Is Speculation by Long-Only Index Funds Harmful to Commodity Markets?

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Mr. Chairman, my name is Scott Irwin. I am a Professor in the Department of Agricultural and Consumer Economics at the University of Illinois at Urbana-Champaign. I am also the holder of the Laurence J. Norton Chair of Agricultural Marketing. Thank you for this opportunity to comment on the potential impacts of speculation by long-only index funds in commodity markets. As you are well aware, the impact of index funds on commodity prices is currently being hotly debated. Rising costs for energy and food are clearly a cause for general concern. It is commonly asserted that speculative buying by index funds in commodity futures markets has created a "bubble," with the result that market prices far exceed fundamental values. For example, it has been alleged at recent Congressional hearings that the "rampant" speculation by commodity index funds has driven the price of crude oil futures 25% or more above the true fundamental value of crude oil. A number of bills have been introduced recently in Congress with the purpose of prohibiting or limiting index fund speculation in commodity futures markets.

In my comments, I want to first point out the lessons we can learn from similar controversies about speculation in the past. Next, I will examine the available evidence on the balance between speculation and hedging in commodity futures markets over the last several years. Finally, I want to explore a number of facts about the current situation in commodity markets that are inconsistent with the existence of a substantial bubble in commodity futures prices.

A pervasive theme running through the history of U.S. futures markets is skepticism or out-and-out hostility about the role of speculators. Rapidly increasing commodity prices at various times over the last 125 years have been accompanied by assorted attempts to curtail speculation or control prices. For example, just after World War II, soaring grain futures prices, especially for wheat, attracted political attention. President Truman proclaimed that, "the cost of living in this country must not be a football to be kicked around by grain gamblers," and ordered the Commodity Exchange Authority (precursor to today's Commodity Futures Trading Commission) to require futures exchanges to raise margins to 33% on all speculative positions, a truly extraordinary level. In a statement that echoes those being made today, President Truman added, "If the grain exchanges refuse, the government may find it necessary to limit the amount of trading."

U.S. and international commodity markets during 1972-1975, like the current time period, experienced a period of rapid price increases, setting new all-time highs across a broad range of markets. Commodity price increases were widely blamed on speculators and the growing futures industry. Following these price increases, public and political pressure to curb speculation resulted in a number of regulatory proposals and the upward adjustment of futures margin requirements. These changes were accompanied by even more drastic measures—such as federal price controls and an embargo against soybean exports—aimed at lowering commodity price levels.

In the boldest move against speculators in commodity futures, trade in onion futures was banned by the U.S. Congress in 1958. The ban, actually still in place, was due to the widespread belief that speculative activity created excessive price variation. Again, in language very similar to that heard today, a Congressional report stated that "speculative activity in the futures markets

causes such severe and unwarranted fluctuations in the price of cash onions as to require complete prohibition of onion futures trading in order to assure the orderly flow of onions in interstate commerce."

The actions used to reign in supposedly damaging speculation in the past run the gamut from requiring futures exchanges to raise margins to an outright ban on futures trading. The historical evidence is thin, at best, that measures to limit the impact of speculation had the desired effect on market prices. For instance, there is no historical evidence that directives to increase futures margins were effective at lowering overall price levels. The only consistently documented impact of the higher margin requirements was a decline in futures trading volume due to the increased cost of trading. So, while proposals currently being considered might in fact curtail speculation—through reduced volume of trade—it is very unlikely that the measures will cure the "problem" of high prices. But, legislative and regulatory initiatives could severely compromise the ability of commodity futures markets to accommodate the needs of commercial firms to hedge price risks.

Let me now turn to available evidence on the balance between speculation and hedging in commodity futures markets over the last several years. The statistics on long-only index fund trading reported in the media and discussed at earlier Congressional hearings tend to view speculation in a vacuum—focusing on absolute position size and activity. As first pointed out by Holbrook Working back in the 1960's, an objective analysis of futures market activity must consider the balance between speculators and commercial firms hedging market risks. Instead of focusing solely on the question of "Who is doing all the speculative buying?" it is equally important to ask "Who is doing all of the short hedging?" A key insight from this framework is

that speculation can only be considered 'excessive' relative to the level of hedging activity in the market.

