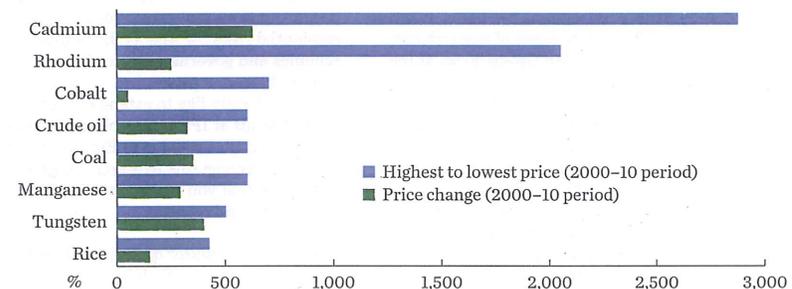
In March 2011, the IEA found qualitatively similar results for a basket of non-exchange-traded commodities versus crude oil from 2000 through 2010. Figure 2 shows how price spikes were not unique to crude oil. The IEA's ‘non-exchange-traded’ basket included rice, coal, manganese, rhodium, cadmium, cobalt, and tungsten. That said, futures do exist on rough rice and Appalachian coal, but the open interest for these two commodities is quite small. The IEA report also showed similar results for the

1. Crude oil and fine wine prices



Data: spot price of crude is measured by the monthly average price of Brent and West Texas Intermediate. Monthly fine wine prices are measured by the Liv-ex Fine Wine Investable Index. Graph based on Cevik and Sedik (2011), Figure 1

2. Performance of crude oil and non-exchange-traded commodities



Data source: Bloomberg

volatility of non-exchange-traded commodities versus crude oil, except that the non-exchange-traded commodities had more frequent volatility spikes than crude oil.

What can we learn from past regulatory history?

A review of the politics around futures trading since the 1890s gives one a sense of déjà vu.

For example, US Congressional testimony from 1892 shows just how extremely unpopular grain futures trading had been, given the competitive dislocations that were occurring at the time. From 1884 through 1953 alone, there were at least 330 bills introduced to the US Congress that sought to “limit, obstruct, or prohibit futures trading”, according to Jacks (2007). More recently, the 1970s witnessed a period of rapid increases in commodity prices with new all-time highs set across a broad range of markets. These price increases were “blamed on speculative behavior associated with the tremendous expansion of trading in futures in

a wide range of commodities”, noted Sanders *et al* (2008). Not surprisingly, “public pressure to curb speculation resulted in a number of regulatory proposals”, continued Sanders *et al*, while “in hindsight, economists generally consider this a period marked by rapid structural shifts such as oil embargoes, Russian grain imports, and the collapse of the Bretton Woods fixed exchange-rate system”, wrote Cooper and Lawrence (1975).

Essentially, challenges to futures trading have been common in US and European history. Over time, regulatory interventions have not been unusual. If a futures contract has not been seen as economically useful, it has been at risk of being prohibited. Thus far, futures trading has survived frequent challenges because market-participant data and positions have been made transparent. This transparency has meant that researchers have been able to carry out objective, empirical studies to prove or disprove the benefits or burdens of exchange-traded futures trading, dating back to

at least 1941 with the release of the Hoffman and Duvel report.

The historical lessons from past challenges to futures trading are as follows:

- Constantly revisit the economic usefulness of commodity futures trading;
- Insist upon transparency in market-participation and position data in a sufficiently disaggregated fashion as to be useful, but also in a sufficiently aggregated fashion as not to violate individual privacy; and
- Carry out empirical studies to confirm or challenge the benefits and/or burdens of futures trading.

In addition to transparent price discovery, one crucial economic function of commodity futures markets is to enable the hedging of prohibitively expensive inventories, with the assumed result that more inventories are privately held than otherwise would be the case. If commodity futures markets do perform that function, then one would expect that their existence would actually lessen price volatility. More inventories than would otherwise be the case would lessen the possibility of commodity price spikes, as argued by Philip Verleger, formerly of the University of Calgary.

The more speculators there are, the more opportunity there is for commercial hedgers to find a natural other side for hedging prohibitively expensive inventories. This in turn means that more inventories can be economically held. Then with more inventories, if there is unexpected demand, one can draw from inventories to meet demand, rather than have prices spike higher to ration demand.

