



Institute for Agriculture and Trade Policy

**Commodities Market Speculation:
The Risk to Food Security and Agriculture**

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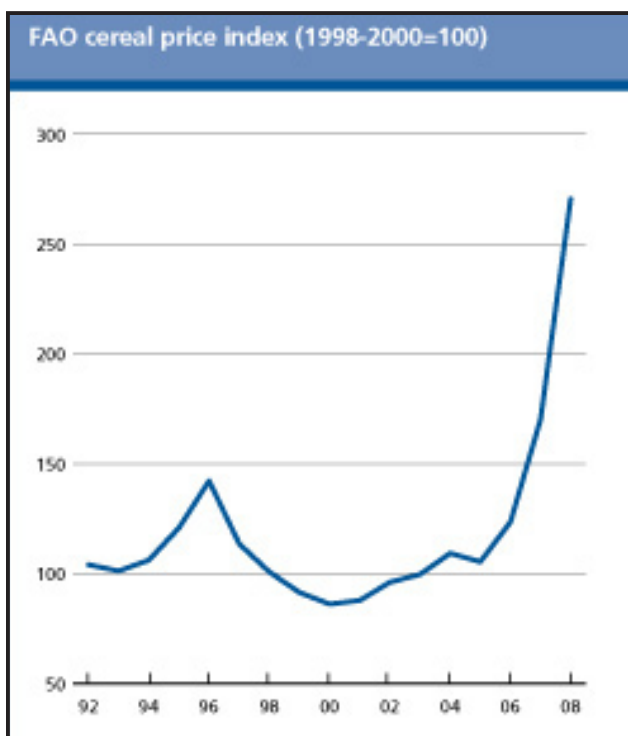
Introduction

Analysts continue to research why commodity prices increased so much from 2006 to July 2008. Due to high prices, the total developing country food import bill rose from about \$191 billion in 2006 to \$254 billion in 2007.¹ Today, developing countries are consuming less food. About 43 percent of more than 27,000 people polled in a recent 26-nation survey said that they had cut back food consumption as a result of higher prices.² The number of those undernourished and food insecure in the world has increased along with prices. Over the last year, riots broke out over food prices, lack of available and affordable food, and insufficient food aid.³ The United Nations Food and Agricultural Organization (FAO) estimates that in 2007, 75 million people were added to the 850 million already defined as under-nourished and food insecure.⁴

Amidst the food price crisis, speculation is a major contributor to extreme price volatility, which is skewing agriculture commodity markets to such a degree that both farmers and consumers are losing out. This paper reviews the role of speculation in the global food crisis. It explains the particular role of U.S. regulation of commodities markets within the global regime. Finally, it offers policy recommendations for how governments can better regulate markets in support of food security and employment goals.

Setting the table

Criticism of commodities speculation has come from nearly all quarters. One cocoa buyer said that speculators had “stolen” the cocoa market by driving cocoa prices up 44 percent in 2008.⁵ A market consultant suggested in August that prices above \$5.50 a bushel for corn (having gone as high in 2008 as \$8 a bushel on the Chicago Board of Trade) are largely due to commodities speculation.⁶ The Agribusiness Accountability Initiative (AAI) stated that “massive commodity market speculation



Source: Food and Agriculture Organization¹⁰

... has pushed the prices of wheat, maize, rice and other basic foods out of the reach of hundreds of millions of people around the world.” AAI called on UN member governments to stabilize commodity prices and manage supply.⁷ (While the effect of supply management on prices is not analyzed in this paper, when supplies are “tight” relative to demand, markets are vulnerable to speculation driven price spikes.) Oxfam International advised governments, the World Bank and the FAO to study speculation as a factor in the food price crisis.⁸ The UN Conference on Trade and Development (UNCTAD) notes that given the opposition of some UNCTAD member states to commodity agreements to manage price instability, “stricter regulatory measures that help contain speculation on commodity markets could be one important step” in moderating the price instability than impedes both economic growth and planning in most developing countries.⁹

What is commodity speculation?