A look at the data provided by the Commodity Futures Trading Commission (CFTC) is enlightening in this regard. Table 1 shows the division of open interest for nine commodity futures markets for the first three months of 2006 and 2008. The four basic hedging and speculative positions are: HL = Hedging, Long; HS = Hedging, Short; SL = Speculating, Long; SS = Speculating, Short. Note that index fund traders are allocated almost exclusively to the HL category in Table 1 and that HL + SL = HS + SS. There is an important omission from this table—crude oil futures. As the CFTC noted when it first began publishing data on index fund positions, it is difficult to separate out index fund transactions in energy markets because of the degree to which many firms in these markets engage in multiple trading activities that fall into different classifications and the degree to which firms engage in internal netting of these activities.

As expected, Table 1 reveals that long speculation—driven by index funds—increased sharply in all but one of the nine commodity futures markets over January 2006 through April of 2008. However, the increase in short hedging generally was of similar magnitude or exceeded the increase in long speculation. Corn provides a pertinent example. Speculative buying in corn—including commodity index funds—increased by nearly 250,000 contracts; but, selling by commercial firms involved in the production and processing of corn increased by an even greater amount, around 500,000 contracts. While the increase in long-only index fund positions has received the most publicity, the increase in the size of short hedging positions is equally interesting. For instance, the position of short hedgers during the first quarter of 2008 in corn is equivalent to slightly less than 6 billion bushels, or about half the size of the expected 2008 crop.

The data in Table 1 show that increases in long speculative positions tend to represent speculators trading with hedgers rather than speculators trading with other speculators. The former is considered beneficial to overall market performance since speculators are providing liquidity and risk-bearing capacity for hedgers, while the latter may be harmful since speculative trading is not connected to the risk transfer needs of hedgers. There is no pervasive evidence that current speculative levels, even after accounting for index trader positions, are substantially in excess of the hedging needs of commercial firms. In fact, long speculation in many cases is inadequate to balance the selling done by commercial firms. This result, though surprising to many, is consistent with the historical record for commodity futures markets.

If speculation is driving prices above fundamental values, the available data indicates it is not obvious in the level of speculation relative to hedging. Several other facts are inconsistent with the existence of a substantial bubble in commodity futures prices. Figures 1 and 2, respectively, show the increase in commodity futures prices over January 2006 through April 2008 and the average percent of open interest held by commodity index funds for the same time period. Note that data are presented for the same nine markets as in Table 1. The charts show that price increases are concentrated in grain and oilseed markets, but the highest concentration of index fund positions tend to be in cotton and livestock futures markets. This is the reverse of the relationship one would expect if index fund trading leads to bubbles in commodity prices. Very high prices have also been observed for commodities without futures markets, such as durum wheat and edible beans, and in futures markets that are not included in popular commodity indices tracked by index funds, such as rice and fluid milk. It is difficult to rationalize why index fund trading would impact particular commodity markets but not others.

Another stubborn fact has to do with inventories for storable commodities. If index fund speculation creates a bubble in futures prices for storable commodities, this also creates an incentive to store commodities because prices in the future exceed levels normally required to compensate inventory holders for storage. We should therefore observe an increase in inventories when a bubble is present. In fact, inventories for some commodities, such as grains and oilseeds, have fallen sharply over the last two years, while inventories of other commodities, such as crude oil, have stayed relatively flat or declined modestly. The behavior of commodity inventories is not consistent with large bubbles in commodity futures prices.

Still another difficult fact is the nature of commodity index trading. In order for any trader group to consistently push futures prices away from fundamental value their trading must be unpredictable. Otherwise, competing traders can easily anticipate the buying and selling by the group in question and profit by taking advantage of this knowledge. Index funds do not attempt to hide their current positions or their next move. Generally, funds that track a popular commodity index (e.g., GSCI) publish their mechanical procedures for rolling to new contract months. Moreover, they usually indicate desired market weightings when the index is re-balanced. So, the only uncertainties stem from the overall in-flow or out-flow of money to index funds. It is highly unlikely that other large and well-capitalized speculators, such as commodity trading advisors and hedge funds, would allow index funds to push prices away from fundamental values when index trades are so easily anticipated.

A related point is that large and long-lasting bubbles are less likely in markets where deviations from fundamental value can be readily arbitraged away. There are few limitations to arbitrage in commodity futures markets because the cost of trading is relatively low, trades can be executed literally by the minute, and gains and losses are marked-to-the-market daily. This

stands in contrast to markets where arbitrage is more difficult, such as residential housing. The low likelihood of bubbles is also supported by numerous empirical studies on the efficiency of price discovery in commodity futures markets. The vast majority of studies indicate that commodity futures markets react efficiently to new information as it emerges. Where pricing problems have been documented, they are often associated with the delivery period of particular commodity futures contracts. However, as noted in the recent CFTC background memorandum on the application of its emergency powers, even this type of problem has been infrequent and relatively short-lived.