Verleger (2010) noted that, with the forthcoming US position limits in the energies, the volume of speculation could be decreased and therefore the same with the ability to hold hedged inventories. With less inventories being held, one may see the re-emergence of energy price spikes in the winter. Verleger basically argues that the economic function of using derivatives to hedge inventories is so crucial that, even if position limits eventually become draconian, this activity will continue, but will take place in other financial centres. This would be unfortunate for the United States since this could mean that the hedged inventories would be held outside the US, meaning that the US would be more at risk from price spikes because of the time it would take to ship the hedged inventories to the US.

Does futures trading actually lower the price volatility of a commodity?

Professor David Jacks of Simon Fraser University in Canada examined what happened to commodity price volatility, across countries and commodities, before and after specific commodity contract trading has been prohibited in the past. Jacks (2007) also examined commodity-price volatility before and after the establishment of futures markets, across time and across countries. He generally, but not always, found that commodity price volatility was greater when there were no futures markets than when they existed, over one-year, three-year and five-year timeframes.

Consistent with Jacks's historical results, more recently two Illinois professors found that index positions led to lower volatility in a statistical sense. Specifically, Irwin and Sanders (2011) find "mild evidence of a negative relationship between index fund positions and the volatility of commodity futures prices, consistent with the traditional view that speculators reduce risk in the futures markets and therefore lower the cost of hedging". But there

is a caveat. "Excessive speculation as measured by Working's T index is however associated with greater subsequent price variation" in some futures markets, concluded Irwin and Sanders (2010). This could be a breakthrough in our understanding of commodity futures markets. Provided that we have sufficiently reliable data that categorises market participation, we potentially have an empirical guide as to what actually constitutes excessive speculation.

In review, Working's T index is calculated by measuring the amount by which speculation exceeds commercial hedging needs, divided by commercial open interest, as described in Working (1960). A value of somewhat greater than 1 is acceptable for the T index since technically an excess of speculation is economically necessary for a well-functioning market, explain Sanders *et al* (2008). A particularly large T index would indicate that there is an excess of speculators relative to commercial hedging needs. And if individual commodity futures markets reach levels of T indices that are proven to lead to increased price volatility, then at last, futures-market critics would have their 'smoking gun'.

A 2009 EDHEC-Risk position paper evaluated whether the balance of outright position-taking in the US exchange-traded oil derivatives markets had been excessive relative to hedging demand during the previous three years. Till (2009) did so by calculating T indices for the US crude oil market. Using this data and with some notable caveats, one could conclude that speculative position-taking in the US oil futures markets did not appear excessive when compared to the scale of commercial hedging at the time, as of the end of 2009. One has to be careful with how strongly one states this paper's conclusions since, for example, the paper did not examine whether there was excessive speculation in the oil markets in other venues besides the US exchange-traded oil futures markets. In addition, Buyuksahin and Harris (2009) found that the average level of Working's T index in 2008 for the US crude oil market was "rather comparable to historical index numbers in other markets".

An essential historical lesson from past challenges to commodity futures trading has been to encourage transparency in the dealings of market participants. And thus far, this is the approach taken by both the CFTC and the US Congress. Also, according to a CFTC commissioner, as quoted in de la Hamaide and Maitre (2011): "We've been trying to express our desire for other [international] regulators to collect data .. to be able to make sure they're very aware of the correlations between how all those markets work together."

De la Hamaide and Maitre write that "the [regulatory] aim is to be able to reconcile how much trading activity in derivatives and physical market volume can be directly linked to real demand and supply. The data should help regulators see whether speculators are playing a role in commodity price inflation – a causal link that has been difficult to empirically prove."

Conclusion

Public scrutiny of, and scepticism about, commodity futures markets has had a long tradition in both the United States and Continental Europe, dating back to (at least) the last great era of globalisation in the 1890s. Over the past 120 years, two determinations have historically prevented futures trading from generally being heavily restricted.

The first supportive determination has been

a general (although not unanimous) recognition by policy-makers that futures markets serve a legitimate economic purpose. The second determination has been to base public policy on an objective examination of extensively gathered facts, which are summarised via appropriate statistical measures. Clearly, public policy governing futures markets should continue to be based on this framework, both in the US and in Europe.

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