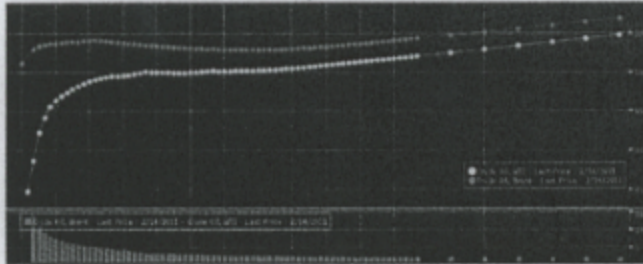
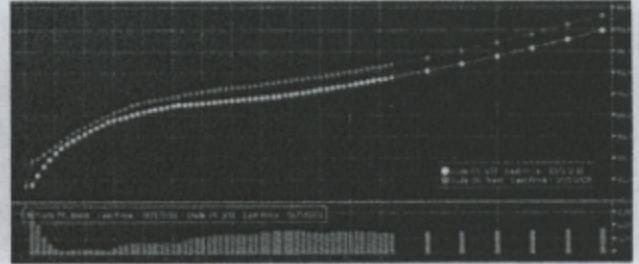


Brent (green) and WTI (white) futures strip

February 14, 2011

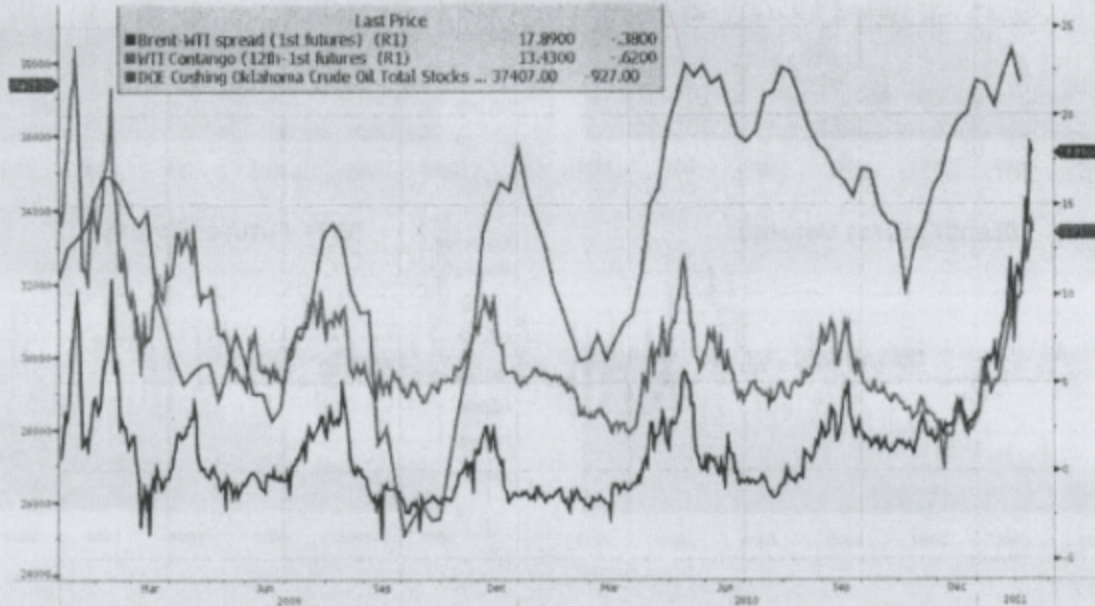


October 1, 2010



The graph below shows that there is a positive correlation between the level of Cushing oil inventory, the steepness of the WTI futures curve (measured by the difference between the 12th and 1st futures contracts) and the Brent-WTI spread. The logic is that higher Cushing inventory levels cheapen the WTI near term futures prices pushing the WTI curve more into contango (i.e. steeper). The higher inventory level also increases the relative valuation of Brent to WTI (i.e., WTI cheapens versus Brent) as can be seen by the correlation between the orange and black lines. Reflecting the supply/demand misbalance at Cushing, the WTI futures curve is currently much steeper than the Brent futures curve.

