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Implications of regulating commodity derivatives markets in the USA and EU

JAYATI GHOSH *

1. Introduction and background

The link between significantly increased price volatility in global food markets and financial activity in commodity futures markets is now much more widely recognised than before. This means that the argument for effective financial regulation to curb financial activity and associated volatility in primary commodity markets is now more compelling than ever, in the context of the renewed increase in food prices. This paper considers some of the recent trends in global food prices and their possible links to financial speculation, as well as the moves to regulation of such activity in both the United States and Europe. In the opening section, the recent trends in price movements of major food commodities in international trade are briefly described. The second section is devoted to a consideration of the financial deregulation in the United States in 2000, which enabled the greater involvement of financial agents in commodity futures markets, as well as the pattern and implications of such involvement in the period after 2006. The third section contains a discussion of some current moves for regulation in this area as well as other proposals and strategies for ensuring greater stability in global food markets.

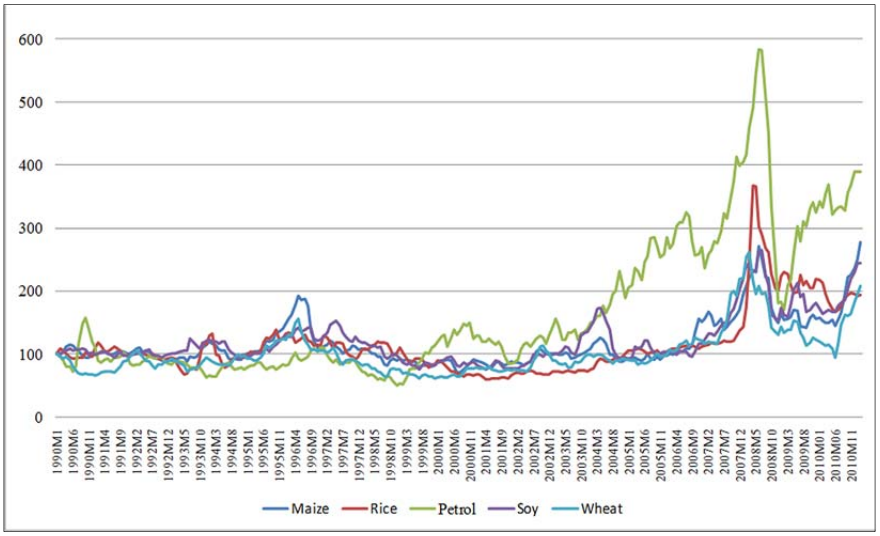
It is clear that we are now back in another phase of sharply rising global food prices, which is wreaking further devastation on populations in developing countries that have already been ravaged for several years of rising prices and falling employment chances. The food price index of the FAO in December 2010 surpassed its previous peak of June 2008, the

* Centre for Economic Studies and Planning, School of Social Sciences, Jawaharlal Nehru University, New Delhi, India. Email: jayatijnu@gmail.com.

month that is still thought of as the extreme peak of the world food crisis, and has increased even more in January 2011.[1]

Some of the biggest increases have come in the prices of sugar and edible oils. The US import price of sugar doubled over the second half of 2010. Traded prices of edible oils like soya bean oil and palm oil increased by an average of 50 per cent over the same period. But even staple prices have shown sharp increases, with the biggest increase in wheat prices, which went up by 95 per cent between June and December 2010. Rice prices have been relatively stable in global trade over the past year in comparison, but in fact the FAO reports that domestic rice prices in major rice producing and consuming countries, especially in Asia, continued to increase and are now at their highest levels ever.

Figure 1 – *Global commodity price indices (Jan. 1990=100), 1990 to 2011*



It is now more widely recognised that the global food crisis is not something that can be treated as discrete and separate from the global financial crisis. On the contrary it has been intimately connected with it,

[1] See http://www.fao.org/giews/english/gfpm/GFPM_01_2011.pdf.

particularly through the impact of financial speculation on world trade prices of food.

