

Commodity speculation and the food crisis

Jayati Ghosh

for World Development Movement

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Two years ago, the global food crisis and calamitous implications of spiralling food prices were widely reported in the media. Then world trade prices of food grains started falling from the second half of 2008, and global attention wandered, especially as the financial crisis subsumed everyone's attention. Currently there is only muted media discussion or public awareness about the persistent food crisis or of how the large majority of people in the world are engaged in an intensified struggle to ensure adequate food for their families. But in fact the global food situation is not much better than it was two years ago, and there is a real possibility of a repeat of the crazy price movements witnessed during 2007 and 2008, which destabilized food consumption and added to poverty in so many places.

It is important to recognise 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, particularly through the impact of financial speculation on world trade prices of food.

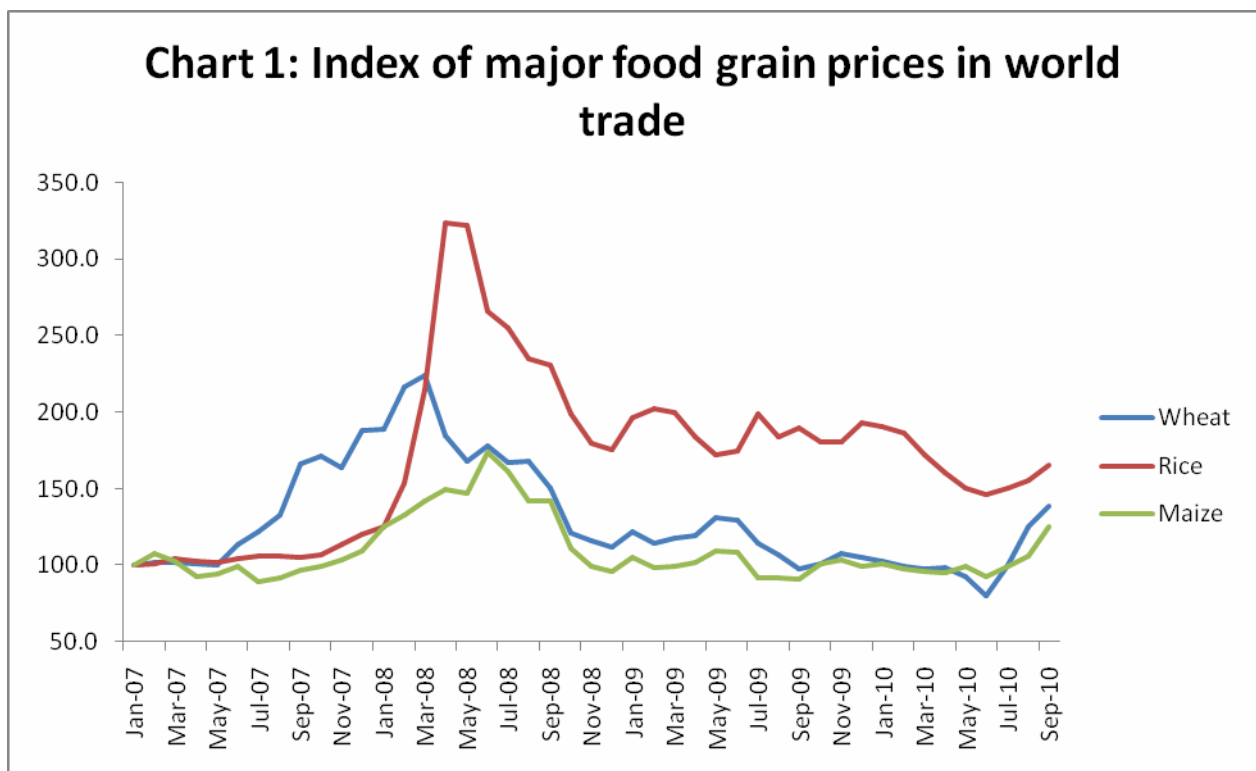
This is not to deny the undoubted role of other real economy factors in affecting the global food situation. While demand-supply imbalances have been touted as reasons, this is largely unjustified given that there has been hardly any change in the world demand for food in the past three years. In particular, the claim that food grain prices have soared because of more demand 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. Supply factors have been – and are likely to continue to be – more significant. These include the short-run effects of diversion of both acreage and food crop output for bio-fuel production, as well as 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.

