

**Soft Commodity Funds, Food Price Volatility, Speculation and
Public Perception**
Why soft commodities are a special asset class

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Soft Commodity Funds, Food Price Volatility, Speculation and Public Perception - Why soft commodities are a special asset class

Prof. Em. Eric Tollens

1. Introduction¹

This paper reviews evidence on food price volatility, soft commodity speculation and the public perception of these practices, at least from a Belgian perspective. Soft commodity speculation expanded greatly during the 2007-2008 food crisis and since then has become an asset class of its own in which many banks and investment institutions engage in. This is fueled by food price volatility, especially for the soft primary commodities which the food industry uses as ingredients: cereals, oilseeds, vegetable oil, sugar, coffee, cocoa, etc.

Of course, speculation is not new and extends to all primary commodities, to stocks and bonds, currencies, and in fact all asset classes. What is special about soft commodity (comprising all agricultural products and raw materials for the food, fiber and bio-fuel industry) speculation is that it impacts on our daily food, and that there are nearly one billion people in the world that are chronically food insecure, i.e. don't have enough to eat every day for a normal and healthy life. The recent food crisis added more than 100 million people, according to FAO, to that group. The 50 poorest countries in the world - basically all agriculturally based economies - are nearly all net importers of food, particularly cereals, and thus depend on the world market for their food supply. Many poor families spend over half their income on food. And this is why food price speculation raises many ethical questions and why soft commodities - the basis of food - are a special asset class. This will be examined in detail hereafter.

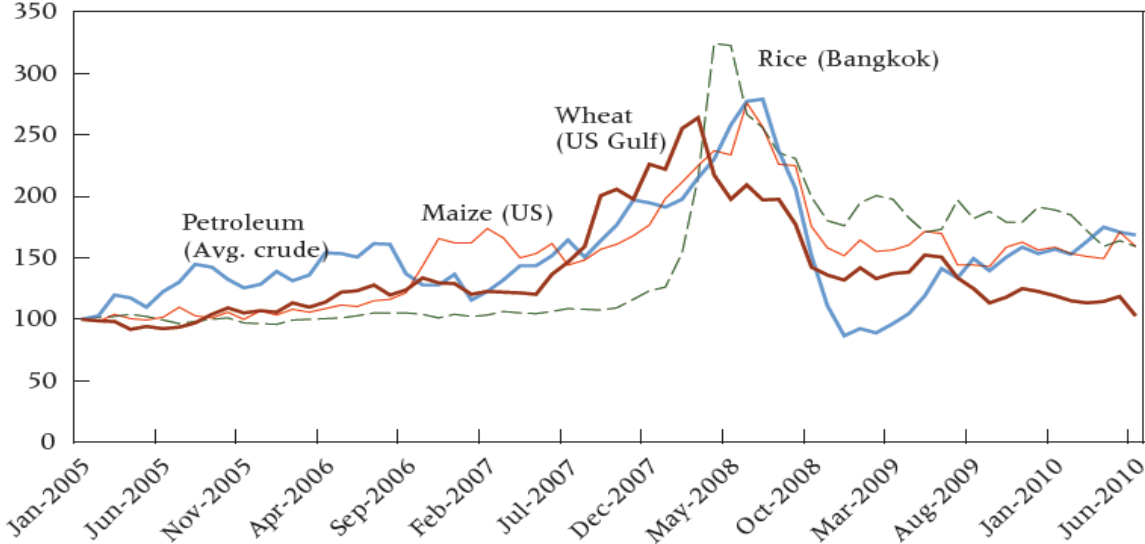
2. The 2007-2008 food crisis

The 2007-2008 food crisis was a complex event. It is the longest and largest food price bubble since 1900, although prices increased less than during the 1974 boom with the first oil crisis caused by OPEC. Unlike previous commodity price booms, prices increased across the board and agricultural prices followed the price boom. A combination of both supply and demand factors contributed to the price boom. Input prices, particularly energy and fertilizer price increases outpaced agricultural price increases, with at the peak oil prices close to 150 \$ per barrel. Like in 1974, the oil crisis played a major role showing again the close link between agricultural prices and oil prices. In food grains, there was no "strong" demand pull but rather weak supply because of weather factors. For rice, many major exporters (all, starting with India, except Thailand and the USA) put on export controls and even export bans. This caused rice prices to triple in 2007-2008. In biofuels and vegetable oils, strong demand played a major role as biofuels could easily compete with fossil fuels. In the livestock sector, increasing feed prices led to large price increases. Also, food prices increased more than the contribution of agricultural prices implied, induced by higher energy prices.

¹ Food prices and agricultural prices are used interchangeably, although they pertain to different commodities. The term soft commodities is used for agricultural as well as food products.

At the second half of 2008 with the banking and real estate crisis in the USA, which spread worldwide, a deep economic crisis set in. Demand for high value added processed foods in emerging Asian countries collapsed (dairy, meat) and food prices went back to their pre-2007/2008 level, except in many poor developing countries depending on import. Rice prices never went back to their previous level and remained high. Weather induced agricultural supply shocks (e.g. wheat in 2010) became more frequent (El Nino, La Ninja in 2010) and will probably stay, induced by global warming.

FIGURE 1 Real commodity price indexes, January 2005–June 2010 (Index, January 2005 = 100)



NOTE: Deflated using the IMF US GDP index.
 SOURCE: IMF International Financial Statistics «<http://www.imfstatistics.org>».

Figure 2

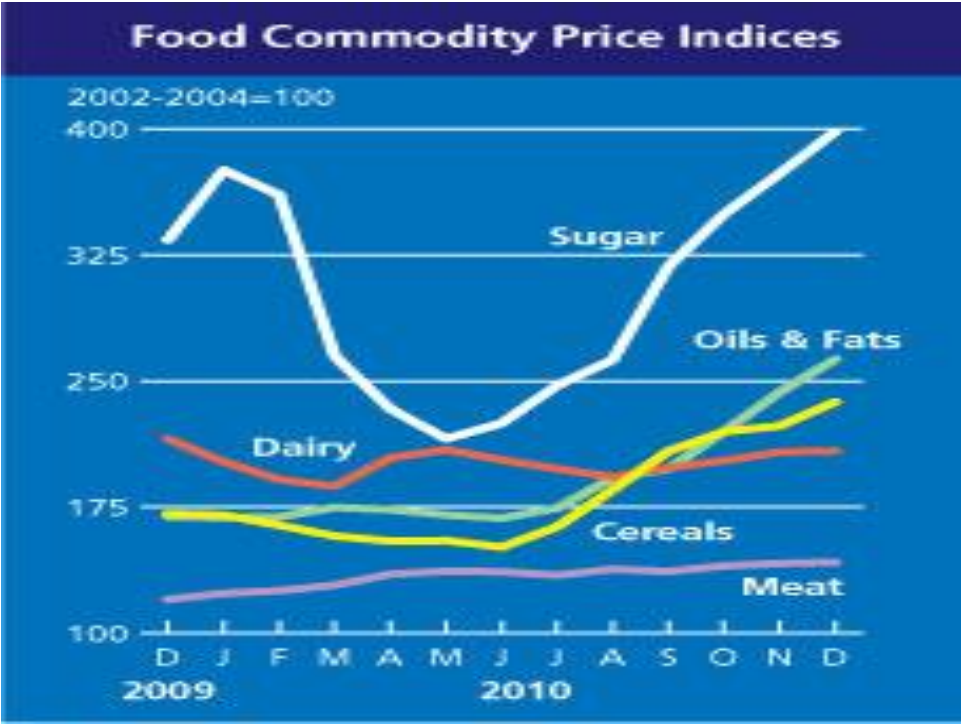


Figure 3



As oil prices are again close to 100 US\$/barrel and will probably continue to rise, a new coming surge in food prices is again predicted, e.g. by Nomura². Nomura predicts "another multi-year surge in food prices likely given rapidly growing demand for food in the developing world, constraints and uncertainties surrounding food supply and the development of increasingly powerful feedback loops". They have constructed a Nomura Food Vulnerability Index for 80 countries.