Commercial speculation, i.e. speculation by buyers and sellers of commodities, has been used since the 19th century to enable commodity traders and processors to protect themselves against short-term price volatility. Buyers are protected against sudden price increases, sellers against sudden price falls. For commodity buyers and sellers, commercial speculation is a form of price insurance. Non-commercial speculation takes place not to protect against or “hedge” price risk, but to benefit by anticipating and “betting long” for prices to go up or “short” for prices to go down. Non-commercial speculators provide capital to enable the ongoing function of the market as commercial speculators liquidate their contract positions by paying for the contracted commodity or selling the contract to offset the risk of other contract positions held. Non-commercial speculation is an investment, but one that can overlap with the interests of agriculture when appropriately regulated.

However, today’s speculation has become excessive relative to the value of the commodity as determined by supply and demand and other fundamental factors. For example, according to the FAO, as of April 2008 corn volatility was 30 percent and soybean volatility 40 percent beyond what could be accounted for by market fundamentals.¹¹ Price volatility has become so extreme that by July some commercial or “traditional” speculators could no longer afford to use the market to hedge risks effectively.¹² Prices are particularly vulnerable to being moved by big speculative “bets” when a commodity’s supply and demand relationship is “tight” due to production failures, high demand and/or lack of supply management mechanisms.

Commodities Futures Glossary

Terms excerpted from the (U.S.) Commodity Futures Trading Commission Glossary (2006)¹³

Futures Contract: An agreement to purchase or sell a commodity for delivery in the future: (1) at a price that is determined at the initiation of the contract; (2) that obligates each party to the contract to fulfill the contract at a specified time; (3) that is used to assume or shift price risk; and (4) that may be satisfied by delivery or offset.

Hedging: Taking a position in a futures market opposite to a position held in the cash market to minimize the risk of financial loss from an adverse price change; or a purchase or sale of futures as a temporary substitute for a cash transaction that will occur later. . . .

Hedge Exemption: An exemption from speculative position limits for bona fide hedgers and certain other persons who meet the requirements of exchange and CTFC rules.

Over-the-counter (OTC): Trading of commodities, contracts or other instruments not listed on any exchange. OTC transactions can occur electronically or over the telephone.

Speculative Position Limit: The maximum position . . . that may be held or controlled by one person (other than the person eligible for the hedge exemption) as prescribed by an exchange and/or by the CFTC.

Speculation fundamentals

The futures contract is the fundamental building block from which other speculative instruments are built. The contract obligates parties to buy or sell a specified quantity of a commodity at a specified price at an agreed date in the near future, usually one to three months from the contract date for agricultural commodities. An options contract does not oblige the parties and costs less to execute but provides less price protection. Futures and options contracts enable those who buy and sell commodities to manage short-term price risks and to “discover” the price at which those contracts settle as the due date for fulfilling the contract approaches.

According to UNCTAD, futures contracts and other “commodity derivatives are not capable of mitigating the causes of commodity price volatility,” such as failure to manage structural oversupply of commodities. Failure to regulate commodity derivatives adequately has not only contributed to huge increases in food import bills and food insecurity, but also to making futures and options contracts unavailable or too expensive for many farmers and some agribusinesses to use to manage price risk.¹⁴

In the U.S., futures contracts were useful and affordable as long as futures prices and cash (spot) market prices converged as the date for the contract’s execution approached. Futures prices helped commodities traders to set a benchmark price in the cash market. With convergence came some degree of contract predictability needed to calculate when to buy or sell. Similarly, option contracts, in which “buyers have the right but not the obligation”¹⁵ to buy or sell a commodity at a specified price at a specified time, relied on price convergence to provide some contract predictability.