My position is that there is very limited hard evidence that anything other than economic fundamentals is driving the recent run-up in commodity prices. The main driving factors in the energy markets include strong demand from China, India, and other developing nations, a leveling out of crude oil production, a decrease in the responsiveness of consumers to price increases, and U.S. monetary policy. In the grain markets, driving factors also include demand growth from developing nations and U.S. monetary policy, as well as the diversion of row crops to bio-fuel production and weather-related production shortfalls. The complex interplay between these factors and how they impact commodity prices is often difficult to grasp in real-time and speculators historically have provided a convenient scapegoat for frustration with rising prices.

In conclusion, commodity market speculation by long-only index funds has increased markedly since 2006 in absolute terms. However, most commodity futures markets experienced an equally dramatic or even greater increase in selling by commercial hedgers. In these circumstances, speculative buying facilitates legitimate business transactions and enhances risk transfer for firms involved in commodity businesses. It is possible that long-only index funds impact futures prices, but the available evidence indicates that if there is any impact, it is likely

to be small and fleeting. Therefore, policies aimed at curbing or eliminating speculation by index funds are likely to be counter-productive.

In contrast, policy initiatives that aim to improve the availability and transparency of information about index fund positions in commodity futures markets are laudable. There is a need to study and better understand the role of this new class of speculators in commodity futures markets. The information gap is most glaring in the crude oil futures market, and if reliable data can be collected for this market, I believe it would go some distance towards addressing many of the questions currently being asked about the nature and impact of index fund trading.

For a more detailed analysis of analysis of speculation in commodity futures, please see the following report:

> Sanders, D.R., S.H. Irwin, R.P. Merrin. "The Adequacy of Speculation in Agricultural Futures Markets: Too Much of a Good Thing?" Marketing and Outlook Research Report 2008-02, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, June 2008.

The report can be downloaded on the Internet at:

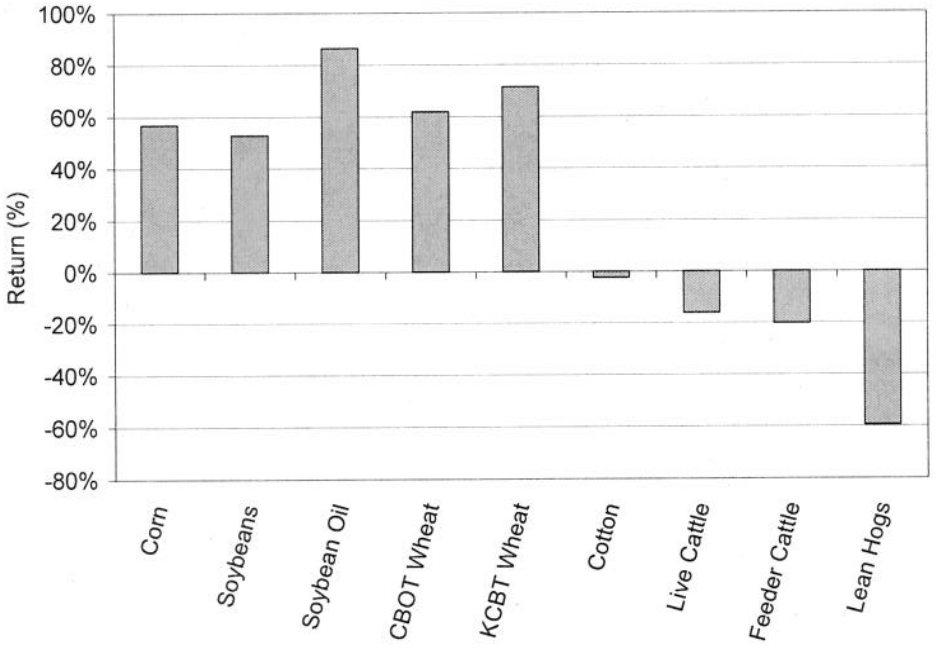
http://www.farmdoc.uiuc.edu/marketing/morr/morr_08-02/morr_08-02.pdf.