This is not to deny the undoubted role of other real economy factors in affecting the global food situation. While demand-supply imbalances have been touted as reasons, this is largely unjustified given that there has been hardly any change in the world demand for food in the past three years. A recent report of the High Level Panel of Experts on Commodity Price Volatility and Food Security set up by the FAO noted that the growth rate of total cereal consumption was considerably slower in the decade of the 2000s than it was in the 1960s and 1970s, and only around the same as it was in the 1980s. It did increase relative to the 1990s, but not by very much. And contrary to the general perception, feed consumption for livestock actually increased more slowly than direct (or non-feed) consumption. Even the apparent acceleration of feed use in the last decade was essentially due to the recovery of feed use in the Former Soviet Union after the 1990s. So, despite all the booming demand for meat in fast-growing Asia, the growth of feed consumption in the rest of the world outside the Former Soviet Union has not been accelerating, but rather it slowed down (FAO, 2011).

In particular, the claim that food grain prices would have soared because of more demand for food from China and India as their GDP increases is completely invalid, since both aggregate and per capita consumption of grain have actually fallen in both countries. Indeed, FAO food balance sheets[2] show that both direct and indirect demand for grain in China and India barely increased between 2000 and 2007, and cereal imports were actually lower. Why this has been happening, and why the economic growth has not translated into more aggregate demand for grain, is obviously a fascinating question on its own, that deserves more study. It is likely that the worsening income distribution in both countries may have has something to do with it, so that increased demand from high income groups is counterbalanced by reduced demand from poorer sections, but obviously this needs to be explored further. The relevant point in this context is that it is *not* increased demand from China and India that is driving up grain prices.

This does not mean that there are no other demand forces at work. The biofuel boom has had a major impact on the evolution of world food demand for cereals and vegetable oils. According to the FAO High Level Panel of Experts report, "there is a real acceleration of non-feed uses

[2] Available online at the URL: http://faostat.fao.org/site/368/default.aspx#ancor.

boosted by biofuel development. Excluding use for biofuel, the growth rate for non-feed use is stable compared with the 1990s and markedly inferior to its historical performance. Without biofuel, the growth rate of world cereal consumption is equal to 1.3 percent compared with 1.8 percent for biofuel" (FAO, 2011, p. 32).

Supply factors have been – and are likely to continue to be – more significant. These include not just the short-run effects of diversion of both acreage and food crop output for bio-fuel production, but more medium term factors such as rising costs of inputs, falling productivity because of soil depletion, inadequate public investment in agricultural research and extension, and the impact of climate changes that have affected harvests in different ways. Another important element in determining food prices is oil prices: since oil (or fuel) enters directly and indirectly into the production of inputs for cultivation as well as irrigation and transport costs, its price tends to have a strong correlation with food prices. So curbing volatility in oil prices would also help to stabilise food prices to some extent.

2. Financial deregulation and global food markets

Despite all these factors, it is clear that the recent volatility in world trade prices of important food items simply *cannot* be explained by real demand and supply factors. The extent of price variation in such a short time already suggests that such movements could not have been created by supply and demand, especially as in world trade the effects of seasonality in a particular region are countered by supplies from other regions. In any case, FAO data show very clearly that there was scarcely any change in global supply and utilisation over this period, and that if anything, output changes were more than sufficient to meet changes in utilisation in the period of rising prices, while supply did not greatly outstrip demand in the period of falling prices.[3] Instead, it can be plausibly argued that financial speculation – and specifically, investor activity in unregulated (OTC) commodity futures – was the major factor behind the sharp price rise of many primary commodities, including agricultural items over the past year (UNCTAD, 2009; IATP, 2008 and 2009; Wahl, 2009; Robles, Torrero and von Braun, 2009; World Development Movement, 2010; UN Special Rapporteur, 2010; Gilbert,

[3] See FAO (2009 and 2010) and Ghosh (2010).

2010). Even recent research from the World Bank (Bafis and Haniotis, 2010) recognises the role played by the "financialisation of commodities" in the price surges and declines, and notes that price variability has overwhelmed price trends for important commodities.

Futures markets for food, oil and other commodities have long been used by farmers and others to maintain stability in their business operations and plan for the future. Commercial traders would purchase food commodities from farmers for future delivery at a fixed price. This would relieve the farmers of any risks associated with future fluctuations in the prices of the food commodities they were growing. As with any insurance-type arrangement, the commercial traders would be assuming the farmers' risk for a fee. They would earn their fee no matter what happened to food prices over time. But the traders would also be speculating that they could profit from changes in future market prices.