As prices have become more volatile and convergence less predictable since 2006, the futures market has lost its price discovery and risk management functions for many market participants.¹⁶ According to the FAO, as of March 2008, volatility in wheat prices reached 60 percent beyond what could be explained by supply and demand factors.¹⁷ “Non-commercial” commodities speculation was a factor, though not the only one, that impeded price convergence and induced extreme market volatility, testified the National Grain and Feed Association (NGFA) to Congress. However, the NGFA and other groups cautioned against over-regulating the commodities markets, lest there be too little capital in the market to enable commercial speculators to hedge their risks with futures contracts.¹⁸

U.S. speculation and regulation

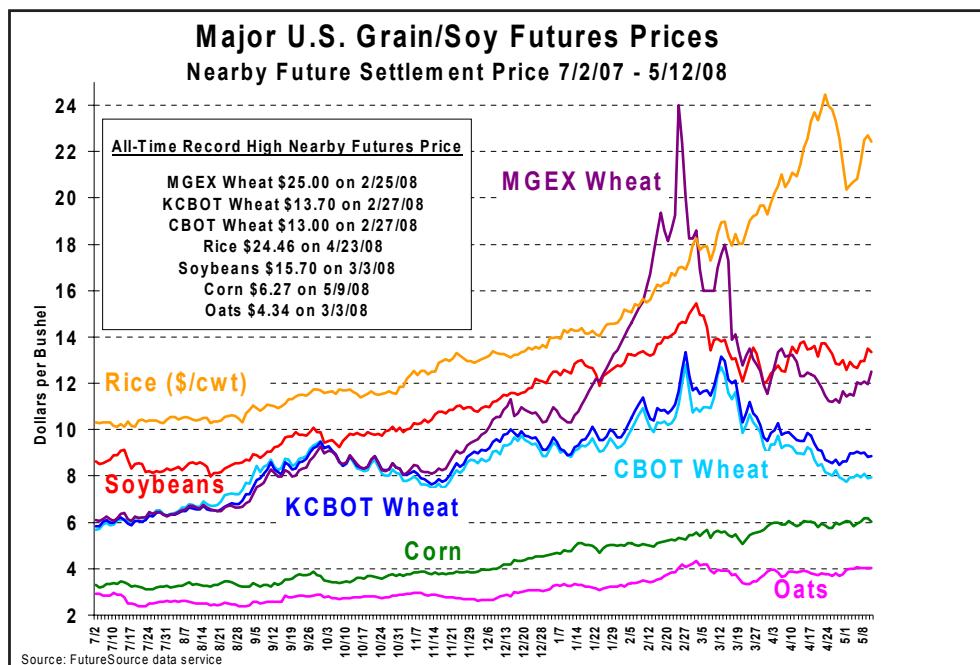
The prices affected by speculation for most global agricultural trade are determined at the Chicago Board of Trade, the New York Board of Trade and the London International Financial Futures Exchange.¹⁹ The U.S. Commodity Futures Trading Commission (CFTC) regulates U.S.-based commodity exchanges based on the legislative authority of the Commodities Exchange Act. The CFTC negotiates bilateral memoranda of understanding to influence the regulation of major commodity exchanges in other countries. Given the global consequences of U.S. rule-making and the influence of U.S. commodity exchanges on global agricultural prices, it is important to spend some time understanding the U.S. regulatory system and debate over rules governing U.S. commodity exchanges. In the U.S., the primary targets of regulatory reform are the commodities index funds that usually bet on commodities prices to increase.