All this is to be viewed against the "big picture" which indicates a needed increase between 70% (most optimistic scenario) and 100% (pessimistic scenario) of global agricultural production in 2050 when the world population will have increased from 6,9 billion people now to 9 billion in 2050, 95% of the increase occurring in developing countries. Even today at the beginning of 2011, several agricultural prices are already at a historic high: sugar, coffee, cocoa, palm oil, cotton, ... The main conclusion from the foregoing is that agricultural prices are likely to remain highly volatile, which offers interesting opportunities for speculation and investment as an asset class.

3. Increased volatility in agricultural and food prices?

Volatility occurs when there are demand and/or supply shocks in conjunction with inelastic supply and demand. Inelasticity implies small shocks can have large price impacts. Over the last decade, agricultural - and food prices have become more volatile. At least, that is the perception. Several reasons can be advanced: agricultural policy reform in OCDE countries with direct, decoupled income support replacing direct market interventions (price supports), thus allowing rapid supply/demand adjustments. The economic liberalization in agriculture

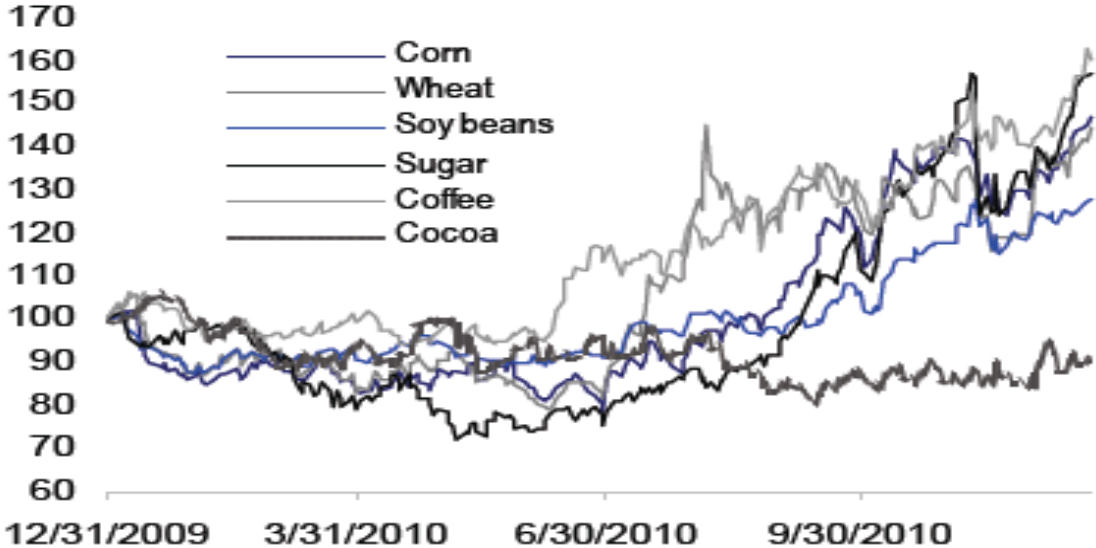
² Nomura, Global Economics and Strategy, "The coming surge in food prices", September 8, 2010.

thus means that world market prices now penetrate more easily in domestic markets. Slowing productivity growth in agriculture in industrialized countries, where agricultural prices in real terms are now lower than a decade ago, means less supply growth and less need to export

Figure 4

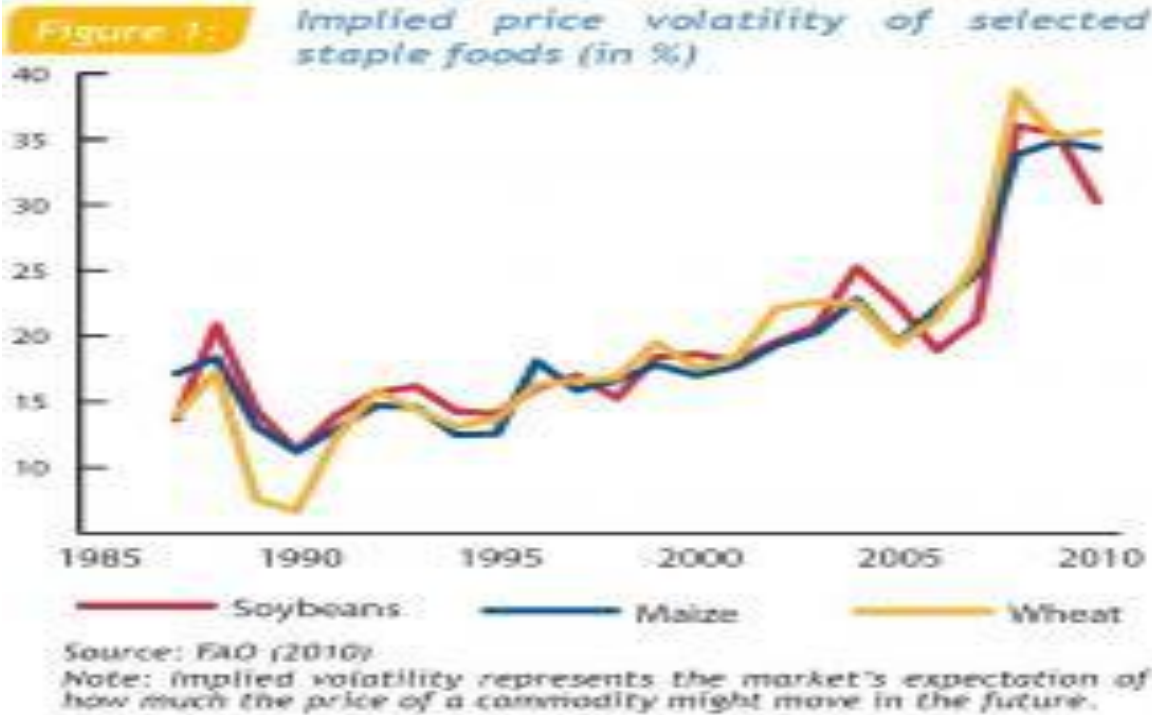
Exhibit 1: Food commodity spot prices in 2010

Index 31-Dec-09 = 100



Source: Bloomberg, J.P. Morgan Commodities Research

Figure 5



surpluses. Weather-related impacts which are unpredictable have certainly gained in importance, from dry spells in Australia and Russia to floods in Pakistan and frosts in Brazil.