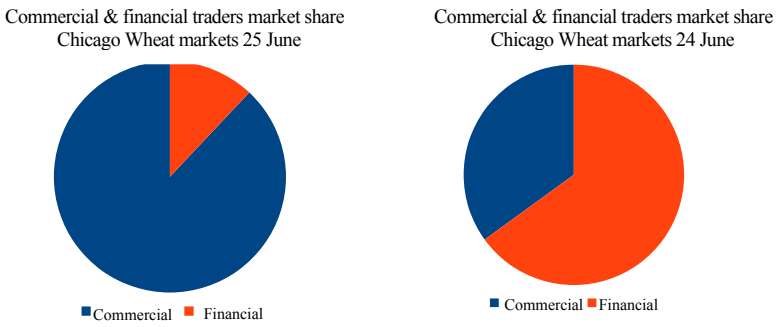
Financial deregulation in the early part of the current decade gave a major boost to the entry of new financial players into the commodity exchanges. In the US, which has the greatest volume and turnover of both spot and future commodity trading, the significant regulatory transformation occurred in 2000. While commodity futures contracts existed before, they were traded only on regulated exchanges under the control of the Commodity Futures Trading Commission (CFTC), which required traders to disclose their holdings of each commodity and stick to specified position limits, so as to prevent market manipulation. Therefore they were dominated by commercial players who were using it for the reasons mentioned above, rather than for mainly speculative purposes. In 2000, the Commodity Futures Modernization Act effectively deregulated commodity trading in the United States, by exempting over-the-counter (OTC) commodity trading (outside of regulated exchanges) from CFTC oversight. Soon after this, several unregulated commodity exchanges opened. These allowed any and all investors, including hedge funds, pension funds and investment banks, to trade commodity futures contracts without any position limits, disclosure requirements, or regulatory oversight. The value of such unregulated trading boomed to reach around $9 trillion at the end of 2007, which was estimated to be more than twice the value of the commodity contracts on the regulated exchanges. According to the Bank for International Settlements, the value of outstanding amounts of OTC commodity-linked derivatives for commodities other than gold and precious metals increased from $5.85

trillion in June 2006 to $7.05 trillion in June 2007 to as much as $12.39 trillion in June 2008 (BIS, 2009).

Unlike producers and consumers who use such markets for hedging purposes, financial firms and other speculators increasingly entered the market in order to profit from short-term changes in price. They were aided by the "swap-dealer loophole" in the 2000 legislation, which allowed traders to use swap agreements to take long-term positions in commodity indexes. There was a consequent emergence of commodity index funds that were essentially "index traders" who focus on returns from changes in the index of a commodity, by periodically rolling over commodity futures contracts prior to their maturity date and reinvesting the proceeds in new contracts. Such commodity funds dealt only in forward positions with no physical ownership of the commodities involved. This further aggravated the treatment of these markets as vehicles for a diversified portfolio of commodities (including not only food but also raw materials and energy) as an asset class, rather than as mechanisms for managing the risk of actual producers and consumers.

Overall, the number of derivative contracts increased more than six-fold between 2002 and mid-2008, as these investment vehicles became a safe haven from the subprime crisis and financial meltdown. It has been estimated that index fund purchases from 2003-7 already were higher than the futures market purchases of physical hedgers and traditional speculators combined, and then doubled in the first half of 2008.

Figure 2 – *Commercial & financial traders' market share Chicago, comparison 1996 and 2008*



Source: Better Markets submission to Commodity Futures Trading Commission (CFTC) on position limits.

The trend movements in food prices underwent a structural shift at the same time as index traders began dominating the commodities futures markets for food. Thus, between 1975-76 and 2000-01, world food prices declined by 53 percent in real US dollar terms. However, since 2000-01, this trend has been reversed. Between January 2002 and June 2008, the global food index rose by 133 percent. The rapid price increases were led by grains in 2005, despite a record global crop yield in 2004-05. Between January 2005 and June 2008, maize prices tripled, wheat rose by 127 percent, and rice rose 170 percent. A 2009 study by the United Nations Conference on Trade and Development reports that "the price boom between 2002 and mid-2008 was the most pronounced in several decades – in magnitude, duration and depth." (UNCTAD, 2009, p. 72).

