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Commodity Indices and Futures Markets

Fabio Mattos
University of Nebraska-Lincoln

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Cornhusker Economics

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Market Report	Year Ago	4 Wks Ago	2-5-16
Livestock and Products, Weekly Average			
Nebraska Slaughter Steers, 35-65% Choice, Live Weight.	*	135.00	*
Nebraska Feeder Steers, Med. & Large Frame, 550-600 lb.	278.92	189.17	198.26
Nebraska Feeder Steers, Med. & Large Frame 750-800 lb.	217.73	171.74	159.45
Choice Boxed Beef, 600-750 lb. Carcass.	246.69	207.16	221.84
Western Corn Belt Base Hog Price Carcass, Negotiated.	67.49	49.59	62.22
Pork Carcass Cutout, 185 lb. Carcass 51-52% Lean.	80.32	69.11	76.86
Slaughter Lambs, wooled and shorn, 135-165 lb. National.	*	141.38	139.11
National Carcass Lamb Cutout FOB.	378.87	363.23	356.93
Crops, Daily Spot Prices			
Wheat, No. 1, H.W. Imperial, bu.	4.87	3.87	3.74
Corn, No. 2, Yellow Nebraska City, bu.	3.47	3.42	3.44
Soybeans, No. 1, Yellow Nebraska City, bu.	9.16	8.36	8.24
Grain Sorghum, No.2, Yellow Dorchester, cwt.	6.88	5.57	5.62
Oats, No. 2, Heavy Minneapolis, Mn, bu.	3.08	2.65	2.52
Feed			
Alfalfa, Large Square Bales, Good to Premium, RFV 160-185 Northeast Nebraska, ton.	212.50	173.75	155.00
Alfalfa, Large Rounds, Good Platte Valley, ton.	75.00	83..75	82.50
Grass Hay, Large Rounds, Good Nebraska, ton.	82.50	85.00	87.50
Dried Distillers Grains, 10% Moisture Nebraska Average.	177.75	135.00	132.50
Wet Distillers Grains, 65-70% Moisture Nebraska Average.	58.00	51.50	52.00

*** No Market**

The beginning of the year always brings news about commodity indices, particularly the annual changes in their composition. Actually, the rebalancing of several indices has been in the news for the last few months. Just to mention a couple of examples, on November 15, the Financial Times commented that "the impending reshuffle of the two main commodity benchmarks – the Standard and Poor's-Goldman Sachs Index (S&P GSCI) and Bloomberg Commodity Index (BCOM) – means that the futures contracts for livestock will see $780m worth of buying by fund managers, as both indices have increased the weightings of cattle and hogs." On January 13, Thomson Reuters also reported on this topic, citing the S&P GSCI and its "52bps decrease in weights (roughly $936 million) allocated to the energy sector, to be reallocated mainly to livestock and industrial metals respectively". It also mentioned the BCOM, for which "the main changes will be an increased exposure to nickel (+24 bps), live cattle (+24bps) at the expense of sugar (-37 bps) and West Texas Intermediate (WTI) Crude (-37 bps)."

But why does the news often talk about these indices and, more importantly, why should we pay attention to them? The reason is that commodity indices have become increasingly important in commodity markets over the years, mainly because they can be traded and hence used as an investment vehicle for investors interested in commodities. Before we expand on this idea, let us first remember what commodity indices are. A commodity index represents the weighted average price of a basket of commodities, typically traded in the futures market. Different commodity indices will include different commodities

and have different weighting schemes. For example, Table 1 shows the composition and weights of two of the main commodity indices in the market: the S&P GSCI and the BCOM. Both indices are represented by diversified baskets of commodities. Overall, the composition of the indices is similar, but there can be large differences in weights assigned to individual commodities. For example, the two types of crude oil account for approximately 43% of the S&P GSCI Index and only 15% of the BCOM Index.