Brent-WTI spread (black), WTI futures steepness (orange) and crude inventories at Cushing (green)



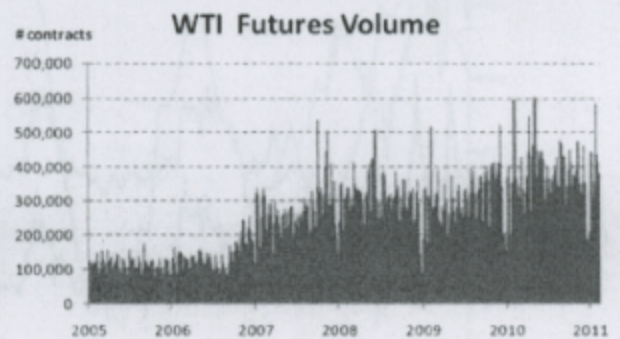
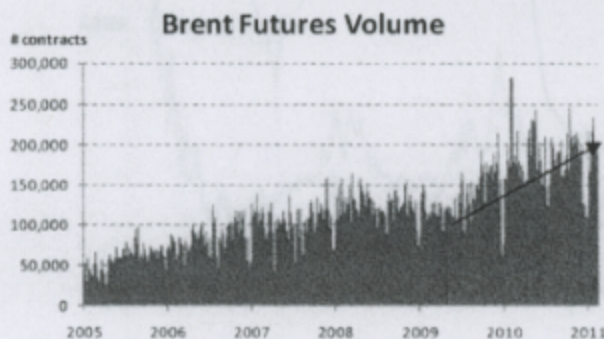
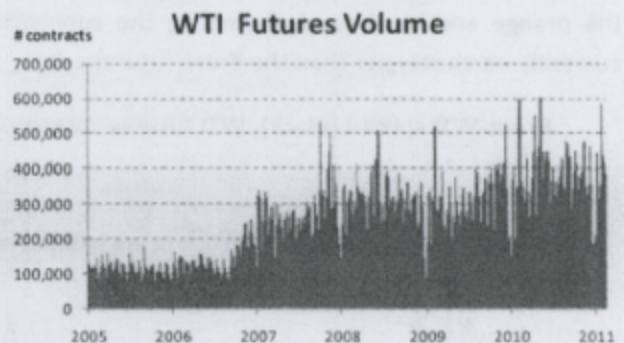
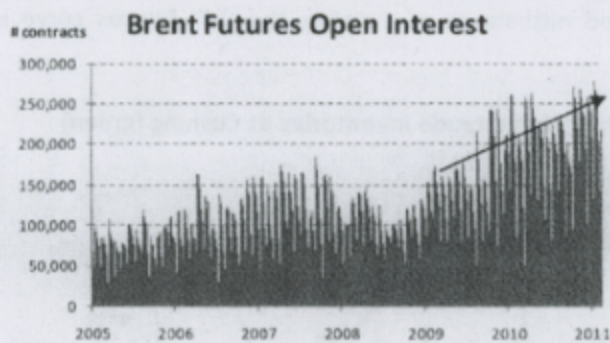
However, it seems that Cushing crude inventories may not be the sole driver of the recent increase in the Brent-WTI spread. Cushing crude inventories have been elevated for some time now and the WTI futures curve has been steeper without the Brent-WTI spread widening to the same extent and as quickly as it has recently. Some

Maksym Padalko, FMD
February 15, 2011

analyst point to an unscheduled shutdown of several large rigs in the North Sea as one of the factors limiting Brent supply in the near-term. It is also believed that the political uncertainty and threat of civil unrest in oil producing Middle East countries contributed to the higher prices of Brent.

More interestingly though, there are signs of increased financial speculation in Brent. There were media reports about one trader owning 30% of cargo ships used for Brent delivery and reoffering them at higher prices. Financial Times also pointed out difficulties in WTI/Brent arbitrage related to current pipeline and refineries configuration and US export prohibition laws of domestically extracted oil. Brent futures are normally cash settled which further complicates the arbitrage between the different oil markets. Overall trading in the Brent futures contracts has increased relative to the WTI futures (see graphs below) potentially supporting the argument of increased financial speculation. The Intercontinental Exchange where a vast majority of Brent crude futures trade reported recently that Brent futures average daily volume reached a record high in January, up 44% from January a year ago.