Such weather factors are expected to increase in importance. Another factor is that publicly held stocks of agricultural products in OECD countries have nearly disappeared and, e.g. in 2008, public cereal stocks were at their lowest level in 30 years, and are still low (less than 3-months consumption) by any standard. The significant policy of de-stocking in China may have contributed to price volatility, although China and India still keep the largest rice and wheat stocks in the world. But they use these stocks only for smoothing domestic price movements and food security maintenance, not for controlling or influencing exports/imports when world market prices swing.

Also, most poor developing countries that previously operated cereal marketing boards to control prices have either abolished them or reduced their role, liberalizing their domestic markets for private sector operators and imports. One would expect that larger international agricultural trade will help to reduce price volatility but this has not been the case, for the reasons given above. Particularly reduced international stockholding, weather factors, currency fluctuations (EUR/US\$) and the instauration of export controls have contributed to increased international price volatility. Limiting water availability for irrigation is becoming an important supply constraining factor in irrigated agriculture in Asia. Thus major uncertainties remain, including the oil price which now has a direct link with agriculture via biofuels and input prices. The International Food Policy Research Institute (IFPRI) has advocated public stock-holding as "virtual stocks" using market derivatives (hedging, option strategies) to help stabilize world agricultural prices. But it is not clear who would be in charge of such a facility (the U.N.?), who would pay, modalities of operation, etc. Most specialists consider such a scheme as too risky and too costly.

It is interesting to note that Prof. Jo Swinnen³ of K.U.Leuven has analyzed key agricultural policy measures of leading research and policy organizations (World Bank, OECD, IMF, FAO, IFPRI). He shows that during periods of low global food prices, they focus on the poor farmers being exploited by middlemen and government, while during periods of high global food prices, the focus shifts to the poor urban consumers that have become food insecure and hungry. This inconsistency is related to organizational self-serving motivations. The same has happened with the recent "land grabbing" issue, when after years of NGOs complaining about low private sector investments in agriculture in poor countries, the focus shifted to poor farmers losing their land while downplaying the new investment in agriculture that was occurring.

Naylor and Falcon (2010) studied in detail cereal price volatility since 1970. They also studied recent price volatility of the major cereals and found that price volatility as measured by coefficients of variation were approximately the same in the post-2000 period as during the very volatile 1970s (table 1). Severe price spikes occur about every 30 years.

When the trend effect is eliminated, i.e. price variation around the trend (see table 2 below), they find that price volatility for all commodities during the post-2000 period was below that

³ *Abstract: Only a few years ago the widely shared view was that low food prices were a curse to developing countries and the poor. The dramatic increase of food prices in 2006-2008 appears to have fundamentally altered this view. The vast majority of analyses and reports in 2008 and 2009 state that high food prices have a devastating effect on developing countries and the world's poor. This reversal of opinion raises questions about the old and the new arguments and about the proposed remedies. It also raises questions about the causes of this dramatic turnaround in analysis and policy conclusions. The paper documents these changes in perspective and potential implications are discussed and hypotheses are offered on the cause of the change in views.* <http://www.econ.kuleuven.be/licos//DP/DP2010/DP259.pdf>

of the 1970s. Rice again shows the highest price volatility. And for rice, there is no well functioning futures market like for wheat and maize (see further).

Table 1: Monthly variations, by decade, for selected real commodity prices

	Coefficient of variation, in percent ^a			
	1970-79	1980-89	1990-99	2000-09
Wheat	36	24	21	32
Maize	25	27	20	29
Rice	44	43	14	49
Petroleum	69	41	25	46

^a: Standard deviation of each price series by decade, divided by its mean.

Source: IMF International Financial Statistics "<http://www.imfstatistics.org>"

Table 2: Monthly variations, from trends, by decade, for selected real commodity prices

	Root mean square error, in percent ^a			
	1970-79	1980-89	1990-99	2000-09
Wheat	13.7	6.6	8.4	7.6
Maize	10.3	8.2	7.6	7.3
Rice	15.5	10.7	6.3	9.0
Petroleum	14.2	7.6	8.8	10.6

^a: Standard error of the estimate, calculated from deviations about the equation: $\text{Log Real Price} = a + b \text{ Time}$.

Source: IMF International Financial Statistics "<http://www.imfstatistics.org>"

4. An overview of the literature on speculation and its effects

4.1. An analysis of all the past issues of the "Journal of Futures Markets" (Wiley Periodicals) finds articles that support the thesis that futures market trading (including "speculation") may increase price volatility but does not fundamentally alter the basic underlying price trend. At least one article rejects that categorically. The article by Henry Bryant, David Bessler and Michael Haighs on "Causality in futures markets", Journal of Futures Markets, Vol. 26, Issue 11, pp. 1039-1057, 2006, concludes that ... *"theories predicting that the activity levels of speculators or uninformed traders affect levels of price volatility, either positively or negatively, are rejected"*.

Volatility means in both directions: price increases and decreases. The traditional view taken by economists following Milton Friedman's work is that informed futures market speculation will stabilize prices, since otherwise it would not be profitable. However, the empirical evidence does not give strong support to this view. In fact, much amateur speculation is unprofitable and there are numerous occasions in which futures prices appear to have been at odds with market fundamentals. In the long term, there is always a fall back to market fundamentals of supply and demand, but in the short term price aberrations or irregularities do occur.

4.2. In the written testimony of Jeffrey Harris, chief economist of the Commodities Futures Trading Commission before the Senate Committee on Homeland Security and Government Affairs on May 20, 2008, he stated as follows (conclusion):

"All the data modeling and analysis we have done to date indicates there is little economic evidence to demonstrate that prices are being systematically driven by speculators in these markets. Generally, the data shows that:

- *Prices have risen sharply for many commodities that have neither developed futures markets (e.g. durum wheat, steel, iron ore, coal, etc.) nor institutional fund investments (Minneapolis wheat and Chicago rice).*
- *Markets where index trading is greatest as a percentage of total open interest (live cattle and hog futures) have actually suffered from falling prices during the past year.*
- *The level of speculation in the agriculture commodity and the crude oil markets has remained relatively constant in percentage terms as prices have risen.*
- *Our studies in agriculture and crude oil markets have found that speculators tend to follow trends in prices rather than set them.*
- *Speculators such as managed money traders are both buyers and sellers in these markets. For example, data shows that there are almost as many bearish funds as bullish funds in wheat and crude oil"...*
- *"Simply put the economic data shows that overall commodity price levels, including agriculture commodity and energy futures prices are being driven by powerful fundamental economic forces and the laws of supply and demand. These fundamental economic factors include increased demand from emerging markets, decreased supply due to weather or geopolitical events, and a weakened dollar. Together, these fundamental economic factors have formed a "perfect storm" that is causing significant upward pressure on futures prices across-the-board".*

- 4.3. Dwight Sanders, Scott Irwin and Robert Merrin in their article: "The Adequacy of Speculation in Agricultural Futures Markets: Too Much of a Good Thing?" published in the journal "Applied Economic Perspectives and Policy", Vol. 32, Issue 1, pp. 74-94, find the following regarding index funds in speculation:

"Regarding the relative size of the index funds, they usually comprise 10% to 20% of the total open positions within most markets. However, because the indexes are almost exclusively long, they tend to make up 20% to 40% of the long-side of the market..."