As of July 2008, \$317 billion was invested in commodities index funds.²⁰ The major traders of these funds, especially Goldman Sachs and the American Insurance Group, are headquartered in the U.S. but their investment products are traded globally. Therefore, any regulatory reform affecting those funds will affect commodity markets outside the United States, just as the deregulation of U.S. markets has contributed to excessive speculation worldwide. For example, in 2004 Hank Paulson, current Treasury Secretary and then chief executive officer of Goldman Sachs, successfully lobbied for an exemption from the rule that investment banks, like commercial banks, keep large enough currency reserves to cover their unsuccessful trades. The rule exemption freed billions of dollars that Goldman and four other banks used for high-risk investments, including commodity index fund bets. When these investments went sour, the erstwhile beneficiaries of deregulation either were bailed out by the U.S. government, or, in the case of Lehman Brothers, went bankrupt with global repercussions.²¹

With the rise of financial futures and options instruments, such as the credit derivatives that famed investor Warren Buffet described in 2003 as “financial instruments of mass destruction,”²² agricultural and non-agricultural commodities futures and options “now account for only around 8 percent of total futures and options volume.”²³ The futures and options industry lobbyists are loath to have futures markets tightly regulated for the sake of that 8 percent, never mind for the sake of food security. They have been out in force at the CFTC and U.S. congressional hearings to lobby against “overregulation.”

On September 18, the U.S. House of Representatives passed the “Commodity Markets Transparency and Accountability Act of 2008” (H.R. 6604) by a not quite presidential veto-proof 283-133 vote (288 votes would be needed to override the White House’s threatened veto).²⁴ The bill incorporates provisions proposed by witnesses during four months of congressional hearings. The U.S. Senate has yet to agree on a bill. Given the congressional debate over the Wall Street bailout, Senate and House representatives are very unlikely to agree on a compromise bill before 2009. Because the United States will likely not approve, much less implement, legislation to limit speculation in commodity markets until 2009, it is useful to review some of the main features of the regulatory debate. A key issue for Congress and the CFTC, according to a grain market analyst, is what is defined as “excessive” in “excessive speculation.”²⁵

In effect, U.S. regulators have bought the futures industry lobbyists’ argument that “it is the market forces of supply and demand, not [financial] derivatives, which are the cause of rising commodity prices.”²⁶ Because commodity prices have fallen 40 percent from their July high points,²⁷ the case could be made that the markets have “self-corrected” and hence no regulation is needed. Instead, deregulation proponents argue, regulators should continue to focus only on isolated cases of “manipulation,” e.g. the doubling in one day of the price of cotton. The lobbyists contend that no regulatory scrutiny is needed for Over-the-counter (OTC) derivative trades, privately negotiated contracts for price risk management, whose prices nevertheless are indicators for regulated commodity markets. An estimated 85-90 percent of non-commercial investment in commodities markets occurs through OTC trades about which the CFTC has little data and over which the CFTC has no authority.²⁸ But in order for the CFTC to regulate the market adequately, it must have at least the data to understand the quantity of OTC contracts and the credit-worthiness of the parties to those contracts. Otherwise, insolvent parties will continue to depend on the government to bail them out of their imprudent trades.



Source: *Commodities Futures Trading Commission, Testimony to U.S. Senate, May 2008*²⁹

The elephant in the room: commodity index funds

“When Index Speculators pour large amounts of money into the commodities markets and buy large amounts of futures contracts, prices go up. When they pull large amounts of money out and sell large amounts of futures contracts, prices go down.”

—Michael Masters and Adam White³⁰

Commodity index funds bundle futures contracts according to a formula that weighs and tracks the prices of up to 24 agricultural and non-agricultural commodities as a single financial instrument. They have become the most notorious speculative instrument, in part because of the huge amount of money invested through them and the price volatility that results from index fund “bets.” U.S. Rep. Bart Stupak, based on Lehman Brothers research, stated that “since 2003 commodity index speculation has increased 1,900 percent, from an estimated \$13 billion to \$260 billion” in March, resulting in a crude oil price increase of at least \$37 a barrel largely decoupled from supply and demand factors.³¹ Stupak noted various legislative and regulatory loopholes that have been created since 1991 to enable the “excessive speculation” prohibited by the Commodities Exchange Act and is proposing legislation—the Prevent Unfair Manipulation of Prices Act (PUMP or H.R. 6330)—to close the loopholes.

