

The Financialization of Food: Who is Being Fed?

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Introduction

The 2007-08 food price crisis sparked a growing interest in the ‘financialization’ of agricultural commodity markets. Financialization refers to the increasingly important role played by financial markets within a specific sector, in this case, the agrifood sector. Recent decades have seen phenomenal growth in the sale and purchase of financial products linked to food commodities by banks, agricultural commodity trading firms, and investment funds. When money began to flow into agriculture-linked financial products in huge sums just as the food crisis hit, many analysts began to point to the role of financial investors in agricultural commodity futures markets in driving up food prices. This attention continued as food prices began to fluctuate sharply over the 2008-12 period. Since the food crisis first erupted, we have gained a greater understanding of the ways in which speculative financial investments can exacerbate food price volatility. At the same time, however, there is still much we need to understand about how financialization has changed the dynamics of influence within the global food system and the broader biophysical impact of those new dynamics.

In this paper I seek to unpack the implications of financialization in the food system by examining who exactly is investing in agricultural commodities and with what effect on the biophysical environment. I argue that financialization has lent power to new actors – financial investors, including banks, financial services firms, and large-scale institutional investors – who previously did not have such influence within the food system. This development has affected the food system in two important ways. First, the increased influence of financial actors has contributed to a new kind of ‘distancing’ within the food system.¹ Greater distance in the food system, not just in terms of geography but also in terms of knowledge about the food’s production and impact, typically translates into less agency, or influence, for both consumers and for producers. Distance allows power to concentrate in the middle spaces of commodity chains where intermediaries – traders, processors, and retailers – have traditionally dominated. The process of financialization contributes to distancing in several ways. It increases both the number of the actors and the steps involved in global agrifood commodity chains, both of which are largely obscured from public view. It also abstracts food from its physical form into highly complex agricultural commodity ‘derivatives’ that only seasoned financial traders fully understand. The result of this increased distancing is a weakening of influence of other actors over food system outcomes.

A second key dimension of financialization is the biophysical impact of the growth of investment in agriculture-based financial products. Because these financial transactions take place largely outside of public view, the ‘real world’ physical implications of increased investment are not always transparent to the outside observer or even to the investors themselves. But while the

¹ Princen 1997; Clapp 2012.

agricultural commodity derivatives trade takes place in financial markets and in many ways is only ‘virtual’ for the investors, it generates a number external costs that have a real influence on the world’s poorest people and the natural environment. By exacerbating price volatility, financialization affects both access to food and farmer livelihoods, with the effects especially pronounced in developing countries. Financialization has also made it much easier for investors to pour billions of dollars into new financial products that are based on foreign land acquisition and biofuel production, both of which have negative implications for poverty, hunger, and the environment. The biophysical costs associated with financialization are largely obscured from public view because of the way in which financialization has increased distancing within the system. In such conditions, financial actors can easily externalize the costs of their investments.

Agriculture as Financial Investment: Distancing in the System

Most of the scholarly literature on food system globalization has focused on the key roles of agricultural trade rules and the World Trade Organization², transnational corporations³ or both.⁴ These studies have been important in helping to unpack the key forces of power in the world food economy. The 2007-08 food crisis shed light on a new set of actors who have not been analysed in nearly as much depth in the food studies literature: financial investors. As I outline below, financial markets have become central in the food system, especially in recent decades. This process has been described in other sectors as ‘financialization’, which Epstein refers to as “(I)ncreasing importance of financial markets, financial motives, financial institutions, and financial elites in the operation of the economy and its governing institutions, both at the national and international levels.”⁵ As I outline below, financial actors, while not entirely ‘new’ to the food system, have seen their importance within that system grow remarkably in recent decades. As financial actors have grown in significance, their activities have created a new kind of distancing within the food system that further obscures understanding about the broader impacts of the food we eat.⁶

A Long Courtship between Food and Finance

A link between financial investors and agricultural commodity trade has existed for centuries. Futures exchanges for agricultural commodities were established in London, for example, in the 18th century. Futures markets provided a means by which farmers and grain merchants could purchase and sell agricultural commodities for delivery at a future date. The ability to make deals in the ‘future’ enabled both sellers and buyers to lock in prices and hedge their risks in a sector that is highly uncertain due to weather fluctuations and the perishability of foodstuffs. As such,

² Rosset 2006.

³ Clapp and Fuchs 2009.

⁴ Weis 2010; McMichael 2000.

⁵ Epstein 2005.

⁶ Clapp 2012.

these markets play an important role in ‘price discovery’ for commodities. Financial investors speculating on price movements played an important role in these early futures markets by providing liquidity in cases where farmers and end-users did not find equal matches for their needs. If sellers needed a buyer quickly, an investor speculating on price movements could step in and buy the product. Later, when an end user wanted to purchase that grain, it could buy the future contract from the investor. If prices moved in the interim, the investor might gain or lose. More institutionalized commodity futures trading markets emerged in other UK cities and in the United States by the mid-1800s and the practice of commodities futures trading became widespread. The ability to hedge their positions in the grain markets enabled large grain trading companies to expand their scope and size in the latter part of the 19th century.

The possibility that speculators might manipulate markets by taking large positions was recognized early on. If an investor purchased a large proportion of a particular grain for future delivery (in other words, if they cornered the market), for example, he or she could control supply and ensure that prices would rise, greatly enhancing their own chances of financial gain. Because of this risk of market manipulation, agricultural futures markets in the United States, home to the largest agricultural commodity futures exchange, the Chicago Mercantile Exchange Group, have been tightly regulated since the early 1900s. The 1922 Grain Futures Act mandated that all futures trading had to take place on approved exchanges that outlawed the cornering of markets. Since 1923 daily reporting on trading by market traders in the markets was required because such actors could influence prices through the size of their trades. This reporting allowed regulators to track market movements and ensure transparency among the participants.