First, agricultural commodity futures markets have experienced a rapid increase in open interest that started in late 2004 and continues into 2008 for many markets. For most markets, the index funds' percentage of open interest peaked in 2006 and has since stabilized. Second, traditional speculative measures do not show any material changes or shifts over the sample period. In most markets, the increase in long speculative positions was equaled or surpassed by an increase in short hedging. Thus, even after adjusting speculative indices for index fund positions, values are within the historical ranges reported in prior research. While the analysis in this report does not test directly for price impacts, it does provide some pertinent evidence in this regard. Index funds improve the adequacy of speculation by helping the market to "carry" unbalanced short hedging. The relatively normal level of speculation over the sample period raises some doubt as to whether index funds are behind recent commodity price increases..."

Proposals are once again surfacing to curb "harmful" speculation in futures markets. Such policy decisions aimed at curbing speculation may well be counterproductive in terms of price levels or market volatility. In particular, these policy initiatives could severely compromise the ability of futures markets to accommodate hedgers and facilitate the transfer of risk".

- 4.4. An important OECD study by Scott Irvin and Dwight Sanders (June 2010) found that:

"While the increased participation of index fund investments in commodity markets represents a significant structural change, this has not generated increased price volatility, implied or realized, in agricultural futures markets. Based on new data and empirical analysis, the study finds that index funds did not cause a bubble in commodity futures prices. There is no statistically significant relationship indicating that changes in index and swap fund positions have increased market volatility. The evidence presented here is strongest for the agricultural futures markets because the data on index trader positions are measured with reasonable accuracy. The evidence is not as strong in the two energy markets studied here because of considerable uncertainty about the degree to which the available data actually reflect index trader positions in these markets.

An unexpected finding was a negative relationship between index and swap fund positions and market volatility. That is, there is some evidence that increases in index trader positions are followed by lower market volatility. This result must be interpreted with considerable caution. The possibility still exists that trader positions are correlated with some third variable that is actually causing market volatility to decline. Nonetheless, this finding is contrary to popular notions about the market impact of index funds, but is not so surprising in light of the traditional problem in commodity futures markets of the lack of sufficient liquidity to meet hedging needs and to transfer risk".

- 4.5. A June 2010 FAO Policy Brief (Nr. 9) on "Price surges in food markets" states that:

"The drastic increase of food prices in the period 2006-2008 spurred fears of global food insecurity. Apart from actual changes in supply and demand of some commodities, the upward swing might also have been amplified by speculation in organized futures markets. However, limiting or banning speculative trading might do more harm than good".

The policy brief, because of its importance, is in annex 2. They conclude that for each study that finds a positive impact of speculation, there is at least one that claims the contrary. Thus, there are a number of reasons to believe that speculation might not have been the main driver of the food price surge. For steel and rice for which there are no major future markets, price volatility has also been high.

- 4.6. An UNCTAD 2008 report entitled: "Addressing the Global Food Crisis: Key trade, investment and commodity policies in ensuring sustainable food security and alleviating poverty" said this about speculation in the food commodity market (p. 5):

"While there is no precise information on or analysis of the impact of speculative funds on food prices, the price rises in respect of some key staples are attributable to a substantial extent to speculation by different actors in the food commodity markets feeding the price rise spiral".

It is surprising that they make such an affirmative statement when they recognize that there is no precise information or analysis of the impact. They logically should then not make such a statement. If a student would make such kind of reasoning, he/she would not pass the exam.

- 4.7. John Baffes and Tassos Hanriotis at The World Bank - Development Prospects Group - wrote in July 2010 a Policy Research Working Paper Nr. 5371 that came to the following conclusion:

"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".

This seems to be the consensus that is emerging among economists.

- 4.8. Finally, and in my view the most important, Rosamond Nayler and Walter Falcon of Stanford University published an interesting article entitled: "Food security in an Era of Economic Volatility" in the December 2010 issue (pp. 693-723) of Population and Development Review. Here are the most important excerpts:

"Numerous allegations have been made about excessive speculation and the role that commodity index trading played in increasing food prices during 2008 (Sanders et al., 2008; IFPRI, 2008). There is no doubt that trading activity (open interest) soared after 2003. The number of contracts being traded in Chicago corn futures markets was about three times greater in 2007 and 2008 than in 2003; the number of wheat contracts was about two times greater. However, whether this increased activity affected price variations and/or price trends seems doubtful. If changes in volume per se were the issue, the data indicate that the price spike should have occurred two to three years before it actually did.

A substantial amount of increased futures-market activity was the result of increased hedging. Between January 2006 and January 2008, commercial use of corn futures in Chicago increased by a factor of about 2.0 and wheat by a factor of 1.5. In contrast, the contracts held by index traders increased by a factor of only 1.4 in the case of corn and 1.1 in the case of wheat (Aulerich et al., 2009). During the spike period of August 2006 to August 2008, the net positions of commodity index traders, measured in numbers of futures contracts, were essentially constant for the corn and wheat markets in Chicago. Based on these data, there does not seem to be a prima facie case that the behavior of commodity index traders was a principal cause of the sharp upward price movements for maize and wheat.

Second, the level of grain stocks, at first glance, appears to have been very low during the price run-up period. Once Chinese stocks are removed from the calculation, there are no sharp dips in stocks for any of the grains; therefore, there is little empirical basis for claiming stock-to-use ratios as the driving force of the price spike. Closer inspection of the stock data reveals a murky picture.

The third piece of the puzzle is whether the maize and wheat markets were working efficiently. If futures and cash prices consistently came close to converging at the end of contract periods, the case for excessive speculation would be virtually impossible to defend. Most of the time this equilibration occurred, but not always; several grain markets showed significant cash-futures divergence during various contract closing periods in 2008. Much of the convergence problem between cash and futures contracts appears directly linked to specific delivery destinations".

Thus, their main conclusion is that speculation had little effect on the fundamentals. Our own conclusion after a literature review of these 8 studies is that speculation may increase price volatility, but it is difficult to prove it and in any case, if there is an effect, it will be short term. In the medium to long term, market fundamentals determine prices.

5. Speculation in soft commodities

What will be examined here is futures market speculation and linked to it, commodity investments. Of particular concerns are soft commodities. Commodity futures and options on futures markets allow to fix prices and therefore lock in profits at the times they make the decision, which is prior to the times they execute a physical sale or purchase. Farmers (in the U.S.A. in particular) or producer cooperatives might sell forward at the time of planting enabling them the security to purchase inputs and guaranteeing them to make a profit. Exporters (e.g. of coffee or cocoa) can sell forward as soon as they purchase up - country giving them time to negotiate a physical sale while locking in profits. Food processors can sell forward when they buy agricultural products, enabling them to make fixed price contracts with retailers, closing out when they sell the food products. In all these cases, the futures transactions are paper transactions which are offset by the opposite transactions prior to the executions of the physical contract. Operations in futures markets together with physical transactions are called hedging, which reduces price risk. It is a means of coping with price volatility, but it does not reduce price volatility. Hedgers require "speculators" as otherwise they would not always find a counterpart. Thus, speculative activity - non-commercial people that play the futures market with pure paper transactions intended to make a profit - is necessary for sufficient liquidity. Over time, price bubbles or spikes have occurred - either positive or negative - but they are usually short lived. There is no evidence that the level of speculation has increased faster than that of hedging and thus no reason to believe that bubbles have become more important over recent years than previously. But there is much amateur speculation and most of it is unprofitable over time.