Perhaps the most crucial loophole is the one that exempts financial speculators from the speculation position limits of commercial hedgers, provided that the speculator “swap” the futures contract through a middleman, such as Lehman Brothers, which would then itself seek to sell the contract it had just bought to spread its risk. The House legislation would affect the agricultural component of index funds, the buying and selling of which are largely determined by the trade weight of oil and other non-agricultural components in the funds. As of July, the Standard & Poors-Goldman Sachs Commodity Index (S&P GSCI) held about 63 percent of the index fund market share and the Dow Jones-AIG [American Insurance Group] index had about 32 percent. Agricultural commodities make up an average 29.6 percent of these indices, with energy, base metals and precious metals making up the rest.³²

The S&P GSCI, which rose 238 percent from 2003 to the end of 2007,³³ has an energy component of about 75 percent and a grains component of about 10 percent. The funds are legally bound by their prospectus to trade to maintain this fund composition balance, regardless of the supply and demand fundamentals in agricultural markets. Fund managers may change the composition, after notifying investors, but at the risk of losing investor contributions. The underlying fundamental for these funds is not the supply and demand of physical commodities from which the fund is ostensibly “derived,” but the prospectus formula and profit target.³⁴

Designed to spread investor risk among commodities and serve as a buffer from riskier financial and real estate speculative instruments, the index funds are hardly immune to loss. One commodity index price declined about 19 percent from June 30 to September 1, as investors took profits following record or near record high prices.³⁶ But the potential for a return to speculation-fueled price spikes, devastating to food security, remain. Financial speculation in commodities markets is expected to continue to attract more regulatory and legislative scrutiny.³⁷

Commodity Futures Price Increases March 2003-March 2008	
Agricultural	Cocoa +34% Coffee +167% Corn +134% Cotton +40% Soybean Oil +199% Soybeans +143% Sugar +69% Wheat +314% Wheat KC +276%
Livestock	Feed Cattle +34% Lean Hogs +10% Live Cattle +23%
Energy	Brent Crude Oil +213% WTI Crude Oil +191% Gasoil +192% Heating Oil +192% Gasoline +145% Natural Gas +71%
Base Metals	Aluminum +120% Lead +564% Nickel +282% Zinc +225% Copper +413%
Precious Metals	Gold +183% Silver +331%

Source: U.S. Senate Testimony, May 2008³⁵

How much speculation is excessive?

There is a difference of opinion about how much speculation in agricultural commodities has increased food prices beyond what can be accounted for by traditional market fundamentals and energy-related factors. A U.S. academic review of two dozen studies on causes of the price increases stated in July, “Based on existing research, it is impossible to say whether prices levels have been influenced by speculative activity.”³⁸ Another study from the University of Illinois concludes, “There is no pervasive evidence that current speculative levels, even after accounting for index trader positions, are in excess of those recorded historically for agricultural futures markets.”³⁹ However, these conclusions do not take into account the OTC trades of privatized risk management that dominate commodities speculation.

Their analysis is limited by the quantity and quality of CFTC reported data upon which they rely. The preliminary data suggest a correlation between volume of commodity index fund activity and price. For example, the December 31, 2007 “snapshot” shows \$8 billion invested in Chicago Board of Trade (CBOT) index corn contracts at an average price of \$4.56 a bushel. By June 30, 2008 the amount invested in CBOT index corn is \$13 billion at \$7.25 a bushel. On June 30, index fund corn contracts were 18 percent of the value of all CBOT futures and options corn contracts. Though 18 percent of the exchange value of trades might not seem to dominate the corn futures market, if the CFTC could mandate the reporting of the private OTC trades that include index funds, it would be very surprising if OTC trades were shown not to greatly affect agricultural futures and options prices. Furthermore, if economists, who historically have ignored the market power of dominant traders in commodities,⁴⁰ were to apply a market power analysis to futures and options trading, the economic case for regulation would be made.