The 1936 US Commodity Exchange Act gave US federal regulators the authority to establish ‘position limits’ on those traders who were deemed to be ‘non-commercial’ – i.e. those not involved in the business side of the commodity as either farmers, grain elevator operators, or end-users such as commodity firms and food processors. These non-commercial traders were not seen as bona fide hedgers in the markets. Rather, they were viewed as financial speculators, and the number of futures contracts there were legally allowed to hold at any time was strictly controlled. The aim of the legislation was not to outlaw speculation, but rather to prevent ‘excessive’ speculation that might result in market manipulation and sudden sharp price shifts.⁷ Since 1974, the Commodity Futures Trading Commission (CFTC) has maintained regulatory oversight of commodity futures markets in the US, including monitoring of position limits.

Investment Banks See Opportunity in Agriculture

The above regulations were put in place to prevent market manipulation and sharp price shifts. But those regulations began to be relaxed in the 1980s and 1990s.⁸ In response to pressure from

⁷ See Clapp and Helleiner 2012.

⁸ Ghosh 2010.

some large investment banks to relax the tight position limits for non-commercial operators, the CFTC issued what are referred to as ‘no action letters.’ These letters enabled specific banks that requested them to exceed position limits on the grounds that their positions in commodity markets were hedges against real risks they faced in financial markets. The reason that the banks needed to hedge financial risks by engaging in physical markets in large quantities is that they began to sell financial derivative products to investors that were based on agricultural commodity markets.⁹

A common financial derivative that banks began to sell is known as a ‘commodity index fund’ (CIF). These derivative products track changes in the prices of a bundle different types of commodities as an index. The index is made up of the prices of agricultural commodities, minerals, livestock and petroleum products. Agricultural products typically make up around one third of the value of these indices. What the CIF offers investors is an opportunity to gain exposure to commodity markets without being required to purchase the actual commodities on exchanges. The most popular of these index funds are the Standard and Poor’s Goldman Sachs Index and the Dow Jones AIG Index.¹⁰

In selling these products, the banks acted as middle operators, providing a financial derivative product *based on* commodity markets to investors ‘over the counter’ (OTC). At the same time, the sale of these financial products posed real risks for banks that sold them. If commodity prices in the index rose, they would have to pay out returns to investors. To hedge these new financial risks, the banks began to purchase actual commodity futures contracts on commodity exchanges, so that they would actually gain financially if prices rose, and thus be able to make the payments to investors. This need to invest in the commodity futures markets was precisely why these banks pressed for a relaxation of position limits. The new rules enabled them to expand the sale of OTC agricultural derivatives products to investors who themselves were unable to participate in commodity exchanges.

In 2000, the relaxation of regulations was codified with the passage of the Commodity Futures Modernization Act (CFMA) in the US.¹¹ This law exempted OTC derivative trade from oversight by the CFTC. In effect, the sale of OTC derivatives products was not regulated, and purely speculative trade in these types of derivatives products was allowed. This deregulation in the United States, the most tightly regulated commodity futures markets, brought it more into line with markets in other countries. The EU, for example, had only light regulations on its commodity futures market, and prior to 2008 placed no regulations on OTC derivatives trading.¹²

⁹ Clapp and Helleiner 2012.

¹⁰ IATP 2008. See also De Schutter 2010.

¹¹ See Ghosh 2010.

¹² Vander Stichele 2011, p.1

Other kinds of financial investments linked to the agricultural sector also began to be offered by investment banks after 2000, including funds that invest not just in commodities, but also farmland and agriculture-based firms. BlackRock, for example, an investment firm that is the world's largest manager of assets, established an Agriculture Fund in 2007. This fund invests in a range of agriculture-based assets, including commodity futures, farmland, agricultural input firms, and food processing and trading companies. These investments are essentially bundled into an index in which retail and institutional investors can purchase shares. Agriculture-based exchange-trade funds (ETFs) have also emerged, including the DaxGlobal Agribusiness Index and the Dow Jones Global Equity Agriculture Index which are funds that track the performance of the largest agricultural firms and sells shares on the stock exchange. Some of new agriculture funds specialize in farmland acquisition, with some 66 funds that include land in their portfolio.¹³

Commodity Trading Firms Deepen the Linkage

Banks were not the only financial actors to capitalize on the changing face of commodity futures markets that resulted from changes to regulations. Tapping into rising investor demand for commodity derivative financial products, the large agricultural commodity trading firms also began to get into the business. Archer Daniels Midland (ADM), Bunge, Cargill and Louis Dreyfus —known in the business as the ABCD firms for the first letters of their names — began to establish financial services businesses. The financial arms of the ABCD firms were established by not only to manage their own risks through hedging on commodity futures markets, but also to sell CIFs and other specialized agricultural commodity derivatives to third-party investors.

Each of these firms has a long history: Bunge dates back to the early 1800s, Cargill to the 1860s, Dreyfus to the 1880s, and ADM to the early 1900s. Each of these firms operates under a complex business model. They deal in bulk commodities and trade high volumes at typically low margins. In such a highly variable and uncertain context as agricultural commodity markets, access to information is their advantage. These firms are very private in their operations to the extent that they can be. Cargill and Dreyfus, for example, are private firms, and as such are not required to publicly report any data on their finances or operations. Bunge was originally a private firm, but certain parts of its business are now publicly traded, while ADM has long been a publicly traded firm. As publicly traded firms, Bunge and ADM must disclose some financial information, but beyond this they report very little. Each of the ABCD firms hold sizeable grain stocks, for example, but because they are privately held, there is little public information available about their size and location. Each of these firms is intimately linked to the world of complex agricultural commodity chains, with different aspects of their business touching all