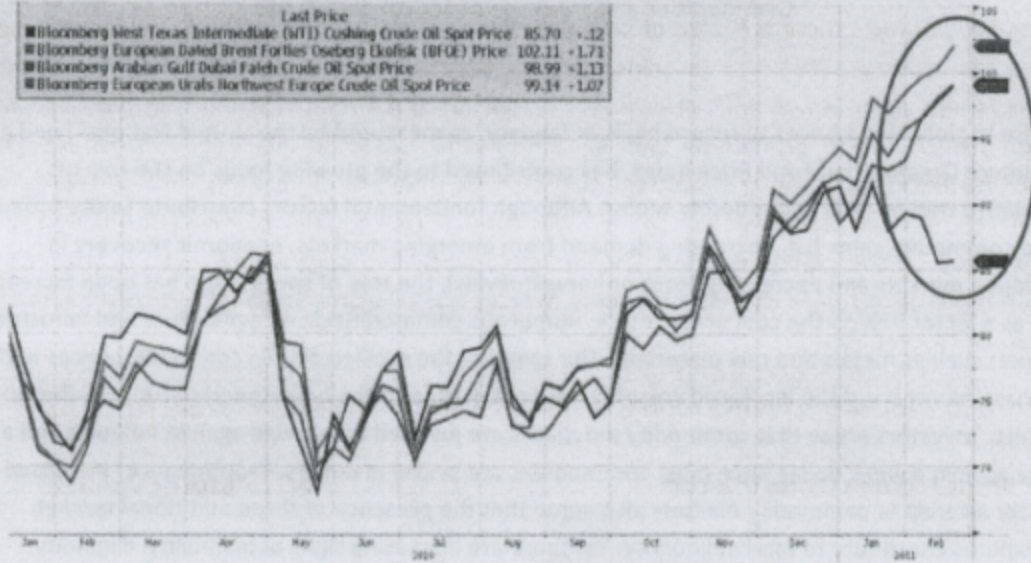
Trading activity in front month futures contracts in Brent (Intercontinental Exchange) and WTI (NYMEX)



Brent has also increased relative to other major global benchmarks (Dubai and Urals) – see graph below. This divergence between Brent and other global oil benchmarks is not as large as between Brent and WTI, partially because these other benchmarks are considered to be closely linked to Brent (i.e., Dubai and Urals are often

priced as a spread off Brent). Albeit small, this divergence supports the thesis that there may be some unique factors that pushed Brent higher.

Global oil benchmarks: WTI (black), Brent (orange), Dubai (blue) and Urals (green)



Commodities and Evidence of Speculative Trading

The rise in global food prices to record highs in January, as measured by the United Nations' Food and Agriculture Organization Food Price Index, has contributed to the growing focus on the role of speculative trading in the commodity sector. Although fundamental factors contribute to the broad-based commodity gains (i.e., increasing demand from emerging markets, economic recovery in developed markets and decreasing stock or harvest levels), the role of speculation has been increasingly cited as a factor behind the concurrent rise in numerous commodities, i.e., agriculture and industrial products such as metals and raw materials. The speed of the acceleration in commodity prices in the last three months and the increased volatility has contributed to the heightened scrutiny of these markets. Investors argue that commodity purchases are justified as a hedge against inflation and a hedge against a weak dollar since most commodities are priced in dollars. Proponents of increased investor interest in commodity markets also argue that the presence of these additional market participants contribute to market liquidity. Yet there are increasing signs of instability, illiquidity, volatility and price dislocation, all attributable to the speculative or financial participants, rather than the core commodity participants. Since the size of traded commodity markets remain much smaller than that of other financial markets, any marginal increase in commodities investment by market participants (i.e., pension funds, hedge funds, CTAs and managed money positions) has a disproportional impact on prices.

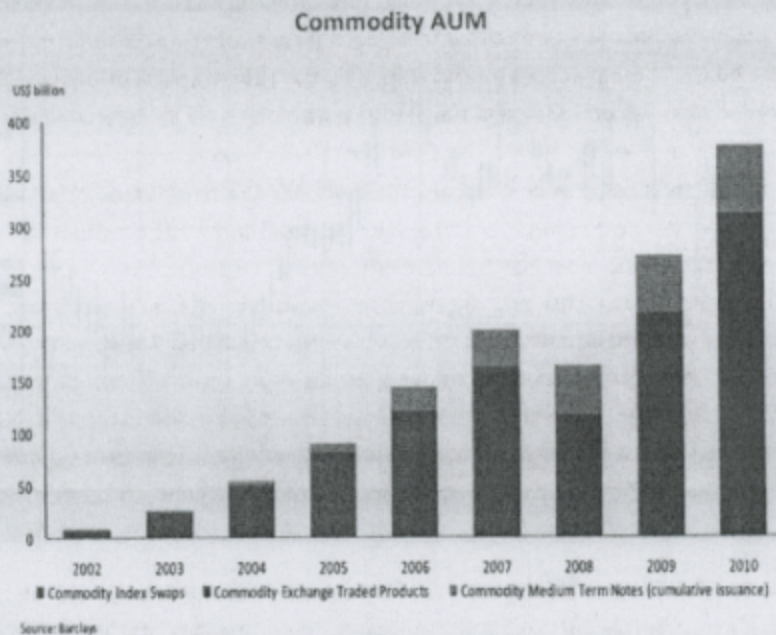
The rise in commodity price gains in the last few months is similar to the price gains observed in 2008. A number of studies released following the 2008 events (e.g., from the IMF, the World Bank, France and academic institutions - see attached **addendum**) conclude that the financialization of oil markets was partly behind the escalation in prices. In the wake of the financial crisis, the global decline in interest rates, the weak dollar and the low cost of leverage made financialization of commodities attractive to speculators again. The focus of this financial interest has spread beyond traditional commodities such as oil and gold this time, with rising prices in cocoa, cotton, copper and sugar all linked to speculation, forcing a strong reaction from the core group of participants who had historically dealt in these products. Certainly the rise in prices has been supported by fundamentals. For instance, other financial market strategies, such as currency carry trades, would not have attracted speculative flows had not the yield differential warranted the interest from the broader market. Data clearly shows that investors have sharply increased their presence in the commodity markets, as illustrated by the increase in assets under management (Graph 1).