While it is generally agreed that some speculative capital is necessary for the effective operation of commodities futures and options markets, it does not follow that the amount of capital must be unbounded for futures and options trading to carry out its price discovery and risk management functions. Nor are those calling for limits on both the amount of commodity index fund trading in commodities exchanges characterizing all speculation as price manipulation. Manipulation is an intentional and therefore very difficult to prove anti-competitive business practice that is relatively seldom disciplined by the CFTC.

The larger concern is about the systemic effect of the commodity index funds, since they almost always invest “long,” i.e., for prices to increase. Traditional hedgers, such as grain traders, manage risk in different commodities by investing “short” to drive their own raw materials prices down. However, the commodity index fund investors create a constant upward pressure on commodity prices, interrupted only when they take profits on the futures and options contracts they “roll over” according to a trading algorithm. The bundling of agricultural commodities with precious and base metal commodities means that the price movements and larger trading weight of the metals in the fund can trigger the sale of a fund contract regardless of the supply and demand situation in an agricultural commodity. Because the funds often invest with the long-term horizon of pension funds, unlimited and unregulated index fund “bets” could roil commodities markets for at least 20 years.⁴¹ The danger of unregulated index funds and OTC trades to both food security and the agricultural production finance system should be apparent to anyone who looks beyond the great limitations of CFTC data and rules.

To regulate or not: is there a global means to do so?

A recent UNCTAD policy brief notes the disjuncture between food prices based on supply and demand factors and the 85 percent increase in UNCTAD’s food price index from April 2007 to April 2008. The UNCTAD brief assumes that such a sharp increase cannot result solely from market fundamentals and that some part of the price inflation is fueled by the capital flight from real estate and stock assets to commodities markets speculation. The brief continues, “Preparing a coordinated global response to global speculation in food prices is another urgent task.”⁴² But which multilateral institution should coordinate the response? The members of the International Organizations of Securities Commissions exchange information but have no normative function. There is no multilateral agreement to regulate commodities exchange markets that now buy and sell far more speculative instrument contracts than contracts to manage price risk in physical commodities. For example, according to U.S. congressional testimony, less than 30 percent of commodity trades in oil concerns physical hedging; the rest is speculation by traders with no commercial interest in using or trading physical commodities.⁴³

There is currently no multilateral framework to respond to global speculation in food prices. Indeed, financial industry lobbyists are pressing World Trade Organization negotiators to further weaken the ability of governments to regulate financial markets that include commodity exchanges. Developing country negotiators, remembering only too well the lack of international financial institution reform that followed the East Asian economic carnage in 1997 resulting from real estate speculation, have thus far resisted.⁴⁴ Despite the global consequences of the U.S. financial services debacle, former U.S. Trade Representative, former Goldman Sachs executive and current World Bank president Robert Zoellick has indicated his opposition to any normative role for UN agencies in managing the current financial crisis,⁴⁵ of which commodities speculation is a part.

We live in a brave new world of 24-hour electronic trading, triggered by algorithms of composite price indices, fits of investor “lack of confidence,” and of unregulated “dark pools” of more than US\$7 trillion in OTC commodities derivatives trades.⁴⁶ In such a world, what would be the elements of the “coordinated global response” UNCTAD calls for and how would they be implemented and enforced? To respond to the question we need to better understand the speculative instruments and their effect on the relatively lightly capitalized global food markets.