But there is now a concern that investor diversification in the soft commodities asset class has led to large inflows of money which push prices up through the "weight of money". Index based commodity investments add an index of commodities to a portfolio of equities and bonds as an asset class to increase expected returns consistent with a given level of risk. They normally aim to replicate the returns on one of the two major investible commodity indices - the S&P GSCI⁴, and the Dow Jones AIG index. These investments are typically structured as commodity swaps and are arranged on an over the counter (OTC) basis by an investment bank. The bank, which through the swap, arrives in a short position, buys futures contracts to offset this position. Swaps are portfolios of OTC futures. In a commodity swap, the long party receives payments in proportion to the gains on a portfolio of (typically long) futures contracts and pays either a fixed or floating interest rate. The principles remain the same. OTC contracts have the advantage that they can be designed to suit client requirements, but the disadvantage that they can only be closed out through the original counterparty. In a swap, the counterparty (usually a bank) will typically offset the net position in its swap book on exchange markets, and the swap will be marked to market against the exchange forward

⁴ Goldman Sachs Commodity Index

curve. In that sense, OTC and swap markets are parasitic on futures markets, but it is better to see them as using the futures market to offer a more extended set of products. Index investment required purchasing a portfolio of long-dated futures and rolling these forward as maturity approaches. The overall return will be heavily influenced by the roll return, positive if there is backwardation (future price less than spot price) but negative in a contango (future price higher than spot price). In any case, financial futures are many times more important than commodity futures, although commodity futures have been gaining importance.

In aggregate, these investments can be large in relation to the market - often between 30% and 40% of open interest (regular commercial hedging). It is thus possible that they are sufficiently large to move prices - the "elephant in the room" argument. Index-based investments are allocated across commodities in proportions dictated by the index composition. In the S&P GSCI index, grains and vegetable oils (9.9%), other soft commodities (2.6%) and livestock (3.5%) together make up 16%, while energy alone constitutes 75.6%. In the Dow Jones AIG index, the energy weight is limited to one-third. Thus, such investments generate upward pressure across the entire range of primary commodities. This happened in 2007-2008. The evidence suggests that the large inflows of commodity investment funds did push up agricultural futures prices to mid-2008 and in reverse down in late 2008, thus adding to price volatility, including of soft commodities⁵. The large price falls of all commodities in late 2008 led to large losses of commodity investors. Thus, diversification in commodities was then very unprofitable. In 2010, such investments became again quite profitable. The investment levels in 2009 were back to end-2005 levels. The opinion of Prof. C. Gilbert, a commodity market specialist, is that we should not worry too much about futures market speculation - it is of minor importance - or commodity investments as they are likely to go away by itself when commodity prices fall. But he does expect "frothiness" in agricultural prices, i.e. a series of small bubbles or spikes occurring in the future.

Speculators assume risks related to the price of a commodity and in this sense, take risk away from physical commodity holders. By entering in a futures contract, both the seller and the buyer gain certainty of the price of their transaction, independent of the actual development of the market. For speculators, futures allow much higher leverage than physical ownership, as physical ownership requires cash payment on delivery while futures usually only require to make a deposit of initial margin, typically 10% of the value of a position for a client of good standing. This makes the futures market very interesting for speculators as you can speculate on the 100 US\$ value of a commodity with only a 10 US\$ down payment. But many hedge funds lost huge sums of money when the commodities markets collapsed at the end of 2008. Many then expected a recession, not a depression, and further lost money.

It is common for traders and investors operating in the futures market not to take physical delivery of commodities. This happens only in 1 to 2% of cases. Thus no raw materials are removed from the supply chain, one more reason why investors are unlikely to affect spot prices. They close their positions in the futures markets before or at the maturity date. If they have bought, they sell or vice versa. Yet, in August 2010, Armajaro, an important cocoa trader in London, took physical delivery of 800,000 t of cocoa, about one-third of yearly world consumption, probably on anticipation of violent elections in November 2010 in Côte d'Ivoire, which normally supplies about 40% of the world market of cocoa.

⁵ Source: Christopher Gilbert, *The Future of the Global Food System - How to Combat Volatility*, Brussels, 19 May 2009; seminar on the future of the global food system organized by Olivier De Schutter and Jo Swinnen.

Commodities as an asset class offer many advantages. In principle, price moves are uncorrelated to share and bond prices. They may act as a hedge against inflation and currency depreciation and finally they are seen as an investment in emerging markets, particularly China which started buying commodities (raw materials) on a large scale since 2005. It is thus no surprise that now commodities usually make up 5 to 10% of investment portfolios as a means of diversification. The reality is also that commodity markets have always been volatile. Harvests always depend on weather and metals and oil production require long term investments such that short term demand fluctuations cause a lot of volatility in prices.

It is important to note that there are a number of important commodities which are not traded, or not traded significantly, on future markets. The prices of these commodities have not gone up less than other commodities - important examples are iron ore and steel, whose prices have raised enormously, diamonds and minor metals (rhodium, rhenium, tungsten, etc.). On the agricultural front, futures trading is not important in rice (Chicago rice is illiquid and the main Bangkok market is not easily accessed by international traders). These examples suggest that speculation and investment are not the main elements of the story.

6. Public perception of speculation on food prices

The public perception of speculation on food prices is overwhelmingly negative. First of all, "speculation" always has a negative connotation - it is seen as trying to make money without producing or contributing anything useful. Speculation is also ill defined: when a farmer withholds his harvest for sale later in the year, is he speculating? The term comprises so many meanings in popular belief that it becomes meaningless unless it is properly defined. In this paper, we narrow it down to futures market speculation and linked to it, commodity investments (index or not) in the future.

During the 2007-2008 food crisis, speculation was seen by many as one of the main contributing factors to increasing food prices. Prof. Olivier De Schutter, the U.N. Special Rapporteur on the Right to Food, said as follows at the High-Level Conference in World Food Security: The Challenges of Climate Change and Bio-energy, Rome, 3-5 June 2008:

"Finally, one factor which needs to be addressed is the role of speculation on the markets of primary commodities, particularly food commodities, in the current increase in prices. The impact of speculative investment in agricultural futures markets is well documented, for instance in the recent OECD-FAO Agricultural Outlook 2008-2017, presented on 29 May 2008. It has been reported that total index-fund investment in corn, soybeans, wheat, cattle and hogs has increased in 2007 to more than 47 billion USD, from 10 billion USD in 2006. This has contributed to push the international prices of such commodities upwards on specialized boards, such as the Chicago Board of Trade. More attention should be paid by the international community to this phenomenon, for despite certain attempts, states acting unilaterally may find it difficult to effectively tackle this problem. The large influx of funds from financial investors into agricultural futures and options markets has raised concerns that this may have driven up prices and contributed to the volatility of prices - a volatility which is in the interest neither of consumers, which pay higher prices as a result, nor of producers, for whom credit may become unaffordable as a result, nor of governments, whose social programmes may have to bridge the gap between the incomes of the poorest and their needs. While market mechanisms may have a useful role to play, the harmful impact of

speculation on food commodities must be addressed, and this should be a component of any plan of action adopted by the international community to tackle the current crisis".