The latest Q4 earnings data shows that many banks - including BNP Paribas, Société Générale, Barclays, Credit Suisse, and UBS - have increased their commodity trading risk exposure. Although U.S. banks reduced their risk exposure to commodities in 2010 Q4, their initial exposure was generally at higher levels than most of their European counterparts. Using data obtained from the rally in commodities into

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2008, the Michel Barnier, the commissioner in charge of EU financial reform notes that financial contracts for derivatives in commodities tripled between 2002 and 2008. Similarly, according to a report by the Senate Subcommittee on Investigations, commodity index funds grew from \$15 bln in 2003 to \$200 bln in 2008. The U.S. futures market for oil grew from \$16 bln to \$202.5 bln from June 2000 to June 2008.

Graph 1. Assets Under Management



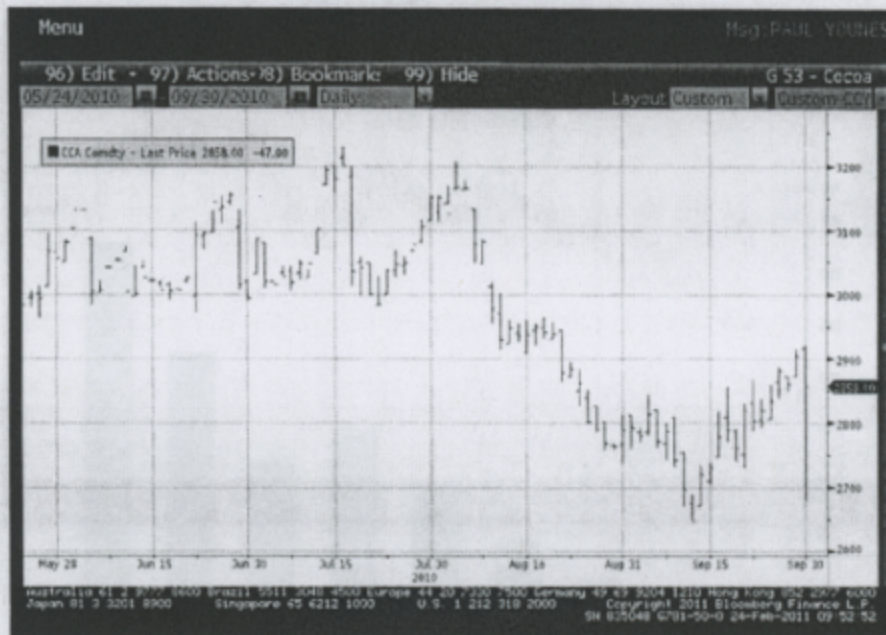
Cocoa

Cocoa was one of the first markets to attract attention for having speculative forces apparently driving prices, rather than genuine end-user demand, when 16 European industry cocoa market participants complained to London International Financial Futures and Options Exchange (LIFFE) on July 2, 2010. The group of cocoa consumers, processors and traders threatened that speculation in cocoa might force them to shift to the U.S.-based Intercontinental Exchange (ICE) due to the lack of transparency in the market in London. A single holder of July 2010 24,100 long futures positions was responsible for driving prices on LIFFE to the highest levels since 1977, rising 30% over the previous 12 months. The position was equivalent to 5.3 bln quarter-pound chocolate bars and the entire supply of cocoa in Europe and analysts believed that it was unlikely that large chocolate companies such as Nestle or Kraft or even suppliers would purchase cocoa in such a large size. The buyer was later revealed to be Armajaro Asset Management, a commodity and financial services business often identified as a hedge fund. LIFFE decided however that there was no evidence of abusive behaviour while analysts noted that forward prices at the time, including the December contract, had been steadily declining for two months. In the

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wake of the July contract expiration, London cocoa prices fell continuously, dropping to the lowest levels in 12 months by September 2010 (Chart 2).