¹³ See Buxton, Campanale and Cotula 2012, 1.

steps of those chains from production to consumption. Each of these firms has privileged access to information that has helped them to maintain advantage over their competitors.¹⁴

The commodity trading firms have long used their information advantage to manage their own business risks by purchasing and selling agricultural commodity futures contracts on commodity exchanges. Indeed, as noted above, commodity futures markets have in large part enabled these firms to stay in business by giving them an opportunity to hedge their risks. Hedging on commodity futures markets has been an integral part of the business model of these firms since they were first established. In some cases these firms are engaged in hedging of their own business operations, although it is virtually impossible to tell when these firms are making purely speculative investments based on their own inside knowledge of agricultural commodity markets. As the Wall Street Journal noted in 2009, “In contrast to stocks, commodities trading is the only major U.S. market where companies are allowed to act on inside information to manage risks others might not know about. In fact, that is how futures markets were designed.”¹⁵ Commodity trading firms are often the first to become aware of crop shortages or other interruptions to agricultural trade, which gives them an information advantage in the futures markets.¹⁶ What these firms are not allowed to do, however, is deliberately manipulate prices.

Commodity trading firms were able to capitalize on their specialized knowledge of the sector and in the past two decades have made financial and risk management a major part of their business structure. As financial risk management became more important to the operations of these firms, each of the ABCD companies established financial subsidiary firms that specialized in this task. These ABCD financial services firms gradually began to service not just their own risk management needs, but also those of third party investors. The financial arms of these firms became very active in selling OTC derivatives, much like the commercial banks were doing. Because these actors have been exempt from position limits due to the fact that they are commercial operators, it was fairly easy for them to move into the business of providing financial services for third party investors.

Cargill founded Cargill Risk Management (CRM) in 1994, explicitly to sell individualized OTC products for its own purposes and for third party customers. In 2003 Cargill established another independently managed subsidiary, Black River Asset Management, which started to manage the funds of third party investors in 2004. In all, Cargill has no fewer than five separate financial subsidiaries that manage both its own investments and those of third party investors. ADM operates ADM Investor Services (ADMIS), a subsidiary which also sells OTC agricultural derivatives to third parties and which has two separate financial subsidiaries that operate under it that sell investment products to business partners and third party institutional investors. Louis

¹⁴ Burch, Clapp and Murphy 2011.

¹⁵ Ann Davis, “Cargill’s inside view helps it buck downturn”, *Wall Street Journal*, January 14, 2009.

¹⁶ Gregory Meyer, “Commodity Traders Hit Back at Planned US Futures Curbs”, *Financial Times*, June 14, 2011.

Dreyfus established two agricultural hedge funds: the Alpha Fund that specializes in agricultural commodities and Calyx Agro that specializes in farmland investments in Latin America. Bunge has two financial divisions, Bunge Global Markets and Bunge Limited Finance Corporation.¹⁷

The distinction between banks and commodity trading firms has become increasingly blurred since the mid 1990s as both sets of actors became actively engaged in selling OTC agricultural commodity derivatives products such as commodity index funds and other OTC financial derivative products. The market for these products ballooned after 2000 when the CMFA came into place. There was, in effect, a free range for commodity trading firms and their financial subsidiaries to sell these products because they are considered ‘commercial operators’, and banks roamed into that range with financial market deregulation that relaxed position limits. And the investors flocked in to buy those financial products.

An enormous increase in commodity-based OTC derivatives was recorded after 2000 and the derivative products made available to investors after this date became increasingly complex in nature. Between January 2005 and March 2008, for example, investment in commodity futures contracts doubled in value worldwide, to an estimated US\$400 billion. CIFs in particular became very popular products with investors seeking exposure to commodity markets but who did not themselves have the capacity (either in terms of knowledge, and because of position limits) to engage directly on futures exchanges. A rise in commodity prices in general in the early 2000s gave these products a significant boost, and investment in CIFs ballooned by more than ten fold, from US\$15 billion in 2003 to US\$200 billion by mid-2008.¹⁸

Who’s Buying? Large-scale Third Party Investors

Agriculture-based financial investment products such as CIFs and agriculture/land funds became hugely popular among wealthy investors, but who exactly are these investors with deep pockets? The principal investors in these new agricultural commodity derivatives products are large-scale institutional investment funds and wealthy individuals. Institutional investors include insurance companies, pension funds, mutual funds, hedge funds, sovereign wealth funds, and university and foundation endowments. These investment funds essentially pool their resources, which enables them to expand and diversify their investment options while sharing transaction costs.¹⁹

According to the Bank of International Settlements, in 2005, insurance companies, pension funds, and mutual funds, by far the largest of the institutional investors, together managed US\$46 trillion.²⁰ Some individual institutional investors manage enormous sums of money. The

¹⁷ Burch, Clapp and Murphy 2011.

¹⁸ On the value of commodity futures contracts, see Young 2008, p.9; on the value of commodity index funds, see US Senate 2009, p.5. See also Masters 2008; De Schuter 2010.

¹⁹ See Buxton, Campanale and Cotula 2012.

²⁰ BIS 2007.

Japanese public pension fund is the world's largest institutional investor, managing US\$1.5 trillion in assets in 2011.²¹ The California Public Employees Retirement System (CalPERS) is also huge, managing some US\$225 billion in assets in 2011.²² These large-scale investors have some unique features, one of which is that they tend to be passive investors with a significant proportion of their investments. With enormous amounts of money to invest, they tend to make long-term investment decisions that do not require active management, and do not always have detailed knowledge of their own investments.