Since the composition and weighting may differ across commodity indices, their behavior over time will also differ, reflecting the price performance of different commodities and their relative importance in the index. Figure 1 shows the S&P GSCI Index and the BCOM Index over the last 5 years. Although the general behavior is similar, their respective percentage changes exhibit different magnitudes. In 2011, the average price of the basket of commodities represented by the S&P GSCI Index dropped 1.93%, while the average price of the basket of commodities represented by the BCOM Index dropped 13.68%. On the other hand, in 2014, the average price of the basket of commodities represented by the S&P GSCI Index fell 32.46%, while the average price of the basket of commodities represented by the BCOM Index fell 16.85%.

Now that we reviewed what commodity indexes are, let us go back to the idea that they can be used as investment vehicles. Investors or traders who are interested in commodity markets do not typically want to buy or sell physical commodities, but rather invest their money in financial instruments that replicate the price performance of a commodity or group of commodities. Since commodity indices represent the average price of a basket of commodities, financial instruments based on a commodity index will do exactly that. Many instruments have been developed in the last 10-20 years, such as futures contracts on the S&P GSCI Index and BCOM Index, as well as funds that mimic a given commodity index. Most investments in commodity indices fall within these funds, which are commonly referred to as 'index funds' or 'index traders'. These funds generally invest in futures contracts on the commodities included in the commodity index of their choice, trading different quantities of each futures contract in order to replicate the price performance of the index. They typically take long positions in the futures markets, i.e. they "buy" the commodities in the futures markets as if they were "buying" the commodity index (this is why those funds are sometimes called "long-only" funds).

Data from the U.S. Commodity Futures Trading Commission (CFTC) can give us an idea of the magnitude of these index funds in futures markets. The CFTC has data on what it calls Commodity Index Traders, which it defines as: "all of these traders—whether coming from the non-commercial or commercial categories—are generally replicating a commodity index by establishing long futures positions in the component markets". Figure 2 shows the proportion of long ("buy") positions from commodity index traders compared to the total number of open contracts (open interest) in commodity futures markets between January 2006 and January 2016. After reaching a peak around 40-50% a few years ago, the participation of index traders has diminished recently. However, it is still significant at approximately 20% across markets. As a comparison, we can look at the number of futures contracts held by index traders and the number of futures contracts held by "commercials", who are defined by the CFTC as those using futures contracts for hedging. The CFTC considers two general types of traders as commercials": (i) "producers, merchants, processors, users" who have a commercial interest in and deal directly with the physical commodity, and (ii) "swap dealers", who deal with swaps for a commodity. Figure 3 shows the number of long ("buy") contracts held by index traders, and the number of long ("buy") and short ("sell") contracts held by commercial traders. As a quick illustration of futures hedging in grain markets, grain processors (who buy grain) would typically hold long futures contracts, while grain producers (who sell grain) would typically hold short futures positions. As can be seen in Figure 3, the number of futures contracts held by index traders is similar to, and sometimes larger than, the number of futures contracts held by commercial traders in many markets. In other words, index traders have become as relevant as commercial traders ("hedgers") in commodity futures markets.

Given the magnitude of their positions, it is important to understand and pay attention to index traders in futures markets, especially because of two characteristics of the commodity indices that they try to replicate: rolling and rebalancing. Commodity indices are based on futures contracts, which have specific expiration dates. Thus, a commodity index has to be adjusted every time the futures contract of one of its commodities expires, i.e. it has to "drop" the expiring contract and "add" the next contract with a new expiration date. For example, when the corn futures contract for March is about to expire, a commodity index will "drop" the March contract and start following the May contract. Index funds will also have to make this adjustment, offsetting their futures contracts for the expiring month and starting new long positions in the new contract. As futures contracts have several expiration dates, this adjustment happens frequently during the year. A similar process applies to rebalancing, which refers to changes in the