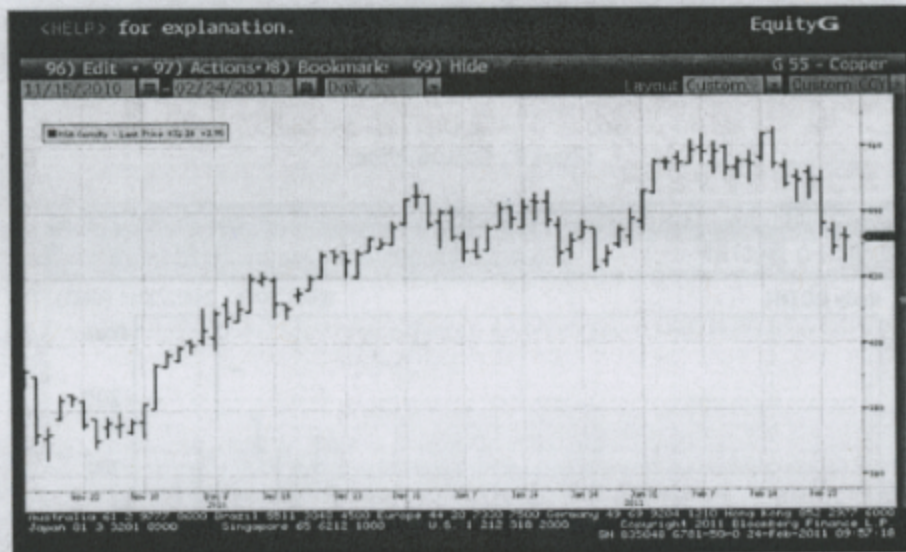
Chart 2. Cocoa price



Copper

Copper was the next futures contract that appeared to be the target of a speculator rather than a normal end-user of the metal. In December 2010, the LME reported that a single trader held up to 90% of the copper in the LME warehouses, a position worth about \$3 bln and equal to about half of all the exchange-registered supply of copper in the world. There was widespread speculation in the press that the holder of the position was JP Morgan. Copper traded to what, at the time, was record highs (Chart 3). There are also reports of single traders holding significant proportions of other metals: 90% of the LME aluminum stocks, from 50% to 80% of nickel, zinc and aluminum alloy markets, and 40% to 50% of LME tin stockpiles.