Price volatility of food items

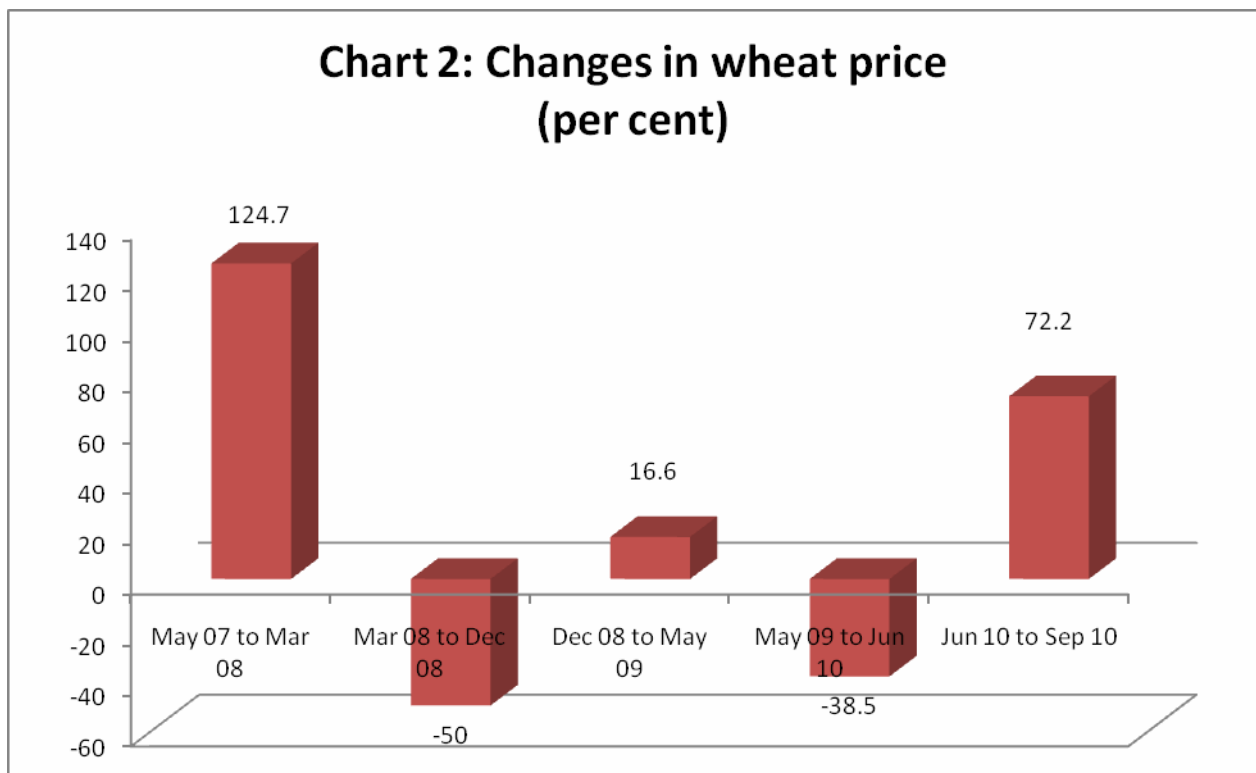
Despite all these factors, it is clear that the recent volatility in world trade prices of important food items simply *cannot* be explained by real demand and supply factors. Chart 1 gives some idea of the extent of price changes in the three most important food grain crops: wheat, rice and maize. The 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 prices¹.



Source: Calculated from IMF Commodity prices database, accessed on 14 October 2010

¹ See FAO (2009 and 2010) and Ghosh (2010).

The extent of the volatility is even more apparent when we look at the trough to peak changes in the price of any one particular commodity. Chart 2 shows how wheat prices have changed in the past three years. It should be noted that after all these very rapid and extreme changes, global wheat prices are now around 40 per cent higher than they were in January 2007. This is related to the very rapid increase in wheat prices in the very recent past, which is significant because it serves as a warning that the possibility of another price spike in important food items still looms large.