In his briefing note O2 of September 2010 on "Food Commodities Speculation and Food Price Crises - Regulation to reduce the risks of price volatility", he states (from the Summary):

"In particular there is a reason to believe that a significant role was played by the entry into markets for derivatives based on food commodities of large, powerful institutional investors such as hedge funds, pension funds and investment banks, all of which are generally unconcerned with agricultural market fundamentals. Such entry was made possible because of deregulation in important commodity derivatives markets beginning in 2000. These factors have yet to be comprehensively addressed, and to that extent, are still capable of fuelling price rises beyond those levels which would be justified by movements in supply and demand fundamentals. Therefore, fundamental reform of the broader global financial sector is urgently required in order to avert another food price crisis. Previously unregulated Over the Counter (OTC) derivatives must be subject to rules requiring registration and learning on public exchanges, and exemptions to these rules must be highly restricted. As regards commodity derivatives trading in particular, States should ensure that dealing with food commodity derivatives is restricted as far as possible to qualified and knowledgeable investors who deal with such instruments on the basis of expectations regarding market fundamentals, rather than mainly or only by speculative motives. These measures would enable States to fulfill their legal obligations arising under the human right to food".

The recommendations are comprehensive reform of all derivatives trading, restricted access to commodities futures markets, strengthening of spot markets and establishment of physical grain reserves.

In a private correspondence with Prof. Olivier De Schutter, he agrees that the impact of speculation is difficult to measure. The mere fact that the volumes of investment into the primary commodity futures markets, particularly in the food sector, have been multiplied by 4 or 5 between 2006 and 2007 does give in his view an indication of the importance of this factor and is for him decisive.

Normally, you would expect that farmers and farm organizations such as the Belgian Boerenbond would welcome speculation as it leads to higher farm prices. Presently, hog prices are very low and the only possible speculation is on the CBOT for lean pork and pork bellies, but that last commodity will be taken out of the futures market because of thin trading. Right now, more speculation on hogs would be a very positive event, or not? The Boerenbond president Piet Vanthemsche is against all food speculation - "we need stable prices and not speculators that on the back of poor consumers make money - it is unethical". A surprising position of defending consumers when you represent producers. He states that speculators do not participate in the production process and thus are not entitled to make money on the sweat of farmers.

When in 2008 KBC bank of Belgium promoted a life insurance product (type 23) from 4-29 February, 2008 which invested in 6 agrarian commodities (cocoa, sugar, coffee, wheat, maize, soybeans), there was a public uproar - speculation on hunger and starvation - getting rich on the backs of hungry people. The socialist political party PS drew up a law to forbid such type of investments. This despite that such a financial product was capital protected and provided a compensation for the buyer against food price increases. Terms like casino-

capitalism, cynical exploitation of the hungry people of this world were in the air. Also in the European Parliament, the PES-fraction heavily criticized food price speculation. Also Deutsche Bank and Robeco came under criticism. At the same time, India halted temporarily futures market operations on food commodities. In the Netherlands, especially ABN Amro is specialized in turbo's on cocoa, coffee, maize, sugar, soybeans and rice. Most people believe that the sheer weight of money going into agricultural derivatives is pushing food prices, despite scant evidence corroborating. Clearly, soft commodities are a special asset class, not to be treated like energy, minerals or oil.

Harpers Magazine in the USA published in July 2010 a stinging report entitled: "The food bubbles: How Wall Street starved millions and got away with it".

Nicolas Sarkozy, the French president will use France's presidency of the G8 and G20 to push for rules to curb food price volatility, including controls on soft commodity speculation. NGO activism against food price speculation is widespread and influential.

In "The Broker", Issue 23 of December 2010/January 2011, a magazine funded by the Netherlands Organization for Scientific Research - Science for Global Development, Carlos Oya, a senior lecturer in political economy of development, University of London, writes under the title "Malfunctioning markets - local and global food distribution" that the global food system is a sick patient, suffering from unequal distribution and excessive liberalization. Indeed, there is a striking parallel between the 2007-08 food crisis and the financial crisis. Under the subtitle "Gamblers on the food market", he writes:

"How has financialization affected international food markets? The crisis saw a dramatic fluctuation - a massive increase followed by drastic decline - in the prices of basic food commodities such as maize, rice, oilseeds and wheat. The theory that financial speculation is one of the causes of the food crisis is gaining credibility, especially among more progressive critics. Indeed, the global food crisis and the global financial crisis are 'intimately' connected, particularly through the impact of financial speculation on the world trade prices of food.

This financial speculation was driven by powerful institutional investors and investment banks dealing in hedge funds, like Goldman Sachs. They were a driving force in the run-up to the food crisis. Significant deregulation of the financial system and commodity exchanges in the United States in the early 2000s paved the way for the integration of the financial and agricultural commodity markets. Moreover, unregulated commodity trading rapidly led to a dramatic increase in financial transactions, which attracted a growing number of financial speculators. They, in turn, sought to profit from short-term changes in prices. Hedge funds became major players in the futures exchanges of oilseed and wheat, for example.

On the eve of the crisis, futures prices of these commodities were driving up spot prices - the price quoted for immediate payment of a commodity - creating a spiral of price increases as long as speculators continued to gamble on higher prices. Not surprisingly, this generated massive volatility. In this context, the prospects for poor buyers of food may be even more grim now than before 2007, especially since staples are being targeted by traders who buy and sell 'risk' for profit.

What can be done to rectify the situation? For starters, international commodity markets for agricultural produce need to be isolated from the harmful influence of financial markets.

Regulation of commodity exchanges needs to tighten. Agreements need to be developed and signed by the international community designed to stabilize food prices...".

This piece from a professor of political economy of development from the (respected) University of London shows how financial speculation is seen as linked to dysfunctioning markets, poverty and hunger. Such an article would never be written in such terms for speculation in oil, gas, metals or currencies. It shows how deep seated the opposition is to financial speculation on food, and how poorly the functioning of the futures market is understood. If a (respected) academic publishes such vitriol against speculation, what should the man in the street think!!!

7. Pro and contra of financial products on soft commodities

PRO

- diversification instrument for investors - targeting a non traditional asset class (commodities);
- very atypical market dynamics - no classical correlations with currency, equity or bond dynamics;
- hedging opportunity for commercial operators;
- hedging is an appropriate solution to higher price volatility - it allows to cope with risk;
- speculators or non commercial operators are necessary for sufficient liquidity in futures markets. Speculators accelerate the process of finding an equilibrium price and thus contribute to stabilization of the physical market;
- most financial institutions now offer such products.