Large-scale financial investors increasingly began to seek exposure to commodities as a class of investment after 2000 as commodity prices in general were rising in this period. Rising commodity prices were the product of financial malaise in the United States in which the value of the dollar fell. When the value of the US dollar falls, commodity prices in general tend to rise. This is partly due to the fact that most commodities traded on international markets are denominated in dollars, and a falling dollar leads to rising commodity prices to make up for the depreciation of the currency in which they are priced. But the relationship between the dollar and commodity prices is also exacerbated by the fact that a falling dollar initially makes US commodities appear to be less expensive to foreign buyers, who may then drive up demand for those commodities. Financial instability in the US after 2000, in particular the onset of the housing and mortgage crisis after 2006, led to a depreciation of the US dollar by 22 percent between 2002-2007.²³ This decline in the dollar value made commodity investments, including CIFs and land, extremely attractive to large-scale investors who were seeking the highest investment returns they could find.

In this environment, these investors sought to purchase financial products from large banks and the financial arms of commodity trading firms who offered exposure to commodities and farmland through CIFs and other kinds of agriculture-based financial investments. Institutional and retail investment in commodities generally ballooned from US\$6 billion in 2001 to over US\$400 billion in 2011,²⁴ and agricultural commodities were an important part of this investment. Pension funds alone are estimated to hold at least US\$100 billion in commodity investments.²⁵ Some estimates put agricultural investments of pension funds at around US\$320

²¹ Tomoko Yamazaki and Komaki Ito, "World's Biggest Pension Fund Plans to Start Investing in Emerging Markets. Bloomberg." At: <http://www.bloomberg.com/news/2011-09-29/world-s-biggest-pension-fund-plans-to-start-investing-in-emerging-markets.html>

²² CalPERS Facts at a Glance: Investment (March 2012): <http://www.calpers.ca.gov/eip-docs/about/facts/investments.pdf>

²³ Abbott, Hunt and Tyner 2008, p.28.

²⁴ UN Global Compact 2011.

²⁵ GRAIN 2011.

billion, which is up significantly from the US\$6 billion they held in investments in this sector in 2002.²⁶

Some financial services of the banks and commodity trading firms enabled these investors to get around two problems that previously prevented them from gaining major exposure to commodity futures markets: their lack of detailed knowledge of commodity markets, and position limits. By operating through banks and commodity trading firms, these large-scale investors could get around the limits and capitalize on the knowledge of others who were happy to provide the service, of course for a fee. CIFs in particular were especially attractive for the needs of these large-scale third-party investors. They were easy to obtain because they were sold OTC, and investors could just sit on them for long periods of time, waiting to reap profits as commodity prices climbed. The pooling of their resources and the availability of new financial products also enabled institutional investors to invest in farmland.

Financialization and Distancing in the Food System

Princen has discussed the notion of distancing in global commodity chains as a process that creates a separation between producers and consumers of a good.²⁷ Distance occurs along several dimensions, including geography, culture, bargaining power and agency. Greater distances constrain information feedback on production processes and social relationships along commodity chains, enabling powerful actors to externalize costs that consumers cannot see. The concept of distancing is highly relevant to the global food system. As distance grows, our knowledge about the food we eat becomes obscured: we know little about the physical distance it travels, the hands through which it passes and their profit margins, the impacts of its production on the environment, and the working conditions of and compensation to those who grew it. The externalization of costs and the potentially negative attributes of food's production tend to go unnoticed by consumers when distance is great, largely because those attributes are invisible at the point of purchase.²⁸ Dauvergne refers to this externalization of costs associated with production and trade as the 'shadows' of consumption.²⁹

Financialization in the food system has fostered a new kind of distancing relationship that enables new actors to gain bargaining power around the edges agrifood commodity chains, but which is largely obscured from public view. Financialization has increased the number of actors involved in agricultural commodity chains. Although financial investors have had a long relationship with agricultural commodity markets, financial deregulation in the sector has enabled large numbers of investors, operating through banks and financial subsidiaries of trader

²⁶ Buxton, Campanale and Cotula 2012, 2.

²⁷ Princen 1997.

²⁸ Clapp 2012.

²⁹ Dauvergne 2008.

firms, to enter these markets en masse. With huge sums of money now entering these markets, financial investors now wield enormous influence over market conditions, and ultimately prices, of food commodities. The proliferation of new financial products that enable commodity investments also increases the number of steps within the commodity chain. These changes have created new middle spaces that surround commodity chains, creating more opportunities for actors in and around the chain externalize to costs over a larger dimension of distance than was possible in the past.

This new kind of distancing is also characterized by greater abstraction of the commodity from its physical form. As noted above, as the rules governing agricultural commodity markets became more relaxed, more actors began to engage in the futures markets with the use of new and more intricate financial derivatives. These products are designed as financial investments, to give investors an opportunity to gain exposure to commodities in order to diversify their financial portfolios. It is not surprising, then, that financial investors in agrifood commodity derivatives have no direct interest in the physical commodity in which they are investing. For these investors, agricultural derivatives are not about the agricultural products that they represent, they are about the financial opportunities that they offer.

Financialization, then, creates a new kind of distance that goes well beyond just the physical and mental separation of what happens to food – the conditions under which it is grown, and the hands through which it moves – between its production and consumption. Investment in commodity derivatives drives distance by separating the concept of the commodity as a financial investment from its physical characteristics. The virtual dimension of the product has taken on value and can generate profits, even though the investor in that abstract concept does not own or have any need for the physical commodity itself. In this way, investment in the commodity is separated from the physical needs for production.

Distancing associated with financialization is reinforced by the fact that the actors involved have been able to go about their business largely obscured from public view. They operate, so to speak, in the ‘shadows’ of the commodity chain. Financial institutions and investors are not typically identified as key players in the food system because their activities are often taking place virtually in financial centers, even before commodities are grown or delivered. Banks and financial investors are buying and selling products based on agricultural commodities, and influencing the system in ways that are not always visible, even to the investors themselves.