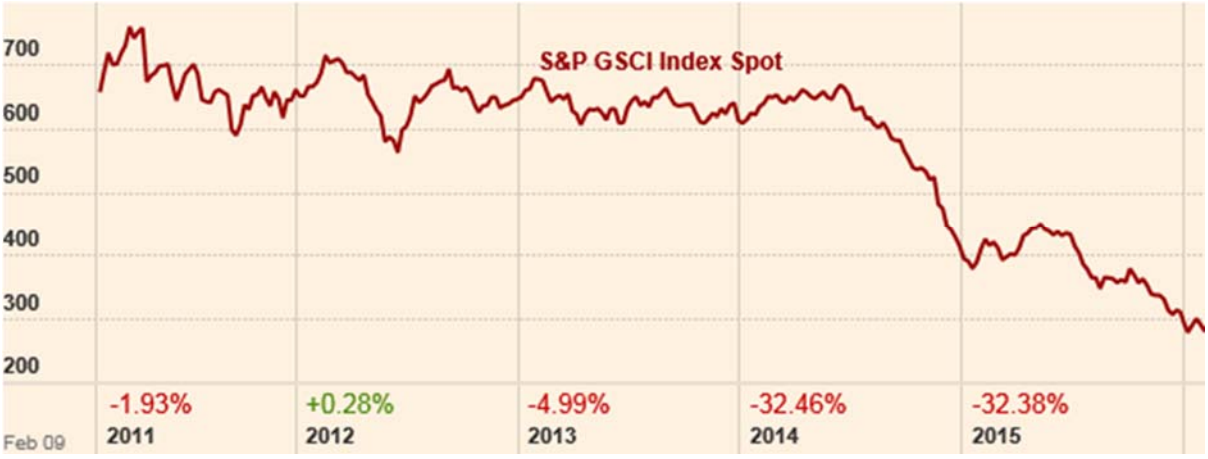
composition and/or weighting of commodity indices over time. Each commodity index has specific rules to determine what commodities are included and what weights are assigned to each one. Every time the basket of commodities and their weights are revised, index traders also have to trade futures contracts in such a way to keep their portfolio consistent with the composition and weighting of the commodity index they are mimicking. This is what the news in the beginning of this article was referencing .

Therefore, considering all the trading involved in rolling and rebalancing commodity indices, along with the large positions held by index traders in futures markets, a natural question emerges: do index traders have a long-term influence on futures prices? Many researchers have explored this point, generally finding no clear evidence linking index traders and large changes in futures prices over time. It is true that more and better data would be helpful to shed more light on this issue, but there is so far no conclusive evidence indicating that index traders may cause large movements in futures prices over the years. Still, there can be short-term impacts on futures prices as index traders roll and rebalance their positions, and hence it is important for market participants to understand and follow what they do.