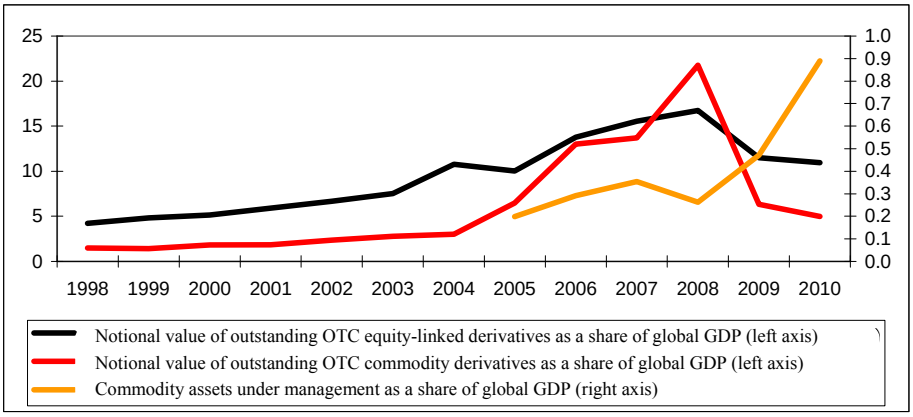
After the dramatic rise – especially in the period June 2007 to June 2008, when the global food price index nearly doubled – global commodity prices then collapsed almost equally sharply, such that by December 2008 they were back to their levels of the previous year. Obviously, such large swings in commodity (and especially food) prices cannot be explained by changes in real demand and supply, especially as FAO data indicate that aggregate global supply and utilisation changed very little over this period.

Food prices started rising again in early 2009, though at a slower rate. However, in the second half of 2010 they have once again been rising rapidly. As of December 2010, the index was 136 per cent higher than in January 2002. In the second half of 2010, food prices have risen sharply, nearly doubling in the case of wheat and increasing by more than 60 per cent in the case of maize. Similar trends are evident in the petroleum market, which has driven oil prices up to around $100 a barrel. Higher oil prices also feed into higher food prices, creating another source of price spiral. It is likely that the movement of the index funds is driven by the price of oil, itself a highly speculative market with some 70% of futures investments coming from non-commercial speculators. This possibility is indeed embedded in the structure of global oil markets, as noted in Roncaglia (2003). Under such institutionalized structures, the price of oil drives the movement of the index funds and pushes up the prices of food and other agricultural commodities, regardless of the real supply and demand of such commodities.

Similarly, it is likely that a combination of panic buying and speculative financial activity is once again playing a role in driving world food prices up well beyond anything that is warranted by real quantity

movements. Data on financial activity in commodity futures markets from the US Commodity Futures Trading Commission suggest that until the end of December the net long positions of index investors had increased dramatically in commodities like wheat and corn. This explains to some extent the dramatic increase (doubling) in the price of wheat in the period June-December 2010, a period when actual global wheat production slightly increased.

Figure 3. *Financial investment in commodities and global GDP, 1998-2010*



Source:UNCTAD secretariat calculations based on BIS, Barclays Capital and UNCTADstat database; quoted in UNCTAD (2011).

Global price volatility has had very adverse effects on both cultivators and consumers of food. It is often argued that rising food prices at least benefit farmers, but this is often not the case as marketing intermediaries tend to capture the benefits for themselves. This tendency has been accentuated over the past two decades with growing concentration in agribusiness. In any case, with price changes of such short duration, cultivators are unlikely to gain. One major reason is because they send out confusing, misleading and often completely wrong price signals to farmers that cause over-sowing in some phases and under-cultivation in others. Many farmers in the developing world have found that the financial viability of cultivation has actually decreased in

this period, because input prices have risen and output prices have been so volatile that the benefit has not accrued to direct producers.

In addition, this price volatility has meant bad news for most consumers, especially in developing countries. It turns out that the pass-through of global prices was extremely high in developing countries in the phase of rising prices, in that domestic food prices tended to rise as global prices increased, even if not to the same extent (Chandrasekhar and Ghosh, 2011). However, the reverse tendency has not been evident in the subsequent phase, as global trade prices have fallen. In late 2010 around 20 countries faced food emergencies and another 25 or so were likely to have moderate to severe food crises (FAO, 2010). Even in countries that are not described as facing food emergency, the problem is severe for large parts of the population. For example, in India retail prices of some important food items have risen by more than 50 per cent in the past two years, causing great hardship in a country in which just under half the population is malnourished.