Biophysical Implications: Externalization of Costs

Distance in the system obscures the biophysical dimensions of this virtual world of financial investment. It is in these shadowed middle spaces of commodity chains where costs are often externalized. As new financial investors pour millions and billions of dollars into the sector in search of higher returns, their activity in this sector drives investment decisions in the physical

commodity markets – production, pricing, storage, and trade – that have real biophysical impacts. The investors in agricultural commodity derivatives reap the financial gains from these activities. But the costs associated with their investment are often externalized, with the world’s poorest people and the natural environment typically being negatively affected by them.

There are two key mechanisms by which financialization in the food system facilitates the externalization of costs. One is through the price mechanism. It is widely agreed that financialization exacerbates volatility in food prices.³⁰ When prices fluctuate wildly on world markets, poor people in developing countries are hardest hit. The second mechanism is through the new kinds of investment products that financialization has encouraged, which provide an avenue for large-scale financial investors to pour huge amounts of money directly into financial products that encourage the acquisition of land in developing countries, often for the production of biofuels. Prior to the recent intensification of financialization in the food sector, this kind of investment channel was not open to these investors.

Price Volatility, Hunger and Farm Incomes

Financialization in the food sector has exposed agricultural prices to broader trends in financial markets. As noted above, financial market turmoil after 2006 contributed to disruptions in food markets by encouraging investors to move into commodity-linked investments. These investors sought to capitalize on what was seen as a more stable and higher-return investment than other kinds of financial derivatives. As money poured into commodities in large amounts in this period, food prices began to climb. In the 2006-2008 period, average world prices for rice rose by 217 percent, wheat by 136 percent, maize by 125 percent and soybeans by 107 percent.³¹ Several nongovernmental organizations immediately pointed toward financial speculation as a driving force in food price rises, while a number of economists and international organizations were highly skeptical that speculation had much to do with price rises.³² Instead, attention was initially placed on a variety of forces that contributed to food price rises.³³

Four years later, there is now growing recognition among international organizations that speculation in agricultural commodity futures markets and financial derivatives at the very least exacerbated price trends. The Bank of International Settlements noted, for example, that financialization influences commodity prices, especially in the short term. Several UN reports have also recently come to a similar conclusion.³⁴ A recent report by UNCTAD explains that investors often act in a herd-like fashion, following each other due to the lack of perfect information. This herd behaviour can make price swing up and down more dramatically than

³⁰ It should be noted that it is hotly debated whether it is the *primary* driver of volatility.

³¹ WRI 2008.

³² For a discussion, see Clapp 2009.

³³ See, e.g. Headey and Fan 2008.

³⁴ BIS 2011; De Schutter 2010; UNCTAD 2011.

they otherwise would have done.³⁵ Indeed, as food prices spiked in mid-2008, an FAO report indicated that a significant portion of the price volatility on international food markets was well beyond what would be explained by underlying supply and demand for food. Wheat futures prices, for example, were some 60 percent beyond their underlying expected value in March 2008.³⁶ Although it is difficult to tell the exact extent to which financial speculation was responsible for this price volatility beyond what the fundamentals of supply and demand would have dictated, as noted above, there is growing consensus that it at least played a role.

It is not difficult to see how increased and sustained investment in CIFs in particular can have a strong influence on agricultural commodity prices. Holding CIFs over long periods of time, according to some experts, can result in the same kind of outcomes as hoarding physical stocks of commodities. Specifically, it can drive up commodity prices, which could be considered manipulation of the market, enabling speculators to reap profits. Large movements of money into these products can thus cause severe disruptions to commodity markets, even though the investment is ‘virtual’ because it is just an index. In testimony to the US Congress, former hedge fund manager Michael Masters noted, “Index Speculators’ trading strategies amount to virtual hoarding via the commodities futures markets. Institutional Investors are buying up essential items that exist in limited quantities for the sole purpose of reaping speculative profits.”³⁷ Such virtual hoarding effectively undermines the price discovery function of futures markets. In this context, it becomes clear how large-scale investment in CIFs could fuel food price volatility.

Large-scale commodity derivatives investment is often facilitated by relatively few traders on commodity markets. As institutional and other investors purchase index funds, banks and commodity trading firms are hedging the risks associated with the sale of those products on physical markets. At the height of the food price rises in 2008, for example, just a handful of financial traders were dominating the trade in agricultural commodity derivatives. According to a US Senate report, just six traders held up to 60 percent of the Chicago wheat futures contracts that were linked to index funds. In this context, even very small changes in how investment portfolios are managed can result in sharp changes in agricultural prices. In short, due to financialization, food prices became vulnerable to sharp volatility at the hands of a relatively small number of commodity traders who were acting on behalf of traders firms, investment banks, and their clients.

Most financial investors know very little about what their investments are actually tied to (especially index investors who are tracking the prices of a bundle of commodities). Their investments are purely financial; they have no interest in taking possession of the physical commodities to which their investments are linked. As a result, they are not particularly aware of

³⁵ UNCTAD 2011.

³⁶ FAO 2008.

³⁷ See Masters 2008.

the effects of their investment decisions on the volatility of food prices, or the implications of that volatility in the ‘real’ world. The costs of excess price volatility are very real, and for the most part those costs are externalized. The world’s poorest people and the natural environment are the ones who typically end up paying the price. There are several ways in which these costs are externalized.