Table 1: Composition and weights of the S&P GSCI and BCOM

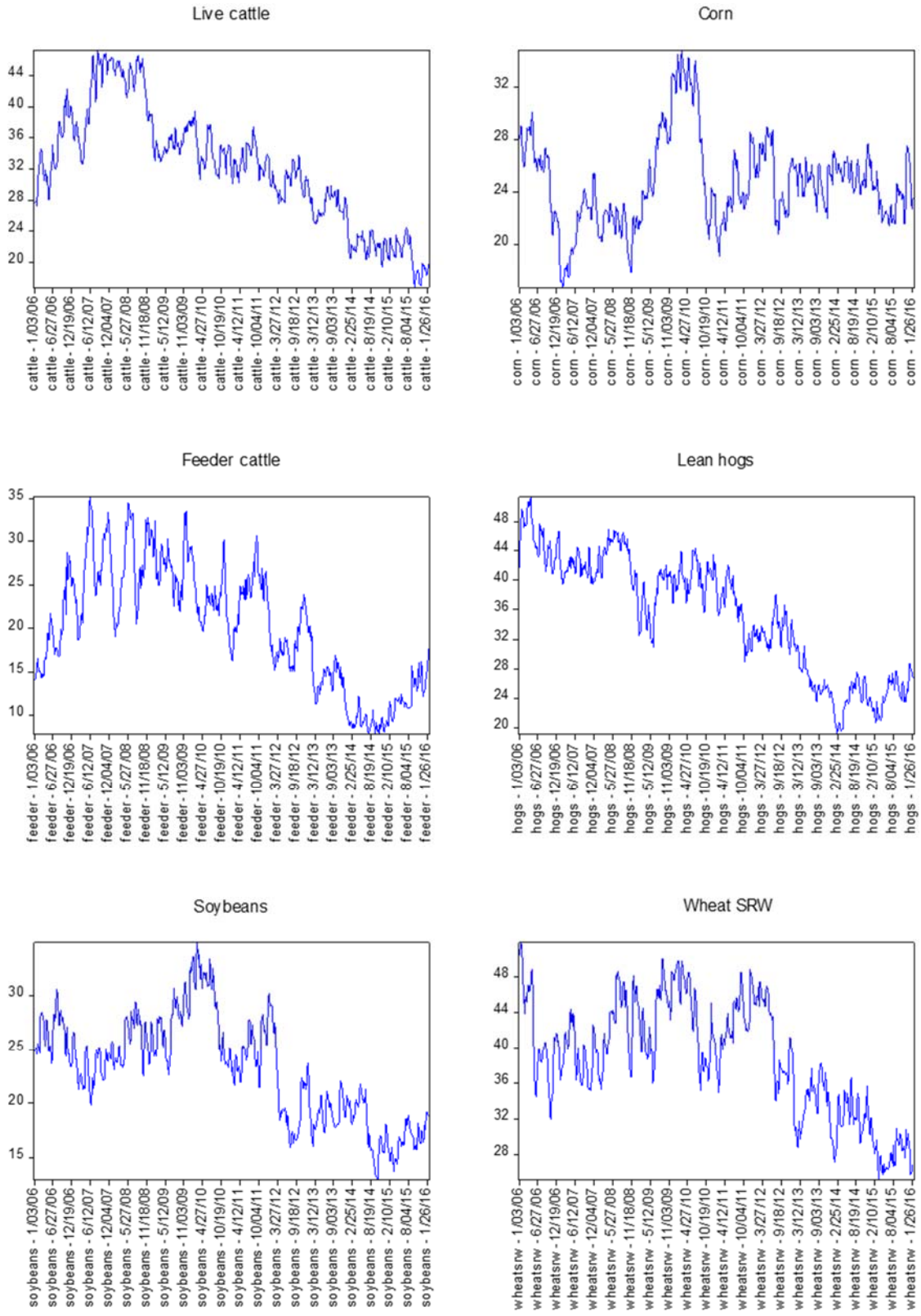
	S&P GSCI	BCOM
Energy	***63.05%***	***31.03%***
Natural gas	3.24%	8.45%
WTI crude oil	23.04%	7.47%
Brent crude oil	20.43%	7.53%
ULS diesel	–	3.83%
Unleaded gasoline	5.31%	3.75%
Heating oil	5.21%	–
Gas oil	5.82%	–
Grains	***11.59%***	***23.22%***
Corn	4.23%	7.36%
Soybeans	2.95%	5.70%
Wheat	3.53%	3.33%
Soybean oil	–	2.84%
Soybean meal	–	2.84%
HRW wheat	0.88%	1.15%
Industrial metals	***8.91%***	***17.11%***
Copper	3.85%	7.63%
Aluminum	2.88%	4.60%
Zinc	0.88%	2.53%
Nickel	0.60%	2.36%
Lead	0.70%	–
Precious metals	***3.65%***	***15.59%***
Gold	3.24%	11.38%
Silver	0.41%	4.21%
Softs	***4.17%***	***7.41%***
Sugar	1.59%	3.63%
Coffee	0.94%	2.29%
Cotton	1.19%	1.49%
Cocoa	0.45%	–
Livestock	***8.64%***	***5.63%***
Live cattle	4.79%	3.57%
Lean hogs	2.30%	2.06%
Feeder cattle	1.55%	–

