



PROGRAM IN
Agrarian Studies
YALE UNIVERSITY

Food Sovereignty: A Critical Dialogue

INTERNATIONAL CONFERENCE
YALE UNIVERSITY
SEPTEMBER 14-15, 2013

Conference Paper #9

Financialization and the Transformation of Agro-food Supply Chains: A Political Economy

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Conference paper for discussion at:

Food Sovereignty: A Critical Dialogue

International Conference

September 14-15, 2013

Convened by

Program in Agrarian Studies, Yale University

204 Prospect Street, # 204, New Haven, CT 06520 USA

<http://www.yale.edu/agrarianstudies/>

The Journal of Peasant Studies

www.informaworld.com/jps

Yale Sustainable Food Project

www.yale.edu/sustainablefood/

in collaboration with

Food First/Institute for Food and Development Policy

398 60th Street, Oakland, CA 94618 USA

www.foodfirst.org

Initiatives in Critical Agrarian Studies (ICAS)

International Institute of Social Studies (ISS)

P.O. Box 29776, 2502 LT The Hague, The Netherlands

www.iss.nl/icas

Transnational Institute (TNI)

PO Box 14656, 1001 LD Amsterdam, The Netherlands

www.tni.org

with support from

The Macmillan Center, the Edward J. and Dorothy Clarke Kempf Memorial Fund and the South Asian Studies Council at Yale University

http://www.yale.edu/macmillan/kempf_fund.htm

<http://www.yale.edu/macmillan/southasia>

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Abstract

This article documents the rise of finance in food provisioning. It queries the role of financialization in the contemporary food crisis and analyzes its impacts upon power structures and the distribution of wealth within and along the agro-food supply chain. A systematic treatment of key links in the supply chain – namely, farmland, agricultural inputs, agricultural risk, grain trading, food manufacturing, and food retailing – reveals four key insights: (1) the financialization of food and agriculture has blurred the line between finance and food provisioning; (2) financialization has reinforced the position of food retailers as the dominant actors within the agro-food system, though they are largely subject to the dictates of finance capital; (3) financialization has intensified the exploitation of food workers, increasing their workload while pushing down their real wages and heightening the precarity of their positions; and (4) small-scale farmers have been especially hard hit by financialization, as their livelihoods have become even more uncertain due to increasing volatility in agricultural markets, they have become weaker vis-à-vis other actors in the agro-food supply chain, and they face growing competition for their farmland. Given the regressive impacts of contemporary financialization, readers are asked to envision an alternative approach to finance food provisioning.

Introduction: The Rise of Finance

The contemporary food crisis, which rose to prominence with the dramatic increase in food prices in 2007-08, continues to ravage the world's poor. Nearly one billion people are chronically malnourished while another billion suffer from the constant uncertainty of whether there will be a next meal and from where it will come. Many analysts point to the 'financialization of food' as a key culprit for the on-going crisis. When doing so, they often focus upon increasing participation of financial actors in agricultural derivatives markets and the resulting impact upon food prices. Yet the rise of finance capital is not novel. Many political economists maintain that it is a recurring feature of capitalist development (Lenin 1974, Hobson 2010, Arrighi 1994). Moreover, the current phase of financialization, which has been unfolding since the late 1970s (Palley 2007, Krippner 2011), has permeated nearly every aspect of food provisioning. Financial actors are playing an increasingly active role in food retailing (Burch and Lawrence 2009, 2013), food processing (Rossman 2010), grain trading (Murphy et al. 2012), the determination of food prices and the distribution of agricultural risk (Clapp 2012, Ghosh et al. 2012, Breger Bush 2012, Spratt 2013), the provisioning of agricultural inputs (Ross 2008, The Economist 2009), and the ownership and control of farmland (Fairbairn 2013, Highquest 2010, Cotula 2012). At the same time, enterprises that operate in each of these activities are increasingly active in financial markets and earning a growing share of their

revenues from financial activities. How, if at all, has this financialization of food and agriculture contributed to the contemporary food crisis? How is it reshaping social relations and the distribution of wealth and power within and along the generalized agro-food supply chain? Drawing upon the existing literature, this paper documents the financialization of the major links of the value chain and explores these questions. I give particular attention to the impacts of financialization upon small-scale agricultural producers and laborers within the agro-food sector.

Paraphrasing Epstein (2001, 2005), financialization refers to the increasing importance of financial motives, financial actors, financial markets, and financial institutions in the operation of economies and their governing institutions, both at the domestic and international level. For Krippner (2011, 4), this process can be understood as ‘the tendency for profit making in the economy to occur increasingly through financial channels rather than through productive activities (cf Arrighi 1994). She differentiates financial activities – where liquid capital is provisioned (or transferred) in expectation of future interest, dividends, or capital gains – from the actual production or trade of commodities (Krippner 2011, 4).