Table 1. Speculative and Hedging Positions in Commodity Futures Contracts during the First Quarter of 2006 and First Quarter of 2008

Market	HL	HS	SL	SS
Corn		---# of contracts---		
2006	328,362	654,461	558,600	208,043
2008	598,790	1,179,932	792,368	182,291
Change	270,428	525,471	233,768	-25,752
Soybeans				
2006	126,832	192,218	183,105	107,221
2008	175,973	440,793	351,379	74,844
Change	49,141	248,575	168,274	-32,377
Soybean Oil				
2006	66,636	124,134	92,515	35,599
2008	121,196	228,515	128,546	25,844
Change	54,560	104,381	36,032	-9,755
CBOT Wheat				
2006	57,942	213,278	251,926	92,148
2008	70,084	240,864	300,880	121,578
Change	12,141	27,585	48,954	29,430
KCBT Wheat				
2006	43,993	110,601	80,158	13,560
2008	46,459	96,556	67,827	15,767
Change	2,466	-14,045	-12,330	2,207
Cotton				
2006	41,582	108,085	86,777	21,824
2008	107,826	296,434	200,773	18,918
Change	66,244	188,349	113,995	-2,906
Live Cattle				
2006	54,549	128,951	129,786	45,305
2008	34,970	144,549	198,211	80,303
Change	-19,579	15,599	68,425	34,998
Feeder Cattle				
2006	10,707	17,725	20,769	10,632
2008	6,310	13,435	28,284	18,111
Change	-4,397	-4,290	7,515	7,479
Lean Hogs				
2006	15,949	65,438	93,522	40,036
2008	36,825	113,971	149,415	69,055
Change	20,876	48,533	55,893	29,019

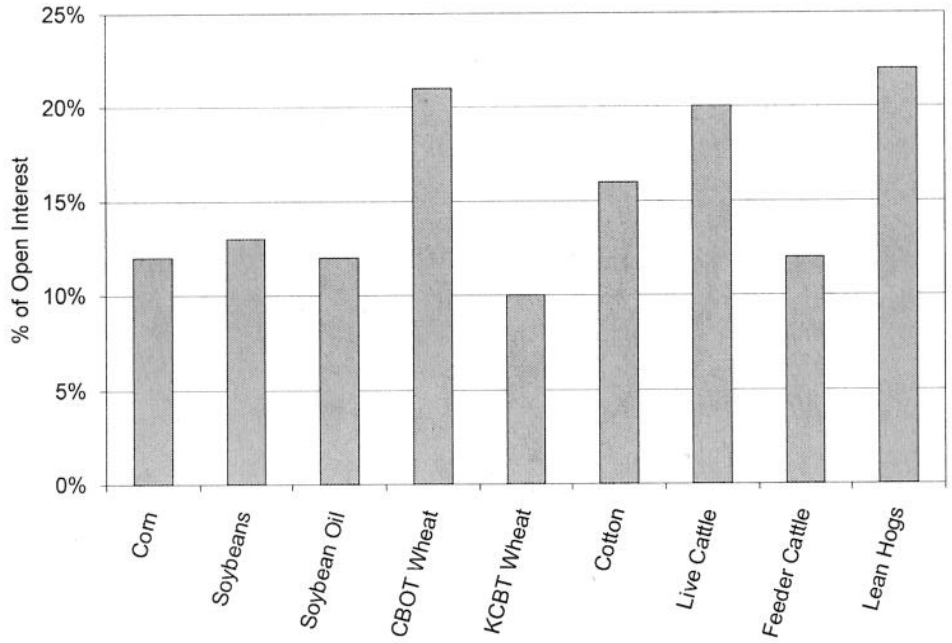
Notes: HL = Hedging, Long; HS = Hedging, Short; SL = Speculating, Long; SS = Speculating, Short. Long-only index fund positions are classified as speculative. The data reflect average positions in the first calendar quarter of 2006 and 2008, respectively. Source: Sanders, Irwin, and Merrin (2008).

Figure 1. Percent Change (return) in Commodity Futures Prices, 2006-2008.



Notes: The returns are the cumulative Tuesday-to-Tuesday log-relative price changes for nearby futures contracts for the weeks ending January 3, 2006 to April 15, 2008. Price changes and returns are adjusted for contract roll over. Source: Sanders, Irwin, and Merrin (2008).

Figure 2. Average Percent of Open Interest Held by Index Funds in Commodity Futures Markets, 2006-2008.



Source: Sanders, Irwin, and Merrin (2008).