Figure 1: S&P GSCI Index and Bloomberg Commodity Index over the last 5 years



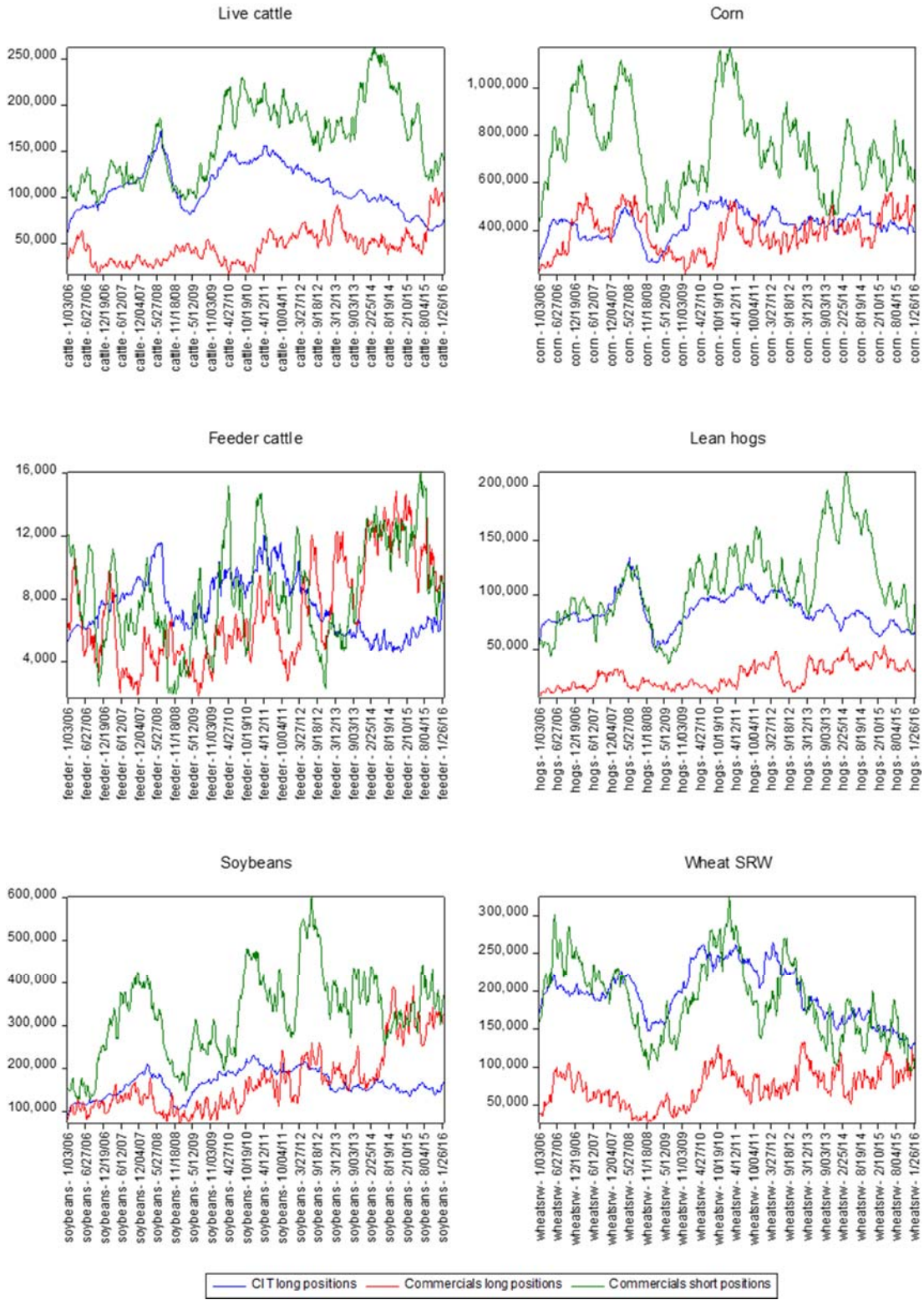
Source: Financial Times website

Figure 2: Long positions held by index traders as a proportion of total open interest since 2006 (%)



Source: you. As. Commodity Futures Treating Commission (CFTC)

Figure 3. Long positions held by index traders (blue line) and long and short positions held by commercial traders (red and green lines) since 2006 (number of contracts).



Source: U.. S. Commodity Futures Trading Commission (CFTC)

Fabio Mattos, (402) 472-1796
Assistant Professor
Department of Agricultural Economics
University of Nebraska-Lincoln
fmattos@unl.edu