Chart 3. Copper Price



Cotton

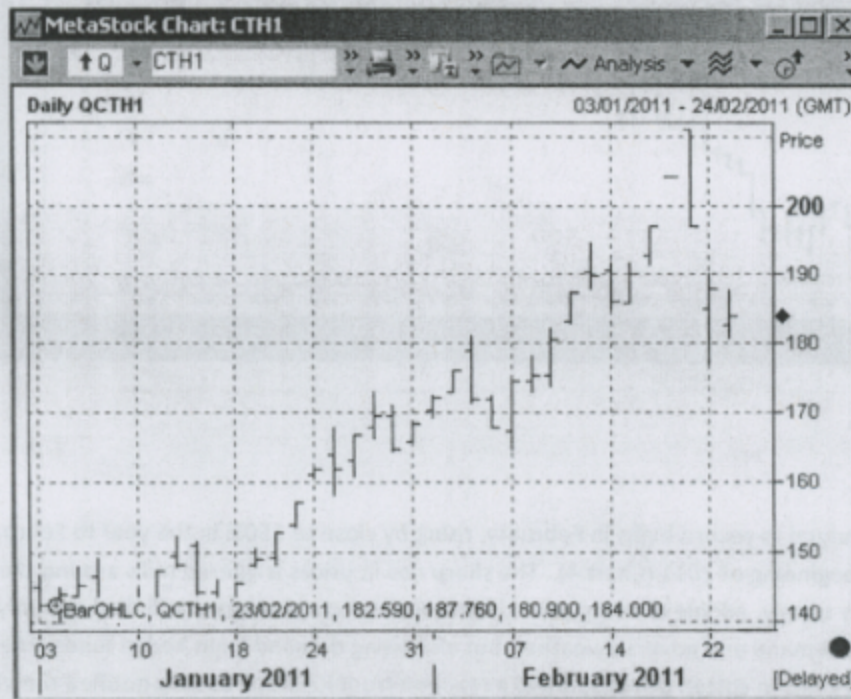
Cotton prices surged to record highs in February, rising by close to 150% in the year to February and 45% since the beginning of 2011 (Chart 4). The sharp rise in prices triggered mills around the world to scramble to buy supply, adding to rising prices. This acceleration in prices was linked not only to expected rising demand and adverse weather, but also rising demand from hedge funds. The unprecedented gains in cotton prices sparked a reaction from ICE Futures who notified the markets on February 4 that any trader seeking to maintain positions to buy or sell more than 30,000 bales would have to prove it was economically necessary to do so. By February 13th, in the wake of the exchange action, the net long positions showed that hedge funds had cut these positions by 11% to the lowest levels since July. This did not have an immediate price impact, however, since mills were still short ahead of the March contract expiry. ICE increased margins for cotton futures by 20 percent on February 16th. It is estimated that, ahead of the February 18 deadline to buy the contracts to fix the supply, less than 200,000 bales had been certified for delivery for March while open contracts for that contract equaled 8.6 M bales. This accounted for a continued cotton price rise into February 17, the day before the delivery deadline, and on the 18th, as the deadline for March delivery expired, cotton prices collapsed, triggering a halt in trading twice in the day, as the contracts fell limit down.¹ In the wake of the volatility, ICE Futures also announced another hike in the margin requirements for cotton that

¹ Limit Down is the maximum amount by which the price of a commodity futures contract may decline in one trading day.

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Friday. The collapse of prices on the 18th extended into the following week, with cotton prices ending another day, limit down, (with risk aversion over violence in the Middle East attributed to some of the selling in cotton and other commodities.) Moreover, the physical market is showing other signs of dysfunction with farmers in Texas said to be renegeing on sales made at lower prices, in order to take advantage of the sharp rise. Similarly, anecdotal reports of farmers hoarding bales of cotton in China have emerged.

Chart 4 . Cotton Price



Sugar

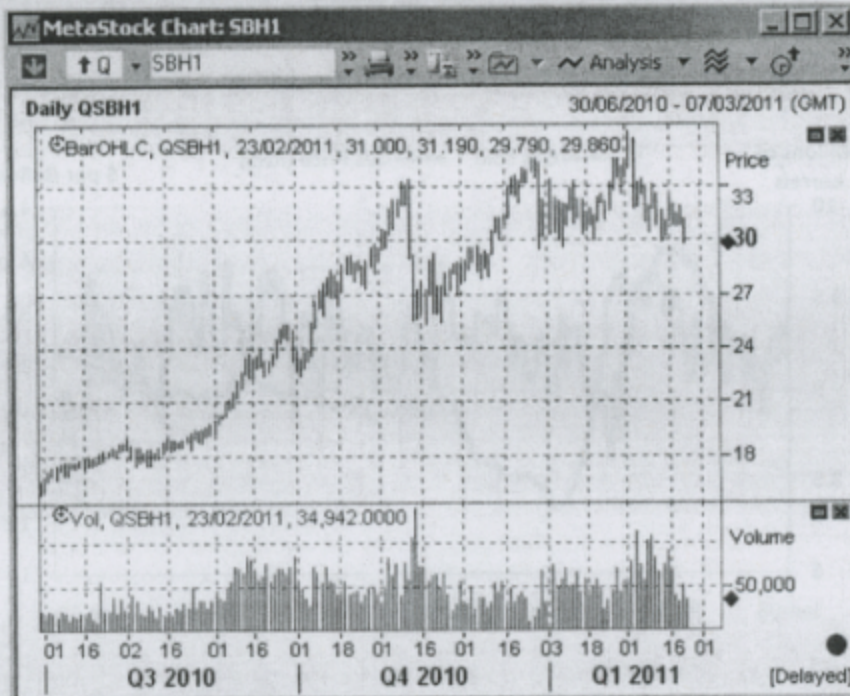
In February 2011, ICE Futures US exchange has had to respond to concerns from members of the World Sugar Committee that high-frequency and algorithmic traders are behind increasingly volatile prices in the sugar market. The participants said that price volatility is causing difficulties for "members of the real sugar community" and that the rise in volatility coincided with the exchange "ushering in the computer-based traders by turning the implied matching engine off."² Members of the real sugar community feel that the computer-based traders do not present a net benefit in terms of improved liquidity, that they do not take "price-risk home" and that they are "parasitic." The complaint comes in the wake of sugar prices rising to 30-year highs because of lower supply. (Chart 5). The sugar community feels that the algorithmic traders have contributed to "flash crashes" in sugar prices, similar to those

² The exchange turned off the matching engine in 2009 in order to help raise trading volumes. The matching engine helps to ensure that spreads on longer-dated contracts are not out of line.