Most obviously, price volatility often results in increased hunger among the world’s poorest people, especially when prices spike to high levels very quickly. Even short-term period of very high prices can have long-term impacts. Poor people in developing countries spend on average 50-80 percent of their income on food. For example, in Bangladesh and Malawi, the poorest 20 percent of the population spends over 60 percent of their income on food. In Pakistan and Ghana, that figure is over 70 percent.³⁸ In such a context, sharp food prices rises can easily overwhelm a poor family’s entire budget, resulting in an immediate and sharp decline in food consumption. The rioting that occurred in a number of developing countries in 2008 during the food price spikes illustrated people’s frustration with these circumstances. Experiencing acute hunger even for a short period of time during the first 1000 days from conception can have permanent effects on children’s health. Research has shown that stunting due to episodes of malnutrition early in childhood negatively affects people’s income earning potential into adulthood, thus making it very difficult to escape from poverty and hunger.³⁹

Poor people in developing countries that are highly dependant on food imports are the most vulnerable to food price volatility on world food markets. Dependence on imported food, itself a product of longstanding imbalances in global trade rules, declining investment in the agriculture sector, have made this vulnerability especially pronounced.⁴⁰ Many sub-Saharan African countries, for example, are highly dependant on imported food. Not surprisingly, the continent saw a rise in hunger of over 8 percent in the 2007-2008 period.⁴¹ By 2009 the number of hungry people on the planet surpassed 1 billion, up from 850 million just two years before. Ironically, just as the number of hungry people reached record highs, financial investors were raking in record returns. The ABCD firms, for example, reaped record profits in 2008 and again in 2010, when food price volatility was at its most extreme.

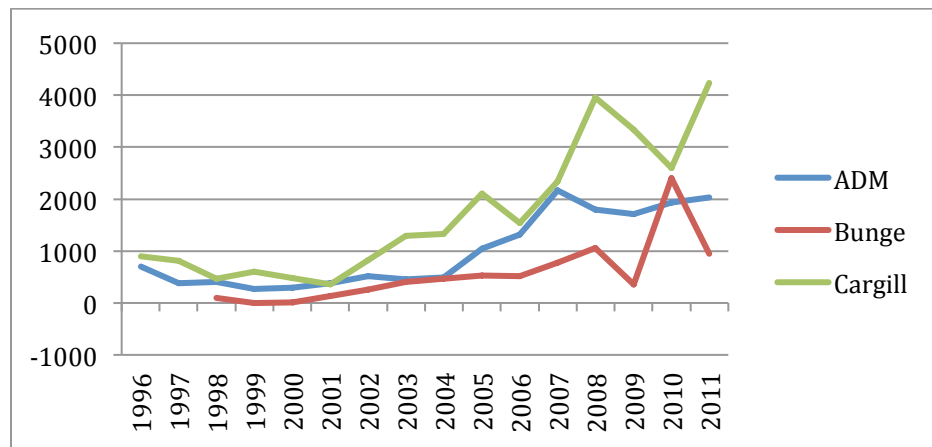
³⁸ FAO 2011

³⁹ See, for example, Alderman et al. 2007; Hoddinott 2006.

⁴⁰ Clapp 2009.

⁴¹ FAO 2011.

Profits of the ABCD Firms, 1996-2011



Farmers in poor countries are also negatively affected by sharply fluctuating food prices. Farmers derive the bulk of their income from food sales, and volatile food prices bring them great uncertainty. When prices rise, farmers may see an increase in the amount they earn from food sales, but when prices fall, their income declines. Moreover, if there are gains for farmers, these are not evenly distributed. Price rises tend to benefit wealthier farmers who have access to good land more than landless labourers and farmers who work marginal lands. Most farmers also purchase some food on markets, so if their income rises when prices climb, so do their own expenditures on food. Uncertainty in food markets due to price volatility also makes it very difficult for farmers to plan ahead. Investing in greater production in high price years provides no guarantee that food prices will stay high and cover the cost of that investment.⁴² This uncertain economic climate makes it especially difficult to make investments to improve future production.

Rapid and sharp price shifts can result in sales of productive assets or a drawing down of capital for both poor consumers and farmers in developing countries. When food prices peak, consumers might take their children out of school in order to direct the money that would have been spent on school fees to food. When prices trough, farmers might sell livestock or other productive assets at low prices in order to make ends meet. The loss of assets can have negative effects on income over the long run, creating poverty traps that are difficult to break out of.⁴³

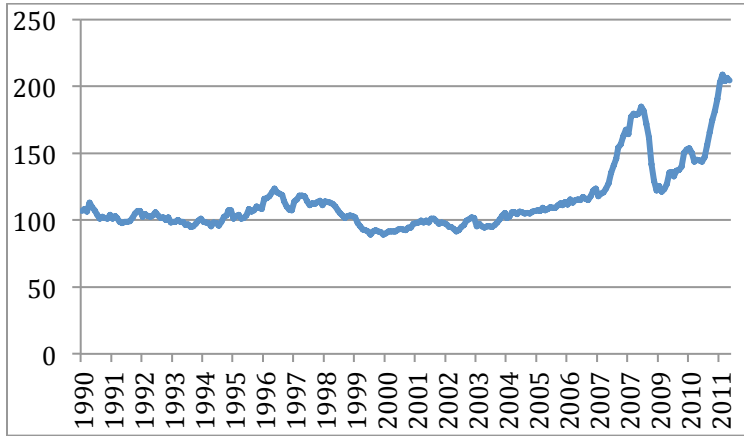
Food price volatility is now widely projected to continue into foreseeable future. Although it is difficult to say with certainty the exact contribution that financialization has made to this volatility, but it does contribute to it. Distancing that results from financialization has enabled the externalization of costs by financial investors and these include the externalization of the costs of food price volatility. Wildly fluctuating food prices have caused enormous disruptions to food

⁴² FAO 2011.