CONTRA

- there was a massive inflow of money via index investments in OTC markets, thus escaping regulation via swaps with investment banks. It is not really clear what the "weight of money" does to price volatility in spot and futures markets;
- although only 1 to 2% of futures contracts actually end up in delivery of the physical commodity, there have been cases recently (Armajaro for cocoa) where massive physical delivery has occurred, thus cornering the physical market to some extent;
- speculation is usually poorly understood by the general public. It is a very contentious issue. "Stop food speculation" in Google: 3.180.000 hits on 04.01.2010
 - open letter to Commissioner Barnier: stop food speculation, 29 March 2010;
 - Food First/Institute for Food and Development Policy: Today a coalition of faith, hunger, international development, human rights, farm and food organizations, including Food First, sent a letter to President Barack Obama requesting speedy U.S. government action to prevent speculation in agricultural futures markets that threatens the food security of hundreds of millions of people worldwide;
 - Belgian Boerenbond Chairman Vanthemsche has taken clear position against food speculation and financial soft commodity investments;
 - increasing NGO activism against.
- KBC bank faced a media storm in 2008 over a soft commodities tracker;
- money put into commodity derivatives by speculators is not investment in agriculture. It does not affect production capacity.

8. Conclusions

1. The 2007-2008 food price spike was comparable in absolute terms to the one in the early 1970's induced by the first OPEC crisis, but smaller as a deviation of the trend. Such bubbles are now expected to occur more frequently, may be as frothiness - a series as small bubbles as the one in 2010 - because of macro-economic instability, weather changes, less public stockholding and other factors.
2. Speculation can possibly drive up futures prices, but only in the short term. In the longer term, prices cannot depart from their fundamentals. Either the speculators are right, and the market becomes tight with higher prices, or they are wrong, and prices fall back. Such a fall back occurred in 2005-2006 with sugar. Sugar rose on expectations that it would be massively converted into bio-ethanol. But this happened only in Brazil where sugar is converted into ethanol since the 1970s.
3. There was a huge rise in non-traditional ways of investing in food commodities in 2005-2008, that is investment as an asset class for portfolio diversification by participants who are not connected with the foods - 5 to 10% of commodities in a portfolio of otherwise stocks and bonds. The value of global investment in commodities (all) index funds rose from an estimated US\$ 15 billion in 2003 to US\$ 200 billion in 2008 (U.S. Senate report). What the exact influence is of that "weight of money" is still subject to debate. The evidence seems to point to increased short term price volatility (up or down) not affecting the long term trend which is determined by fundamental physical supply/demand fundamentals.
4. Efforts to reduce speculation in futures markets might even have unintended negative consequences by reducing liquidity in the markets. Regulatory measures should aim to enhance confidence in the good functioning of the markets, increasing transparency and the amount of information on futures trading.
5. Soft commodities are not like any other asset class. The direct link of food to poverty, hunger and starvation in this globalized world raises many ethical questions about investments in soft commodity prices and their derivatives. Moreover, financial markets in general and the futures markets with its needed non-commercial speculation, are generally poorly understood by the public at large. Trying to make money with risk management instruments not directly connected with producing goods does not enjoy support by the man in the street. This is all the more the case with food because of its direct implications for many poor people in the world that spend 50% or more of their income on it.
6. A general commodity tracker product based on the S&P GSCI or Dow Jones AIG index will probably escape attention from the NGO community and public as being related to food prices. But the listed categories of commodities should mention food. It should be stressed that commodities are now an important asset class which are now part of any diversified investment portfolio.

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Annex 1

Financializing Food: Deregulation, Commodity Markets and the Rising Cost of Food

A May 31 article by Sinclair Stewart And Paul Waldie in the Toronto Globe and Mail ([Feeding frenzy](#)) describes how deregulation and the systematic exploitation of US regulatory loopholes have facilitated a recent surge in speculative investment in commodity markets, much of it by institutional investors including pension funds. The influx is one of the driving forces behind the hyperinflation of basic food staples.

"These funds", write the authors, "Have plowed tens of billions of dollars into agricultural commodities as a way to diversify their assets and improve returns for their investors. The amount of fund money invested in commodity indexes has climbed from just \$13-billion (U.S.) in 2003 to a staggering \$260-billion in March 2008, according to calculations based on regulatory filings. Michael Masters, a veteran U.S. hedge fund manager, warned a Senate hearing this month that this number could easily quadruple to \$1-trillion, if pension funds allocate a greater portion of their portfolio to commodities, as some consultants suggest they are poised to do. Because agricultural markets are small - relative to stock markets - the amount of cash pouring in gives these funds substantial clout. Mr. Masters estimated that that these big institutional investors control enough wheat futures to supply the needs of American consumers for the next two years, and blamed the "demand shock" from these recent entrants to the commodities markets as arguably the primary factor behind the sudden take-off in food prices.

"If immediate action is not taken, food and energy prices will rise higher still," he told the hearing. "This could have catastrophic economic effects on millions of already stressed U.S. consumers. It literally could mean starvation for millions of the world's poor."

The authors trace the progressive loosening of regulatory requirements which has made possible the enormous influx of money, much of it fleeing the meltdown in the market for mortgage-backed securities and the wider fallout, including big leveraged buyouts.

"Beginning with the energy market, regulators made a series of far-reaching decisions that gradually loosened oversight of complex commodity derivatives and created loopholes for large speculators, allowing them to trade virtually unlimited amounts of corn, wheat and other food futures."

The key breakthroughs for investors came in the energy futures market, establishing general precedents for all commodity trades (including food). In 1989, the US Commodity Futures Trading Commission (CFTC) issued a policy paper declaring that it would not regulate "swap deals" - commodity purchases involved financial intermediaries (typically banks) and the dealers. This was followed by a 1990 declaration by the CFTC that it would consider oil trading on the Brent Market as "forward contracts" (a contract in which the buyer ultimately takes delivery of the commodity) rather than "futures contracts" (in which the buyer rarely takes delivery, but uses the contract for purely speculative purposes). Futures contracts had traditionally been regulated, in order to curb speculation and volatility in key markets; forward contracts are not regulated. The ruling meant that oil futures trading was to be treated as outside the scope of CFTC regulation.

"The CFTC's embrace of a narrow definition of a futures contract built on the regulator's earlier promise that it would not police swap transactions. Together, these moves opened up a new frontier of commodity trading, enabling financial speculators to buy and sell complex derivatives away from the prying eyes of regulators and exchanges."

Expanding beyond the energy market into other commodities, institutional investors began diversifying into food. As the authors describe the chronology of deregulation, "It wasn't long before this infusion of money hit another regulatory snag. For almost 75 years, the CFTC has imposed limits on how much of certain agricultural commodities, including wheat, cotton, soybean, soybean meal, corn, and oats, can be traded by non-commercial players - that is, investors who are not part of the food

industry. So-called "commercial hedgers," like farmers or food processors, can trade unlimited amounts in order to manage their risk."

"The limits were designed to prevent manipulation and distortion in what are relatively small markets, and at the same time to allow for a small amount of speculative activity, in order to provide liquidity for trading.

"For decades, the restrictions didn't pose much of a problem. And then, in 1991, as new money began pouring in, the playing field suddenly shifted.

"Emboldened by the CFTC's laissez-faire approach, a bank approached the regulator and, for the first time, requested an exemption from speculative trading limits in an agricultural commodity.

"The unnamed bank was acting as a "swap dealer" for a pension fund: Essentially, it was a middleman who helped the pension fund get exposure to commodities. A spokesman for the regulator declined to identify the bank or the pension plan, citing confidentiality requirements."