In line with Krippner’s understanding of financialization, several studies have documented the growing share of financial profits in most of the world’s largest economies since the late 1970s (Krippner 2005, 2011; Orhangazi 2008; Palley 2007; Epstein and Jayadev 2005). Three trends have defined the rise of finance. First, the share of total domestic profits earned by traditional financial firms has increased, indicating the growing importance of private institutional investors like banks, mutual funds, hedge funds, pension funds, and private equity funds (Krippner 2011, Palley 2007).¹ Second, traditionally non-financial firms are also engaging in financial activities and earning a noticeably larger share of their revenues from consumer credit and other financial activities (Krippner 2011, Orhangazi 2008).² Third, since the so-called ‘shareholder revolution’ of the 1990s, managers for firms of all types have reoriented the direction of their enterprises such that their top priority is to satisfy their shareholders’ demands for dividends (Crotty 2009, Baud and Durand 2012). Finally, as financialization as transferred income from the real sector to the financial sector, it has contributed to stagnating wages for workers, increased income inequality, slowing economic growth and rising volatility (Palley 2007, Baud and Durand 2012, Wolff 2013, Stockhammer 2004).

¹ In the United States, the ratio of financial to non-financial profits rose from 20 per cent in 1983 to 50 per cent in 2001, a 150% increase (Krippner 2011, 41).

² In the US, for instance, financial assets as a share of non-financial firms’ tangible assets remained fairly steady at around 35 per cent from 1952 – 1983, but has sharply increased since then and, as of 2003, was around 100 per cent (Orhangazi 2008).

Following Krippner (2011), it is possible to identify three types of explanations for the rise of finance, each roughly adhering to one of the primary schools of economic thought. Stemming from the tradition of neo-classical cum neo-institutional economics, the orthodox explanation for financialization celebrates it as a solution to the so-called ‘agency problem’ of corporations, whereby the interests of a firm’s manager may not necessarily be in-line with its owners (i.e. shareholders). The rapidly expanding practice of compensating executives in stock options combined with the emerging threat of private equity takeovers during the 1980s have helped to align managers’ and shareholders’ interests, providing an efficient solution to the agency problem (Palley 2007; Krippner 2011). A second type of explanation emerges directly from (post)Keynesian thinking about speculative bubbles. Accordingly, adherents argue that insufficiently regulated financial markets are inherently prone to speculative excess and that investors’ ignorance about the functioning of an economy will drive them to engage in herd behavior (Krippner 2011, Palley 2007, Crotty 2009). Finally, Marxist scholars portray financialization as a cyclical feature of capitalism. They attribute the contemporary rise of finance to an overconsumption crisis in the 1970s: faced with insufficient demand for their products and declining profits, US and European firms redirected their surplus capital from productive activities to financial markets (Krippner 2011, Harvey 2010, Arrighi 1994).

Regardless of one’ theoretical inclination, the rise of finance has occurred in the context of stagnant wages, a rising volume of debt, and financial deregulation. In the United States and other financial hubs, the real wage received by workers has remained flat since the 1970s; this has occurred despite rising productivity (Palley 2007, Wolff 2013, Dufour and Russell 2013). In part, this scenario can be attributed to the aforementioned shareholder revolution, wherein managers have prioritized profits and dividends over the welfare of their workers. However, in keeping with the Marxian thesis, it also created a situation where insufficient demand from cash-strapped households discouraged investment in the real sector and spurred investors to deposit their surplus funds in the financial sector. To be sure, some of these funds were lent back to consumers, allowing them to improve their standard of living despite stagnant wages, though also contributing a dramatic increase in household and mortgage sector debt (Palley 2007). But working-class households also adapted by sending additional household members into the paid workforce, which, for firms, helped to increase demand for goods and services that were previously provisioned in the household, including a demand for prepared and processed foods. As will be discussed later, this transition contributed to the rise of the food manufacturing sector as one of the most powerful links within the agro-food supply chain during the 1970s and ‘80s. Beginning in the 1990s, supermarkets were able to usurp some of that power as consumers began to switch to fresher and healthier prepared foods (Busch and Bain 2004, Burch and Lawrence 2009).

The neoliberal restructuring of economies in both the North and South also enabled the rise of finance. Faced with economic turbulence in the 1970s and early '80s, governments in the US, Britain, and other financial hubs dismantled Keynesian influenced regulations that had governed the financial sector for nearly half a century. Influenced by the rise of neo-classical economics, particularly Milton Friedman's 'efficient markets hypothesis', states erected a 'New Financial Architecture' (NFA) that reflected the era's prevailing belief that minimal government regulation enables markets to generate efficient and socially optimal outcomes. 'The NFA', economist James Crotty (2009, 564) writes, 'is based on light regulation of commercial banks, even lighter regulation of investment banks, and little if any regulation of the "shadow banking system" – hedge and private equity funds and bank-centered Special Investment Vehicles'. As financial institutions that were previously prohibited from doing so consolidated and amassed massive pools of investment funds, their technicians devised new financial products that would purportedly allow financial markets to regulate themselves and identified new arenas for investment, including foreign direct investment (FDI) in liberalized southern markets and, importantly for this paper, agricultural derivatives, farmland, and agro-food enterprises. As the following sections discuss, this financialization of the agro-food sector has dramatically transformed food provisioning. It has redistributed wealth and power from agricultural producers and workers to financial elites and exacerbated the fragility of the global industrial food system.