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seen in stock markets with the single largest one day sell-off in 30 years seen in November and continuing a second day for a 20% price decline in two days. ICE Futures US exchange is now looking to turn its implied matching engine back on on March 1st and is said to be considering "circuit breakers" in order to cap price volatility.

Chart 5. Sugar



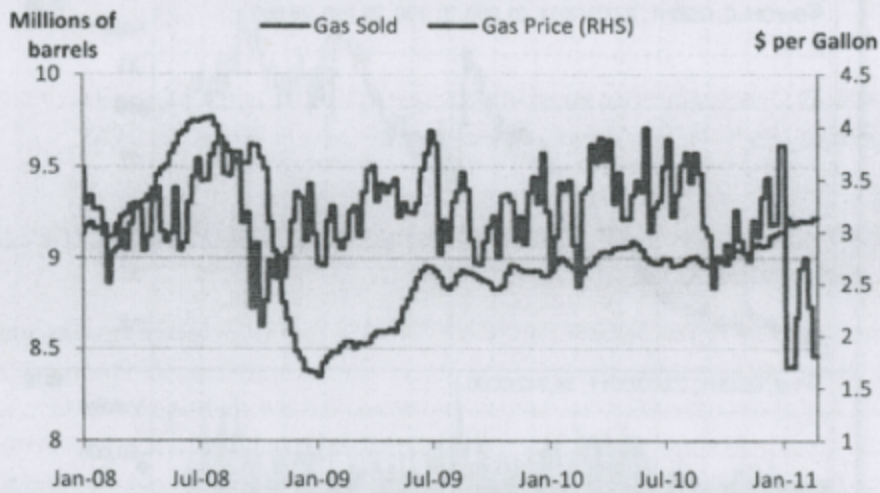
The increasing financialization in commodities is spreading to more components of the commodity market. Dairy prices have surged 25% since November 2010, with few signs of supply shortages, but rather a price reaction to the squeeze in other commodities. In December, Starbucks CEO specifically blasted "speculators" behind the rise in coffee prices, calling it "financial speculation at its worst." The increasing destabilization effect of commodity speculation is having a contagion effect on other commodities with the rise in oil prices seen feeding through across the supply chain of all agricultural commodities, particularly corn which becomes attractive for ethanol as a substitute for oil. Similarly, the rising price of corn is expected to spill over into the price of hogs and cattle due to rising feed costs. The volatility can be contagious with speculators getting squeezed in the latest correction sparked by the retreat in cotton prices, and wheat has suffered the largest drop since 2008, adding to commodity volatility.

There are signs that rising prices have started impacting demand. Beef and pork stocks data released this week show that supplies in warehouses are rising, suggesting that demand has slipped as a result of

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higher prices. Similarly, recent data from the MasterCard Advisors' SpendingPulse shows that gasoline demand has slipped as pump prices are sustained above \$3.00 a gallon (Chart 6). Analysts now believe that oil prices are approaching levels that could shave global GDP and negatively impact trade balances for emerging markets. Rising oil prices on the back of Middle East unrest are also contributing to the latest correction in global stocks, with stocks such as airlines coming under considerable pressure from the higher oil prices. While this suggests that the commodity price gains may be self correcting, there is no question that it is also adding to increasing market volatility.

Chart 6. Gas – sale volumes and prices



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Addendum

The 2008 Oil Price "Bubble". Mohsin S. Khan, Number PB09-19, Peterson Institute for International Economics, August 2009

<http://www.piie.com/publications/pb/pb09-19.pdf>

"While market fundamentals obviously played a role in the general run-up in the oil prices from 2003 on, it is fair to conclude by looking at a variety of indicators that speculation drove an oil price bubble in the first half of 2008."