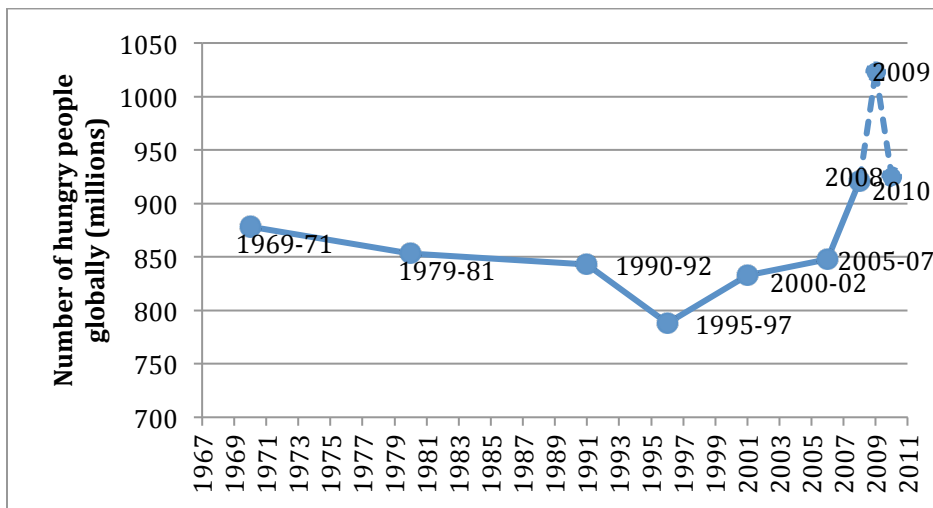
⁴³ FAO 2011.

security and vulnerability of the world's poorest people who must absorb the biophysical, 'real world' costs associated with investment choices of wealthy investors.

FAO Food Price Index 1990-2011 (2002-2004=100)



Global Hunger Levels (1969 -- present).



Large-scale Land Acquisition and its Human and Ecological Impact

A second key way in which financialization affects the biophysical environment is through new kinds of financial investment tools that enable financial investors to buy into land acquisition and biofuel production, especially in developing countries. The acquisition by investors of large tracts of land in developing countries, labeled by some 'land grabs' has seen a dramatic increase

since 2006. According to reports by the Oakland Institute, in 2009 some 60 million hectares of land were acquired in Africa alone, an area the size of France.⁴⁴ This is a sharp rise over the 4 million hectares per year of global farmland expansion experienced prior to 2008.⁴⁵ A large number of African countries including Ethiopia, Uganda, Senegal, the Democratic Republic of Congo, Liberia and Zambia have transferred enormous tracts of land – sometimes in the millions of hectares – to foreign investors.⁴⁶ Much of this land is purchased through intermediaries such as banks and other financial investment institutions. These new kinds of agriculture-based investment opportunities allow financial investors’ money to have a much more immediate and direct biophysical impact. Distancing associated with financialization obscures the externalization of costs associated with these investments.

Large-scale financial investors have been instrumental in this rush for the acquisition of land. For them, farmland is the next frontier for agricultural commodity investment. It allows them exposure to the agricultural production that underlies commodity prices. And investment of this kind has been made both more attractive, and easier, by the increased financialization of food and agriculture. It is attractive because the direct acquisition of land expands investors’ opportunities to earn returns from the production of food crops and biofuels in a context where both financial and commodity markets are increasingly volatile and uncertain. Land acquisition is seen as both more secure than financial investments, and as a way to minimize risks associated with volatile food prices. The idea is to use the productive capacity of land as a hedge against commodity price inflation. Ironically, land investment for agricultural purposes seems more secure in this context, whereas traditionally it has been seen as very risky because of weather variability that affects production as well as the threat of government seizure of foreign-owned property. The development of titling practices and legal security of land rights along with an easing of rules on foreign direct investment, often in the context of structural adjustment reforms in the 1980s, has made purchase of land in developing countries by foreign investors attractive.⁴⁷

The involvement of financial investors in land has also been made easier by the development of new financial instruments that allow development of new kinds of land based derivatives such as land funds and land index funds. Large fund managers and banks have the capital and ability to facilitate the deals on behalf of others. Individual investors, including institutional investors such as pension funds, have no need to purchase that land themselves. They can do it through intermediaries such as large investment banks, hedge funds, and land index funds. Some investment banks are getting directly involved. In 2008, for example, Morgan Stanley acquired 40,000 hectares of farmland in the Ukraine and Goldman Sachs has purchased rights to China’s

⁴⁴ Shephard and Mittal 2011.

⁴⁵ World Bank 2010.

⁴⁶ For details, see, for example, Zoomers 2010; Cotula and Vermeulen 2009; Cotula et al. 2009; GRAIN 2008; Shephard and Mittal 2011.

⁴⁷ Zoomers 2010.

meat and poultry industries, including rights to land.⁴⁸ Financial institutions have also established a broader set of investment tools that enable institutional investors to gain exposure to land in the form of land investment and index funds for third party investors.

The establishment of these kinds of funds exploded after the financial collapse in late 2008, with investors seeing land as a relatively ‘safe’ investment compared to more traditional financial markets. According to the managing director of Prudential Agricultural Investments, an investment fund with US\$3.2 billion in assets under management: “It is about safety. Farmland is a great place to store our wealth.”⁴⁹ BlackRock’s US\$400 million agricultural hedge fund for example includes a US\$30 million portion for the purchase of agricultural land around the world.⁵⁰ Institutional investors have been actively adding farmland to their asset mix. Pension funds, for example, hold approximately US\$5-15 billion in farmland assets.⁵¹

Food trade and processing firms have kept pace. Cargill, Bunge and Louis Dreyfus are all involved in securing land either directly or through agricultural investment funds managed by the financial services divisions. Louis Dreyfus, for example, established Calyx Agro in 2007 which openly advertises on its website “Focused on land for agriculture, an attractive asset class.”⁵² The Calyx Agro fund explicitly seeks to identify, acquire, develop, concert and sell farmland for large institutional investment funds such as AIG, with a focus on Latin America.⁵³

Large-scale land acquisitions are frequently driven by rising demand for the production biofuels in addition to their attraction as an investment and hedge against commodity price inflation. The attraction of acquiring land for biofuel production has been heightened by recent policies in the EU, US and Canada that mandate renewable fuel targets. Land in Africa is seen to be relatively inexpensive for biofuel firms, seeking to make profits in uncertain commodity market conditions fuelled by financial turmoil and rising commodity prices. Rising and volatile fuel prices since 2007 have themselves been the product of the financialization of commodities more generally, which has raised the attraction of biofuels if their production can be secured at lower cost. The growing interest in acquiring foreign land for biofuel production in effect provides firms with a hedge against the rising cost of biomass as a key source of future energy supplies.