Under such circumstances, the most appropriate position for regulators to assume is a precautionary principle. That is, given strong evidence showing that the sharp rise in speculative trading on commodities futures markets contributed significantly to the volatility rise in spot prices of food, the responsibility of regulators should be to establish regulatory policies capable of effectively dampening such excessive speculative trading.

3. Changes in financial regulations

It is obvious that international commodity markets increasingly have many of the features of financial markets, in that they are prone to information asymmetries and associated tendencies to be led by a small number of large players. Far from being "efficient markets" in the sense hoped for by mainstream theory, they allow for inherently "wrong" signaling devices to become very effective in determining and manipulating market behaviour. In this context, controlling and mitigating the food crisis clearly also requires specific controls on finance, to ensure that food cannot become an arena of global and national speculation. These controls should include very strict limits (indeed bans) on the entry of financial players into commodity futures markets; the elimination of the "swap-dealer loophole" that allows

financial players to enter as supposedly commercial players; and the banning of such markets in countries where public institutions play an important role in grain trade. Below, some of the forms of such regulation are briefly noted. These include some regulations that have already found their way into legislation, for example in the US Financial Reform Law (the Dodd-Frank Act as it is widely referred to) as well as proposals being considered by the European Union. But they also include some further measures that may be necessary if such major speculative activity is to be curbed effectively.

Improving transparency and disclosure of positions

The simple premise underlying any well-functioning market is that market participants are well-informed about the actual conditions in the market. Markets where information is limited and opaque are highly vulnerable to rumours and herd behaviour (Shiller, 2005). Such markets can thereby be readily manipulated by large-scale traders who are able to achieve dominant positions in the market. Thus, the first step toward creating more stable and well-functioning commodities futures markets is for accurate information in these markets to be widely and cheaply available. This should therefore be the initial goal in moving commodities futures market trading back onto regulated exchanges.

The rules proposed by the European Commission (2010), which, inter alia, envisage central clearing requirements for standardized contracts, including those concerning index funds, would also help improve transparency and reduce counterparty risk. In order to capture contracts that are primarily used for speculation rather than for hedging commodity-related commercial risk, the contracts to which such clearing requirements would apply should exempt those for which transactions are intended to be physically settled.

Moving commodity futures trading onto regulated exchanges

There is a very strong case for moving all such trade off of over-the-counter (OTC) markets and on to regulated exchanges. The aim of this is to introduce greater transparency and oversight and enable more effective regulation of investor activity in such markets. This would be consistent with the regulatory standards that prevailed in the United States prior to 2000 and that are being re-established through the Dodd-Frank Financial

Reform Bill. Prior to 2000, the organizing principle of the regulatory system in the United States was precisely to require trading on regulated exchanges under the control of the CFTC. Operating trading through exchanges entailed four major regulatory requirements: 1) the disclosure of positions by traders; 2) capital requirements for organizers of exchanges; 3) margin requirements for traders; and 4) position limits for traders. All of these are effectively regulatory tools that can be applied effectively in other settings (such as the EU) and in fact the proposed EU legislation also includes this provision (European Commission, 2010).

Information on physical stocks

There are multiple reasons for poor stock data, a major one being that a significant proportion of stocks is now held privately, which makes information on stocks commercially sensitive. As a result, stock data published by international organizations are an estimated residual of data on production, consumption and trade. Enhanced international cooperation could improve transparency by ensuring public availability of reliable information on global stocks.

Capital requirements

Regulated exchanges in the United States, even during the era of deregulation, operated with capital requirements that were applied to registered futures commission merchants (FCMs). These are firms that accept funds from customers or use their internal funds to trade on exchanges. The purpose of these capital requirements has been precisely to guard against excessive riskiness on the part of brokers and futures trading merchants. The problem with deregulation was that traders could avoid these regulations by trading over-the-counter. Capital requirements are usually designed to be static, in that the same requirements are maintained regardless of conditions. To operate more effectively in dampening speculative bubbles, the requirements should rather be stiffened during the upward phase of a bubble. Capital requirements could also be relaxed during slumps, to the extent that, in such periods, encouraging market trading would be beneficial. However, it should also be noted that during the recent commodity price boom it has been found (UNCTAD, 2011) that physical traders have found it harder to meet the

rising capital requirements and therefore have not been able to use the market.