Placing the 2006-08 Commodity Price Boom into Perspective, John Baffes, Tassos Hanriotis, Policy Research Working Paper 5371, World Bank, Development Prospects Group, July 2010

http://www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2010/07/21/000158349_20100721110120/Rendered/PDF/WPS5371.pdf

"What conclusion can be derived from all this in the context of excess liquidity and speculation? Was investment fund activity at least partly responsible for the recent commodity boom? Any commodity-related activity on the financial side is unlikely to alter long-term price trends, which will ultimately be determined by market fundamentals. But, such activities can induce higher price variability in the sense of exacerbating the length and the amplitude of price cycles, as they most likely did during the 'perfect storm' of 2007/08."

Index Investment and Financialization of Commodities, Ke Tang and Wei Xiong, Princeton, January 2011

<http://www.princeton.edu/~wxiong/papers/commodity.pdf>

"This paper finds that concurrent with the rapid growing index investment in commodities markets since early 2000s, futures prices of different commodities in the US became increasingly correlated with each other and this trend was significantly more pronounced for commodities in the two popular GSCI and DJUBS commodity indices. This finding reflects a financialization process of commodities markets and helps explain the synchronized price boom and bust of a broad set of seemingly unrelated commodities in the US in 2006-2008."

World Economic and Financial Surveys, Regional Economic Outlook, Middle East and Central Asia, May 2008, International Monetary Fund

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<http://www.imf.org/external/pubs/ft/reo/2008/MCD/eng/mreo0508.pdf>

"In summary, it appears that speculation has played a significant role in the run-up in oil prices as the U.S. dollar has weakened and investors have looked for a hedge in oil futures (and gold). As financial market conditions settle down, fundamentals should take over and oil prices should come down further from the highs recently observed. How far they will come down will depend on how the world economy is doing, and if history is to be a guide, they will come down slowly."

Who is in the Oil Futures Market and How Has it Changed?, Kenneth B. Medlock III and Amy Myers Jaffe, James A. Baker III Institute for Public Policy, Rice University, 26 August 2009

<http://www.rice.edu/energy/publications/docs/MedlockJaffeOilFuturesMarket-082609-1.pdf>

"While correlation does not imply causation, the trends evident in the open interest data are impossible to ignore. It is striking that only after the CFMA (Commodity Futures Modernization Act) was enacted did the composition of the players in the market significantly change and oil prices rise to unprecedented highs. However, analysis must also take into account that the physical crude oil market had to be tight in order for speculative activity to be able to exert such extensive upward pressure on price."

The Oil Price Really Is A Speculative Bubble, R. S. Eckaus, 08-007, June 2008, Center for Energy and Environmental Policy Research, A Joint Center of the Department of Economics, MIT Energy Initiative and Sloan School of Management

<http://www.cii.org/UserFiles/file/oil%20prie%20is%20spec%20bubble%20-%20MIT%20study%20-%20June%202008.pdf>

The Effects of Ethanol on Texas Food and Feed, David P. Anderson, Joe L. Outlaw, Henry L. Bryant, James W. Richardson, David P. Ernstes, J. Marc Raulston, J. Mark Welch, George M. Knapek, Brian K. Herbst, and Marc S. Allison, Agricultural and Food Policy Center, Texas A&M University, 10 April 2008
<http://www.afpc.tamu.edu/pubs/2/515/RR-08-01.pdf>

"Speculative fund activities in futures markets have led to more money in the markets and more volatility. Increased price volatility has encouraged wider trading limits. The end result has been the loss of the ability to use futures markets for price risk management due to the inability to finance margin requirements."

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Report on the Working Group on Oil Price Volatility, Chaired by Professor Jean-Marie Chevalier, A
Ministere de L'economie de L'industrie et de L'emploi, France, February 2010

<http://www.minefe.gouv.fr/services/rap10/100211chevalier-report-eng.pdf>

"... There was a huge upsurge in financial markets for oil, refined products and, more generally, for commodities. This rapid growth of the financial sphere - with a volume of transactions that would today represent about thirty-five times the oil traded in the physical market - goes hand in hand with increasing numbers of participants, financial products and marketplaces, some regulated (organised markets) and others, of increasing importance, unregulated (over-the-counter - OTC - markets).

The 2008-2009 period has therefore raised the problem of interactions between the physical and financial elements. It is marked by three successive phases: between January and July 2008, oil prices rose to 145 dollars, which quickly raised questions over the potential role played by financial markets; between July and December 2008, they dropped to 36 dollars, due to a financial adjustment in investors' positions and falling demand resulting from the economic crisis; during 2009, prices rose to 80 dollars which seems contrary to the state of the physical fundamentals, notwithstanding OPEC's production cuts."