Free trade researchers are reluctant to regulate markets, lest they become “over-regulated” and inefficient relative to a utopian or perfect market with no transaction or regulatory costs. For example, a recent policy brief of the International Food Policy Research Institute (IFPRI) states, “Speculation is mainly a consequence, not a cause, of the price crisis, so overregulation and market policing would be inappropriate responses.”⁴⁷ IFPRI hedges on this analysis, however, and gingerly advises unspecified regulatory measures to “curb excessive speculation.” This hedge, however, begs the question both of what is “excessive” and how can the trading practices that require the “calming measures” on prices that IFPRI counsels not involve a speculative factor? As if to illustrate the volatility of thinking about speculation, a month later, IFPRI postulated that “more research is needed to clearly identify the causal links between speculation and cash prices.”⁴⁸

Conclusion

The U.S. taxpayer bailout of Wall Street firms proposed by the Bush administration has drawn worldwide attention,⁴⁹ and has momentarily overshadowed the food price crisis in the global media. With the collapse, merger or bailout of major index fund and OTC traders, including Goldman Sachs, Bear Stearns, American Insurance Group and Lehman Brother, some of the total OTC market, estimated at \$9 trillion by the Bank of International Settlements, is fleeing to the exchanges.⁵⁰ For the relatively small commodities portion of that market, the flight of private risk management contracts to the shelter of publicly regulated exchanges and the insolvency of some of its major players have meant a sharp drop in commodity prices. The price drop is less a market correction than a collapse instigated by the consequences of deregulating markets.

There are many elements of the food crisis other than commodities speculation that require urgent attention. But if deregulated speculation continues to induce artificial volatility in agricultural markets, it will be very difficult to finance innovative investments in rebuilding domestic agricultural production and distribution capacity in net food import-dependent countries. The artificial inducement of commodity price volatility by deregulated speculation will further make it difficult to internalize the costs of agriculture natural resource remediation and climate change effects in commodity prices. For these and other reasons, governments and regulators must assert control over the futures markets to prevent destabilizing “excessive speculation” in commodities.

Proposals toward regulating commodities speculation

Multilateral

1. Create an independent global commodities futures and options exchange regulatory agency. Such an agency would support consistency and enforcement of national commodity futures exchange rules and deter exchange shopping for weaker regulatory regimes. It could also be granted authority to collate and analyze trading data reported to national commodity exchange authorities. On the basis of that analysis, the agency could propose rule changes and codes of practice for the national or regional exchanges.

2. Lobby UNCTAD member governments to authorize UNCTAD staff and consultants to study the price transmission effects of commodities speculation on agricultural commodities prices at national and farmgate levels. Another study could assess the effects of commodities speculation on setting the international reference prices that developing countries use in outlook studies that help set agricultural policy and allocate state resources to agriculture. Such studies could help provide the basis for negotiations to establish the aforementioned proposed regulatory agency.

U.S. (though perhaps replicable in other national jurisdictions)

1. Require the Commodities Futures Trading Commission to ban access of foreign commodity exchanges and their participants unless those exchanges adopt and enforce limits on non-commercial (i.e. purely financial) speculation relative to the size of the market for a specific commodity. Establish position limits on futures and options contracts bought and sold in U.S. commodity exchanges. Set up agriculture and energy futures advisory groups of commodity exchange participants to help set, monitor and modify position limits and prevent excessive speculation. (This is a summary of Sections 4 and 8 of the U.S. House of Representatives Bill 6604 (HR 6604), “The Commodity Exchange Transparency and Accountability Act” to amend the Commodity Exchange Act, as of July 24.) If enforced adequately, these proposals could moderate price volatility and remove the upward pressure on commodity prices that is not due to fundamental factors.
2. Disaggregate agricultural and non-agricultural commodities futures and options contract data to enable more transparent and fair markets, and to study the effects of speculation on agricultural and energy prices (Sections 7 and 13 of HR 6604). These provisions would enable regulators to better determine the causes of excessive speculation and help to set speculative position limits relative to the market size of each commodity.
3. Require that all OTC trade data be reported to the CFTC and to other national commodity exchange authorities so that regulators have a better grasp of the dimensions and changes in the markets they are regulating. (Sections 12 and 14 of HR 6604.) Without such data, it will be exceedingly difficult to know what, how and how much to regulate.

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