The ecological impacts of land acquisitions linked to financial investment can be substantial. First, most of the deals that acquire land for the explicit purpose of agricultural commodity

⁴⁸ GRAIN 2008.

⁴⁹ Quoted in Gillam, Carey (2010) Funds Flow Towards Farmland as Experts Eye Deals, *Reuters*. Retrieved 8 January 2011 from <http://farmlandgrab.org/12886>

⁵⁰ BlackRock World Agriculture Fund Factsheet: <http://www.blackrock.com.hk/content/groups/hongkongsite/documents/literature/1111121373.pdf>

⁵¹ GRAIN 2011.

⁵² See <http://www.calyxagro.com/>

⁵³ See Calyx Agro website: <http://www.calyxagro.com/company.php>; See also Diana Henriques “Food is Gold, and Investors Pour Billions into Farming”, *New York Times*, June 5, 2008.

production typically import large-scale industrial farming methods that can have detrimental effects on ecosystems. These effects include soil erosion and salination, biodiversity loss, and exposure to toxins from the use of agricultural chemicals. These kinds of farming methods are also heavily dependent on fossil fuels, and are a major contributor to climate change.⁵⁴ Clearing land of trees is also common on acquired lands, particularly in cases where land is acquired for the production of biofuel crops. The deforestation that results is associated with rising carbon emissions and biodiversity loss. Tropical forests have already been cleared in many parts of Asia and Africa for the production of palm oil, a key biofuel crop. The carbon equation in these cases, when counted properly, raises serious questions about how environmentally friendly biofuels are in practice. But the environmental costs of these operations are rarely counted, and as such are largely externalized.⁵⁵ Financial investors take their profits, but local people and the environment bear the brunt of these costs.

In addition to ecological costs, there are significant human costs associated with land-based financial investments. Most land acquisition deals have displaced people from land that they have traditionally cultivated, even in cases where the acquired land is purely for speculative investment rather than for productive use. The latter case illuminates how rich-world financial investors can reap profits on land speculation while poor farmers who used to work that land watch it sit idle. Whether or not the land in these deals is used productively, smallholder farmers are losing their rights to that land, and the benefits, including food production, that flow from it. The loss of land poses serious consequences for poverty and hunger in the world's poorest countries where many of these deals are most attractive to investors. The deals also reinforce the dependence these countries have on food imports by enabling foreign producers not only to control the land, but also to export the food and agricultural production that takes place on it.

Conclusion:

Financialization in the food system has added a layer of complexity to agrifood markets that has intensified in recent years. Financial actors have acquired significant power within the system, but their influence is not always transparent because financialization has fostered a new form of distancing. Financial distancing within the food system is characterized by larger number of actors taking profits along the commodity chain, a larger number of steps, or links within the chain, and a greater abstraction of the commodity from its original form, in this case into a 'virtual' financial derivative product. But just because the investment is 'virtual' for the financial investors who only see financial returns on their statements, it does not mean that it has no impact on the 'real world'. Financial investments may be derivatives of real activities, but those real activities are intensified by financial investors' huge sums of money. This increased financial activity on the back of food and agriculture has had a huge impact on the real,

⁵⁴ See, for example, Weis 2010.

⁵⁵ McMichael 2010.

biophysical world, affecting both producers and consumers – especially in the world’s poorest countries.

The ecological and human costs of greatly increased investment in agriculture-based financial products are often externalized, a process that is facilitated by the fact that financial distancing has kept the impacts of these activities out of public view. Food price volatility has been associated with increased financial investment in agricultural commodity derivatives, in particular commodity index funds. This price volatility has a direct impact on access to food and farmer livelihoods in the world’s poorest countries. Land-based agricultural investment funds have been made both more attractive and possible through financialization. Greatly increased investment in these financial products directly impedes poor people’s access to land in developing countries. And when these lands are acquired specifically for large-scale agricultural production, in particular biofuel crops, the environmental costs are enormous.

Policy responses to heightened financialization must recognize the complexities that this process has brought to the food system. To date much of the policy debate has focused on whether financial investment has disrupted agrifood markets. Given that there is a growing consensus among most policy-makers that it has affected agrifood markets, it is time to move the policy debate forward and to gain a fuller understanding not just of the market impacts, but also the biophysical impacts, of this kind of financial investment. This deeper appreciation for the wide-ranging effects, and in particular the way in which the obscurity of these investment activities facilitates an externalization of costs, can help in devising more effective policy responses. Ensuring greater transparency of these transactions is vital, as are policies that force cost internalization for financial investors.

There is some movement towards these ideas in certain initiatives, such as the G20 encouragement of its members in 2011 to impose great transparency rules and tighter position limits on commodity speculation. Guidelines on land acquisition – including those for investments such as the Principles for Responsible Agricultural Investment and the Voluntary Guidelines on Land Tenure, have made a good start. These various governance initiatives have focused on improving the way these activities are carried out, rather than questioning the way in which the system is organized. Whether enough players will voluntarily make their activities more transparent, and internalize the costs associated with them, is still an open question.

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