Margin Requirements

Margin requirements require traders to use their own cash reserves, in addition to borrowed funds, to make new asset purchases. There are two overall purposes of margin requirements. The first is to discourage excessive trading by limiting the capacity of traders to finance their trades almost entirely with borrowed funds. The second is to discourage excessively risky trading by forcing traders to put a significant amount of their own money at risk when undertaking new asset purchases. Generally, margin requirements, unlike capital requirements, are designed to operate dynamically – i.e. they are stiffened during booms and relaxed during slumps. Operating as such, margin requirements do have the capacity to contribute toward effectively stabilizing commodities futures markets. However, changes in the margin requirements can affect smaller hedge traders vis-á-vis large speculative investors. For example, large speculative traders could bid up margin requirements on exchanges through increasing price volatility. The rise in margin requirements would then increase the costs of hedging by small traders, perhaps creating barriers to hedging for the smaller market players. One way to deal with this is through establishing differential margin requirements for traders operating at different levels. Another is to set clear position limits for trading, as discussed below.

Position Limits

Position limits can be established on individual market participants and categories of market participants (such as money managers), and on positions of market participants taken in the same commodity but on different exchanges. It is extremely important to establish strict position limits for all types of derivatives contracts. This would give regulators the power to prevent speculation affecting the underlying physical market. Ideally, such position limits should be such as to allow commercial hedging while minimising the negative impacts of excessive speculation. The purpose of position limits is to prevent large speculative traders from exercising excessive market power. That is, large traders can control the supply side of derivative markets by taking major positions, either on the

short or long side of the markets. Once they control supply, they can then also exert power in setting spot market prices, because they can then affect both the market perceptions and the expectations of those operating in the spot market.

The issue of the level at which position limits should be set is also important. The limits should be set at levels that are relevant in controlling speculative activity. Because it is difficult to distinguish between hedging and speculative activity in a market, setting position limits relative to some average for the overall market – say, the *median* level – may be as or more effective as attempting to set limits only after having distinguished commercial from index traders.

The issue of position limits is currently under discussion in both the European Union (European Commission, 2010) and the United States, with the CFTC draft guidelines already released. Such regulatory action relating to positions for energy commodities, especially those taken by hedge funds, is also relevant for agricultural commodities. This is because it has been shown that hedge funds drive the correlation between equity and commodity markets, and that food prices have become more closely tied to energy prices (Tang and Xiong, 2010; Büyüksahin and Robe, 2010). However, since the limited availability of data, at present, makes it difficult to determine what levels would be appropriate for position limits, the introduction of such limits may take a long time. As an *interim* step, the introduction of "position points" could be considered. A trader reaching a position point would be obliged to provide further data, on the basis of which regulators would decide whether or not action is needed (Chilton, 2011).

The Volcker rule for commodity trading

The application of the Volcker rule (which prohibits banks from engaging in proprietary trading) may also be relevant for commodity markets. At present, banks that are involved in the hedging transactions of their clients have insider information about commercially based market sentiment. They can use this information to bet against their customers. Such position-taking provides false signals to other market participants and, given the size of some of these banks, can move prices away from the levels determined by fundamentals, in addition to provoking price volatility.

At the same time, a similar rule could be applied to physical traders prohibiting them to take financial positions and to bet on outcomes that they are able to influence due to their strong economic position in the physical markets (note the example of the Glencore case, described in the *Financial Times* on 24 April 2011). Obviously, such rules must incorporate position limits that recognise the need for "legitimate" hedging.

Exemptions from regulations

The new Dodd-Frank regulations in the US do offer opportunities for exemptions from regulations for certain classes of traders. The first set of exemptions is to be provided for commercial end-users seeking to use agricultural swap agreements. This provides an exemption to any swap counterparty that 1) is not a financial entity; 2) is using the swap to hedge or mitigate commercial risk and 3) notifies the CFTC or SEC how it generally meets its financial obligations associated with entering into uncleared swaps. Beyond this, the CFTC (as well as the Securities and Exchange Commission) may make any exemptions it deems appropriate from the prescribed position limits.

Of course, the aim in offering such exemptions is to prevent the Dodd-Frank regulations from imposing excessive burdens on derivative market participants who are legitimate hedgers, and are thereby not contributing to destabilizing the markets. While this may in principle be a desirable goal, in practice, it is difficult for regulators to sort out which market participants truly merit exemptions by the standards being established.