Source: Calculated from IMF Commodity prices database, accessed on 14 October 2010

It is now quite widely acknowledged that financial speculation 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). 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.

Of course there continue to be are opinions, which still argue that these price changes have been all about ‘fundamentals’ that reflected real if temporary changes in demand and supply, such as sudden supply shocks in particular areas, as well as the associated impact on panic buying or bans on selling such as export bans in the world trade

market. It is then argued that financial activities in the commodity futures markets have had relatively little impact on price volatility, and if anything have operated to stabilise prices rather than destabilise them (for example, OECD 2009).

This is related to the most common argument in favour of allowing speculation, which is simply that the economics of speculation requires that if such activities are to be profitable, they must be stabilising, rather than destabilising. The vital function of speculators is to predict future market patterns and thereby reduce the intensity and volatility of change. Because speculators are supposed to buy when prices are low and sell when prices are high, they thereby serve to make prices *less* volatile rather than more so. Futures markets in commodities play a similar role: they allow both producers and consumers (farmers and food purchasers in the case of food grain) to hedge against future price changes and therefore allow them to get on with their real work instead of worrying about possible price changes. According to this perception, therefore, the presence of speculation has a positive effect on the markets, cannot be blamed for rising prices, and certainly should not be curbed in any way.

Taken to its logical conclusion, this argument also suggests that the price rises witnessed in the first half of 2008 were inevitable, reflecting economic fundamentals and requiring adjustment by governments and societies. But this apparently plausible argument dissolved completely in the face of subsequent trends in prices, as shown in Charts 1 and 2. Clearly, such price variation in relatively short periods of time cannot be explained even by panic buying and selling of commodities, and indeed there is no evidence that actual volumes of commodity transactions mirrored these price movements.

So what exactly happened?

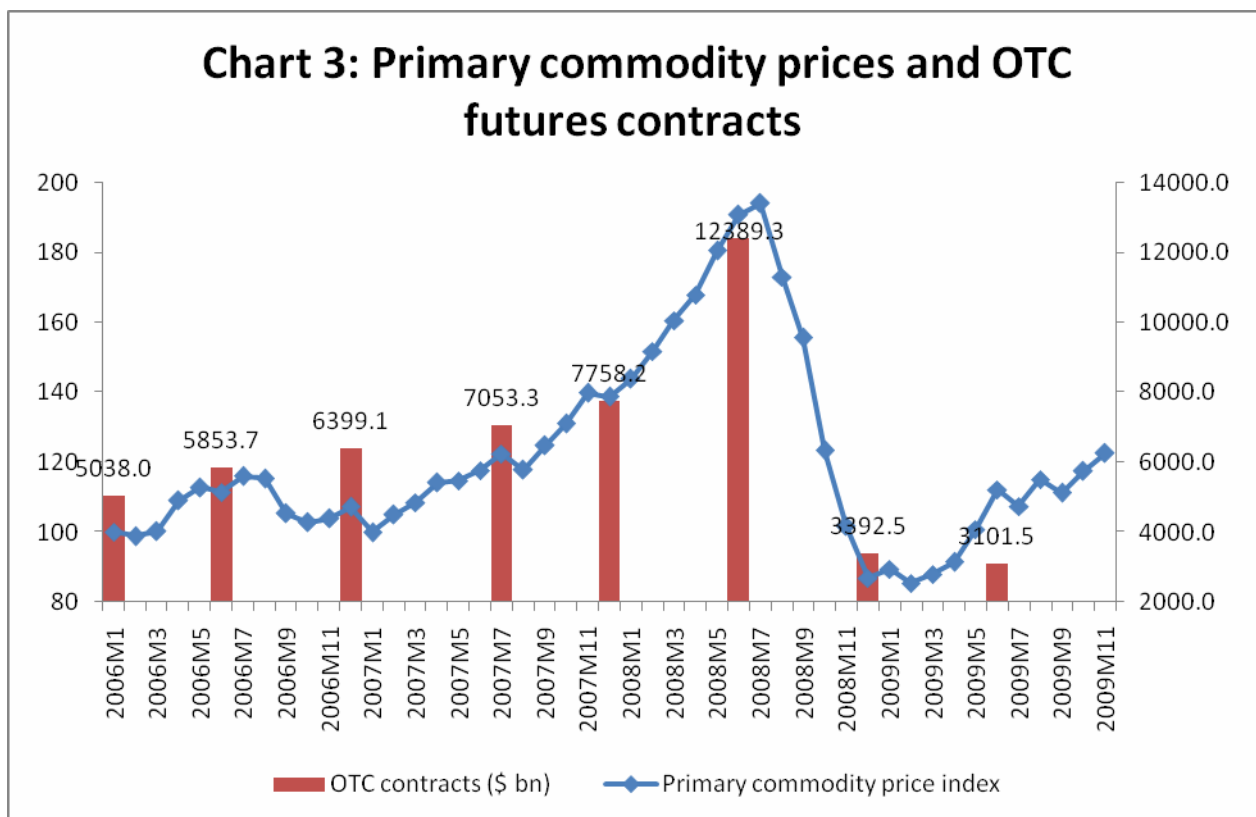
Global commodity prices have always been volatile to some degree and prone to boom-bust cycles, which is one of the many reasons why developing countries have been encouraged to diversify away from dependence on such exports. In the 1950s and 1960s, commodity boards and international commodity agreements were seen as one means of stabilising global prices. Since their decline from the mid 1970s, and especially as financial deregulation and innovation became more pronounced from the early 1980s, the emergence of commodity futures markets was touted as providing the advantages of such agreements in a more market-friendly framework. There were several features of such futures markets that were perceived to be of value: they allowed for better risk management through hedging by different layers of producers, consumers and intermediaries; they enabled open-market price discovery of commodities through buying and selling on the exchanges; they were therefore perceived to lower transaction costs.