The CFTC granted an exemption, ruling through a particularly tortuous logic that the swap dealer was for practical purposes no different than a food industry "commercial hedger", and therefore exempt from regulation - and regulatory limits on the size of the investment. The decision, however, was a one-time affair rather than a change in the rules. Investors need assurance that the exemption would become precedent, so in 1992 Congress passed legislation empowering the CFTC to determine what kinds of derivatives could be treated as forward contracts. Regulation was further loosened through new legislation in 2000 which established new exemptions, including virtual trading in energy futures contracts - the "Enron loophole".

Freed of regulatory limits and requirements, pension funds increasingly turned to food commodity markets. The Ontario Teachers' Pension fund, which began with a modest investment in 1997, now has some USD 3 billion invested. With rising investor activity and increasing demand, prices became to rise. "Between 2000 and 2007, the price of wheat increased 147 per cent on the Chicago Board of Trade. Over the same period, corn increased 79 per cent and soybeans 72 per cent. In the past year, in particular, the price moves have been dramatic. The CFTC's moves to deregulate the sector, meanwhile, only inspired calls for more deregulation. As more funds piled in, stoking demand for agricultural futures contracts, speculators began clamouring for more flexibility with trading limits."

Always eager to abandon its mandate of regulating in the public interest, the CFTC in 2005 expanded trading limits on the amount of wheat, corn, oats and soybeans that traders could buy or sell at any one time on the futures markets.

In 2006, Deutsche Bank and an (undisclosed) fund asked to be exempted from all trading limits. The regulatory authorities assured them that there would be no penalties for exceeding the limits.

More recently, the CFTC has proposed full regulatory exemption for index and pension funds, which would allow them to invest directly. In the face of rising criticism, the same arguments produced in defense of the buyout binge are being adduced: the funds are "bringing liquidity" to the market, and generalizing risk.

From another point of view, it has been estimated that every percent point increase in the price of food pushes an additional 16 million people into hunger.

In its briefing paper for the World Food Summit held June 3-5 in Rome, the FAO devoted two perfunctory paragraphs to the influence of financial markets in pushing upwards the cost of staple food commodities in its "assessment of recent developments", and had nothing to say on the matter in its concluding "policy options". Regulating financial markets, it seems, is not a policy option in the face of mass starvation.

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http://www.iufdocuments.org/buyoutwatch/2008-06/financializing_food_deregulation.html#more

Economic and Social Perspectives **Policy Brief 9**
Food and Agriculture Organization of the United Nations

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- Commodity futures have become an integral part of food markets
- For some, they are a tool to “hedge” against fluctuating prices; others use them as speculative investments
- Appropriate regulation can improve market performance

Price surges in food markets

How should organized futures markets be regulated?

The drastic increase of food prices in the period 2006-2008 spurred fears of global food insecurity. Apart from actual changes in supply and demand of some commodities, the upward swing might also have been amplified by speculation in organized futures markets. However, limiting or banning speculative trading might do more harm than good.

Food prices on the rise

Food prices soared on world markets between 2006 and 2008 (see figure). Prices of maize, rice and wheat, for example, reached their highest levels in 30 years. The crisis caused political and economic instability and led to food riots in a number of countries. Although prices have declined notably, the market is still perceived as more volatile than before the crisis.

High oil prices, strong demand for crops from the bio-fuel sector, falling stockpiles of food and lower cereal production all contributed to the price surge. The development was further boosted by strong economic growth and expansive monetary policies that resulted in low interest rates. Policies such as export restrictions that many countries implemented as a response to rising food prices also played a role.

While macroeconomic factors in conjunction with changes in supply and demand certainly caused an upward pressure on food markets, they alone cannot satisfactorily explain the hike. Some therefore believe that the “commodities super cycle” was amplified by speculative behavior in organized futures markets.

What are commodity futures?

Futures contracts involve the formal obligation to sell or buy a given amount of a commodity at a specified time. They thus provide an important instrument to “hedge” against the price risks in commodity markets and are basically used by all traders of physical commodities as part of their normal trading behavior. By entering in a futures contract, both the seller and the purchaser gain certainty of the price of their transaction, independent of the actual development of the market.

However, only 2 percent of futures contracts end in the delivery of the physical commodity. Instead, commodity futures are generally traded before their expiration date. As a result, futures also attract investors who are not interested in the commodity as such, but in making a speculative gain. In fact, commodity futures have become increasingly appealing to non-commercial investors as their returns seem to be negatively correlated with returns to equities and bonds. They thus constitute an attractive vehicle for portfolio diversification. This process has provided important liquidity to the market since speculators are assuming risks related to the price of the commodity.

Speculation and food prices

Does speculation in commodity futures increase price volatility on food markets? Some economists say no, suggesting instead that futures markets have a stabilizing effect as traders merely react to price signals that eventually depend on market fundamentals. In this way speculation would even accelerate the process of finding an equilibrium price.

Such theory, however, may not hold in the presence of trend-following investors or those with market power. For example, in the short term an investor might be attracted by the opportunities offered by the upward trend of a commodity price although this development may not be based on any fundamental data. These speculative investments could strengthen the trend and push the futures price further from its true equilibrium, especially if many investors jump the bandwagon (“herd behavior”) or those who invest have sufficient funds to influence the market.

Index funds are an example of such powerful investors. They have become key players in the market, holding about 25-35 percent of all agricultural futures contracts. Besides investing large amounts of money, they also hold futures contracts for a long time. Some observers suggest that this trading behavior makes them less likely to react to changes in market fundamentals.

Empirical evidence for both hypotheses is inconclusive. For each study that finds a positive impact there is at least one that claims the contrary. Indeed, there are a number of reasons to believe that speculation might not have been the main driver of the food price surge.

For one, price volatility has also been high for commodities that do not have future markets or for which these markets are not important (e.g. steel and rice). Furthermore, as excess demand in well-functioning futures markets can easily be met by sufficient supply (i.e. by issuing new futures contracts), the effect of speculation on the equilibrium price is relatively small and short-lived compared to price swings of a physical asset where supply might be less elastic or even fixed.

What type of regulation?

Available analyses and data suggest that trading in futures markets may have amplified price volatility in the short term only. Longer-term equilibrium prices, however, are ultimately determined in cash markets where buying and selling physical commodities reflects the fundamental supply and demand forces.

Efforts to reduce speculation in futures markets might even have unintended consequences. Mechanisms to intervene in futures markets, if the futures price diverges from an equilibrium level determined by market fundamentals (a level which in itself will be difficult to determine), might divert speculators from trading and thus lower the liquidity in the market available for hedging purposes. Proposals to create an international fund to react to price hikes in futures markets might therefore not be an optimal solution. What is more, such a fund would require exorbitant resources to counteract speculation effectively.

Instead, regulatory measures should aim primarily at enhancing confidence in the good functioning of the market. This can be achieved by increasing transparency and the amount of available information on futures trading. Furthermore, suspicious behavior (e.g. traders requesting permission to invest above their speculative position limits) should be investigated closely, as already practiced by the US futures trading supervisory body. In August 2009, the agency lifted exemptions for two firms trading in maize, wheat and soybean futures.

Commodity futures have become an integral part of food markets, and they perform an important role for many market participants. Adequate regulation should improve, not ban, speculative trading in order to foster market performance.

Further information

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