This is evident from the experience with the so-called "Enron loophole" introduced in the Commodity Futures Modernization Act in the USA in 2000. The Enron loophole exempted over-the-counter energy trading undertaken on electronic exchanges from CFTC oversight and regulation. Enron quickly seized this market opportunity to create an artificial electricity shortage in California in 2000/2001, which led to multiple blackouts and a state of emergency, and, finally, the collapse of Enron itself and its once big-five accounting firm, Arthur Andersen. Nevertheless, following Enron's example, the large market players subsequently took advantage of similar major loopholes – the "London loophole" for nominally foreign market trading and the "Swap dealer loopholes," which permitted all swap trading to move into OTC markets.

The overall effect was to enable the OTC markets to flourish alongside the regulated markets. This suggests that the only way to prevent making invidious distinctions between traders in allowing exemptions is to establish viable regulations that apply to all traders, without exceptions.

Exemptions from such position limits should not be granted to hedge financial risk, as is still the case in the Dodd-Frank legislation in the United States, where swap dealer exemptions (which also apply to commodity index funds) are granted with regard to position limits imposed on some agricultural commodities.

4. Other measures required

Clearly, in the current uncertain global economic context, even financial regulation that prevents purely financial players from entering commodity futures markets in sufficient volume to affect prices and destabilise markets will not be sufficient to prevent price volatility. Therefore a range of other measures is required to impact some measure of stability especially to international food markets. Some of these possible measures are briefly outlined here.

Rebuilding stocks and creating strategic grain reserves

Obviously, supply-side measures are also important in addressing excessive commodity price volatility. This is of particular relevance for food commodities, because any sudden increase in demand or major shortfall in production – or both – when stocks are low, will rapidly lead to significant price increases. Hence, physical stocks of food commodities need to be rebuilt to an adequate level urgently, in order to moderate temporary shortages and to be rapidly available to provide emergency food supplies for crisis relief to the most vulnerable.

Von Braun and Torero (2008) proposed a new, two-pronged global institutional arrangement: a minimum physical grain reserve for emergency responses and humanitarian assistance, and a virtual reserve and intervention mechanism. The latter would enable intervention in the futures markets if a "global intelligence unit" were to consider market prices as differing significantly from an estimated dynamic price band based on market fundamentals.

Taxation as a means of price stabilisation

Another means of price stabilisation in commodity markets could be to tax excess trading profits in periods of boom. A multi-tier transaction tax system for commodity derivatives markets has been proposed. Under this scheme, transaction tax surcharges of increasing scale would be levied as soon as prices start to move beyond the price band defined either on the basis of commodity market fundamentals (Nissanke, 2010) or on the basis of the observed degree of correlation between the return on investment in commodity markets, on the one hand, and equity and currency markets on the other hand.

Compensatory IMF financing

The IMF's compensatory financing facility was first activated in the 1970s in response to the global oil price spikes. There is a strong case for demanding that it be redeployed to provide *unconditional* finance to food-importing countries affected by the global price increases. Some proposals along these lines have already been made (Raffer, 2009).

Improving agricultural productivity in developing countries

There is obviously a need for incentives to increase agricultural production and productivity in developing countries, particularly of food commodities. Incentives could include a reduction of trade barriers and domestic support measures in developed countries. Increased public investment is clearly necessary in this context.

The food crisis in developing countries is therefore something that has been created and is currently being exacerbated by the workings of deregulated international finance, which continues to have an adverse impact even when these financial markets are themselves in crisis. Developing countries are caught in a pincer movement: between volatile global prices on the one hand, and reduced fiscal space and depreciating currencies on the other hand.

It is clear that a solution to the food crisis requires not only strong government interventions to protect developing countries' agriculture, to provide more public support for sustainable and more productive and viable cultivation patterns and to create and administer better domestic food distribution systems. It requires international arrangements and co-

operative interventions such as strategic grain reserves, commodity boards and other measures to stabilise world trade prices. It is important to think of unconditional financing mechanisms that would compensate food-importing developing countries for such sudden spikes in food prices, along the lines suggested by Raffer (2008). In addition, such a mechanism could encompass compensation for sharp currency depreciations that raise the price of food in domestic currency terms.

What is particularly important from the perspective of this paper is that controlling and mitigating the food crisis clearly also requires specific controls on finance, to ensure that food cannot become an arena of global and national speculation.

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