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 zoomed 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. At the height of the boom, it was estimated by the hedge fund manager Michael Masters in a testimony to the US Congress that even on the regulated exchanges in the United States, such index investors owned approximately 35 per cent of all corn futures contracts, 42 per cent of all soybean contracts, and 64 per

cent of all wheat contracts in April 2008. This excluded all the (unregulated) ownership through OTC contracts, which were bound to be even larger.

As the global financial system became fragile with the continuing implosion of the US housing finance market, large investors, especially institutional investors such as hedge funds and pension funds and even banks, searched for other avenues of investment to find new sources of profit. Commodity speculation increasingly emerged as an important area for such financial investment. The United States became a major arena for such speculation, not only because of the size of its own crisis-ridden credit system, but because of the deregulation mentioned above that made it possible for more players to enter into commodity trading.



Source: IMF Commodity Price Statistics and BIS Quarterly Review June 2010

This created a peculiar trajectory in international commodity markets. The declared purpose of forward trading and of futures markets is to allow for hedging against price fluctuations, whereby the selling of futures contracts would exceed the demand for them. This implies that futures prices would be lower than spot prices, or what is known as *backwardation*. However, throughout much of the period January 2007 to June 2008, the markets were actually in *contango*, in which futures prices were higher than spot prices. This cannot reflect the hedging function and must imply the involvement of speculators who are expecting to profit from rising prices. Indeed it has

been argued that contango was so strong that the futures markets were essentially driving the spot prices up in this period.

Then, by around June 2008, when the losses in the US housing and other markets became intense, it became necessary for many funds to book their profits and move resources back to cover losses or provide liquidity for other activities. UNCTAD (2009: 25) notes the sharp decline of financial investment in commodity markets from mid 2008. This caused futures market prices to fall, and this transmitted to spot prices as well.

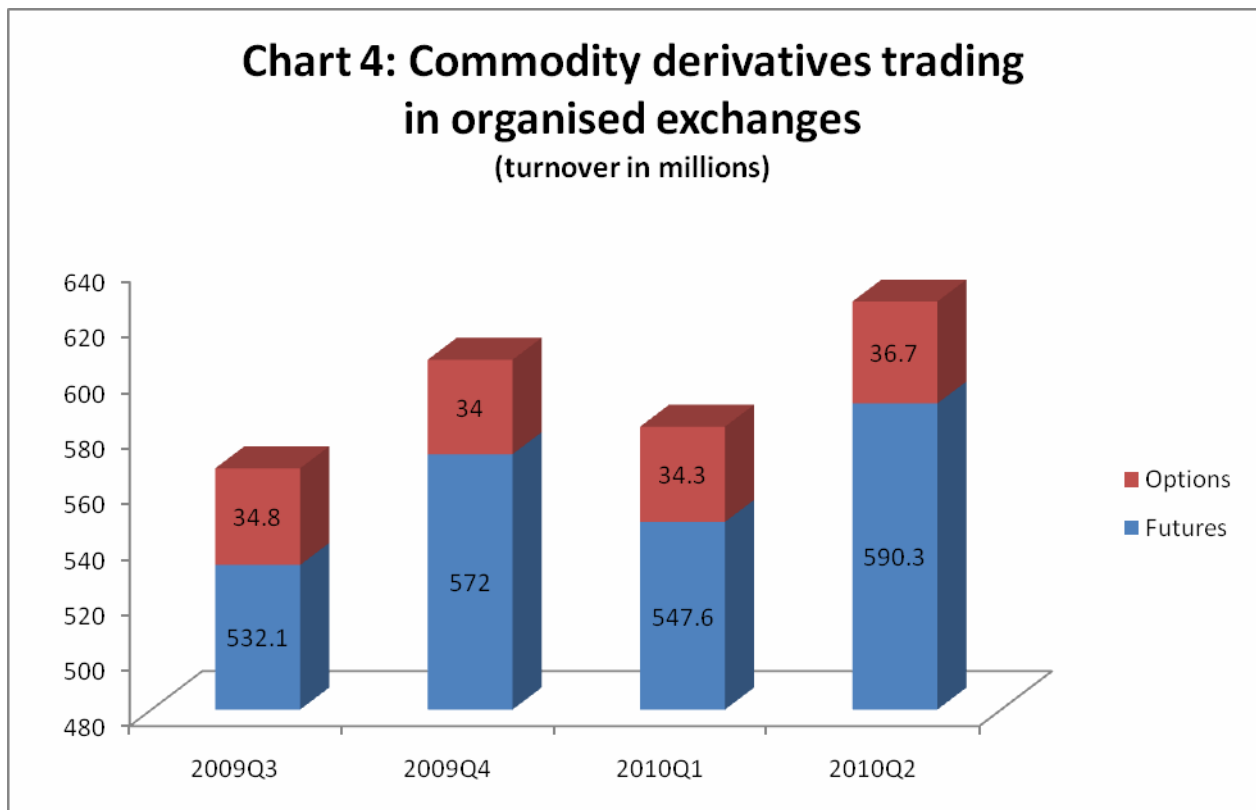
Thus international commodity markets increasingly began to develop many of the features of financial markets, in that they became prone to information asymmetries and associated tendencies to be led by a small number of large players. Far from being 'efficient markets' in the sense hoped for by mainstream theory, they allowed for inherently 'wrong' signalling devices to become very effective in determining and manipulating market behaviour. The result was the excessive price volatility that has been displayed by important commodities over the recent period – not only the food grains and crops mentioned here, but also minerals and oil.

Such 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 grab the benefits. 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. However, the reverse tendency has not been evident in the subsequent phase as global trade prices have fallen. In June 2010 the FAO estimated that around 20 countries faced food emergencies and another 25 or so were likely to have moderate to severe food crises. 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.

So both cultivators and food consumers appear to have lost in this phase of extreme price instability, with the only gainers from this process therefore being the financial intermediaries who were able to profit from rapidly changing prices.

This can easily happen again, unless strict regulation prevents such financial activity. Despite reasonably good harvests in most countries and no likelihood of any serious supply shortfall at the global level, as well as healthy stock-to-utilisation ratios of around 23 per cent for most major food crops, prices have started rising. Wheat prices, as shown earlier, have risen more than 70 per cent in just three months. While the export ban in Russia has been blamed for this, the associated impact on global supply is simply not large enough to explain such a sharp price movement. Instead, it is likely that once again financial speculation is driving up wheat prices as index traders and other players move into futures markets for wheat.



Source: Bank for International Settlements Quarterly Report September 2010

While the data on recent OTC contracts in commodity derivatives markets are not yet available, the evidence on what is happening in the regulated exchanges provides some disturbing pointers. Chart 4 shows that after a period of slight decline, numbers of both futures and options contracts in the regulated exchanges have been increasing in the recent past. Once again long positions are dominating the market, suggesting upward pressure on futures prices and thereby also spot prices. This means that all the features

that created the recent food price spiral are still in place. In the current volatile situation, it is quite possible for finance to flow in such destabilizing ways once again.

What financial regulations are required?

Obviously, the need to pass careful regulation controlling such speculative behaviour and then ensure that such legislation is effectively implemented, is absolutely crucial of the crazy price volatility in important food items is to be curbed. But the groundswell of public opinion that can force such changes has not yet been formed.

The recently passed Dodd-Frank Financial Reform Bill in the US does contain some necessary regulations, bringing all futures contracts into regulated exchanges and requiring some position limits for investors (based on proof of actual interest in the commodity). One important proposal in the financial reform legislation seeks to plug, at least partially, the loopholes that allowed such frenzied activity in commodity futures markets. It requires that previously unregulated over-the-counter (OTC) trades be traded on public exchanges. This would reverse the effect of the 2000 Act, and enable the CFTC to analyse daily trade data and determine when traders have exceeded the CFTC's commodity-specific position limits (which provide a percentage ceiling for all commodity contracts open for trade during a specific trading period). It has been estimated that around ninety per cent of this market in the US would move from over-the-counter swaps trading to the more transparent and capitalized exchange trading environment for futures contracts.

In addition, the legislation specifies that position limits must be imposed on traders in agricultural and energy-related commodities. This would require traders to establish that they have an interest in holding the real commodity in question and specify limits on the aggregate number or amount of positions in certain contracts based upon the same underlying commodity that may be held by any one person, including any group or class of traders, for each month. This should prevent or at least reduce the importance of purely financial players such as index traders, but of course it is crucial in this case that the position limits are not set so high as to be meaningless, and therefore the CFTC (US Commodity Futures Trading Commission) will have an important role to play in this. Even if the CFTC acquires the ability to control and regulate trading activity in commodity futures, its actions may not be so effective. For example, in late January this year the CFTC announced that it would place position limits on oil, natural gas, heating oil and gasoline futures. However, the limits announced were so high that, even by the CFTC's own calculations, they were unlikely to affect much of the trade.

However, while financial regulation in the US is important, it will not be enough. Currently, only 30 per cent of commodity futures contracts are traded in the US.

European exchanges account for the bulk of the rest, followed by Tokyo and Singapore to a much lesser extent. Therefore, appropriate legislation in the EU is absolutely essential. Without it, the danger is that the speculative activity that has so disturbed essential commodity prices such activity will simply move to other financial centres. Unfortunately, the proposed legislation that is currently on the table in the EU has some important weaknesses. Most importantly, it does not provide for position limits in commodity derivatives markets. And the “swap-dealer” loophole that allowed purely financial agents to actively participate in commodity markets would still be operative. A more stringent set of rules is therefore essential.

Of course, this does not in any way mean that the world food crisis is over, or that commodity prices will not continue to behave in a volatile fashion without other measures adopted by governments. At best it may simply mean that developing countries will get some breathing space from excessive price volatility that should help them to get the policies in place to tackle the real problems in the food economy and elsewhere. The need to put such measures into place, to revive the food economy within countries and ensure adequate and universal distribution of essential food items, is more pressing than ever. But in the immediate situation, without stricter and more effective financial regulation, price volatility will only aggravate and intensify the problem. We need to become more aware of the specific challenge that finance poses for food security, and address it directly.

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