The financialization of food retailing

Since the onset of the 'supermarket revolution' in the early 1990s, food retailers have emerged as the most powerful actors *within* the agro-food system (Busch and Bain 2004, Burch and Lawrence 2005, Reardon and Berdegué 2002). Faced with saturated markets and stagnant sales at home, northern food retailers found opportunities to expand their sales by investing in southern markets that had recently been required to liberalize FDI under their structural adjustment programs (Reardon et al. 2009). U.S. and European supermarkets merged with and acquired their Southern counterparts while setting-up new stores to expand their customer base in markets where food trade had previously occurred through alternative institutions (Reardon and Berdegué 2002). The result has been an increasingly globalized and concentrated food retail sector dominated by a handful of northern-based supermarkets. Supermarkets' share of food retail sales in Latin America, for example, exploded from 10-20 percent in 1990 to 60 percent by 2001; the five largest supermarket chains now account for nearly two-thirds of food sales on the continent (Reardon and Berdegué 2002, Clapp 2012). A similar process is unfolding in Africa and Asia – especially in India, China, and Vietnam – as food retailers tap into markets where rapid economic growth is facilitating the adoption of Western food practices (Reardon et al. 2009). The globalization and concentration of food retailing has not only

boosted sales for a small number of supermarket chains, it has also enhanced their economic power vis-à-vis other actors in the agro-food supply chain. Indeed, food retailers can now be characterized as the ‘masters of the food system’ (Burch and Lawrence 2013). Their *oligopolistic* hold over downstream food consumers (and food service providers) augments the *oligopsonistic* power that they hold over upstream food actors,³ thereby giving them tremendous power over the types and quality of food produced, the manner in which food is produced, the location of food production, the terms of food exchange, and, ultimately, the distribution of surplus within the food system (Foley 2013, Busch and Bain 2004, Burch and Lawrence 2005). Yet as Burch and Lawrence (2013) ask, how do these power relations shift as the ‘masters of the food system’ confront the financial titans who are the contemporary ‘masters of the universe’? Are they, as Burch and Lawrence (2009) contend in an earlier piece, the best-positioned actors within the agro-food supply chain to exploit the benefits of financialization? This section addresses these questions.

Like the financialization process in general, the financialization of the food retailing has blurred the boundaries between the financial and real sectors. Even as financial actors have come to play a more prominent role in food sales, food retailers are earning a greater share of their revenues from financial activities. Investigating financialization in the more conventional sense (i.e. financial actors entering the retail sector), Burch and Lawrence (2009, 2013) analyze how private equity takeovers of supermarkets transform the food retail sector. Drawing upon the private equity consortium Violet Acquisitions’ takeover of the UK-based Somerfield Supermarkets as an example, Burch and Lawrence identify four strategies that financial actors are employing as a means of realizing shareholder value: (1) narrowing the retailer’s product line and reducing the number of suppliers, thereby streamlining the sourcing process (including the closure of some distribution centers) and reducing costs; (2) reducing the number of employees (many of whom previously worked in the distribution centers) and increasing the workload (i.e. rate of exploitation) of the remaining workers; (3) disregarding previous commitments to environmental quality and the well-being of food producers in the global South, including Somerfield’s withdrawal from the Ethical Trading Initiative (ETI), which sets labor standards for developing country suppliers; and (4) de-bundling and repackaging assets, including the introduction of an ‘opco/propco’ arrangement, whereby Somerfield sold its real estate properties to a newly created subsidiary of itself that, in turn, leased the property back

³ An oligopoly is market form in which there are a small number of sellers, which means, among other things, that sellers are able to exercise market power over buyers (in this instance, food retailers are able to exercise power over food consumers). An oligopsony, in contrast, refers to a market where there are a limited number of buyers. Once again, the small number of buyers gives them economic power over sellers (in this case food retailers have power over food processors and traders). In other words, food retailers hold economic power over both their upstream and downstream counterparts in the agro-food supply chain. Foley (2013) describes this unique power of food retailers.

to Somerfield. The operating company/property company (opco/propco) model separates the use value of land from its exchange value (Fairbairn 2013), thereby allowing food retailers to (a) receive special tax considerations and (b) repackage their properties into real estate investment trusts (REITs) where investors can deposit their funds.⁴

In addition to the obvious and detrimental impacts upon food workers, the reconfiguration of food retailing to the objectives of finance capital is likely to negatively affect small-scale agricultural producers. Somerfield's withdrawal from the ETI demonstrates the triumph of shareholder values, where returns on financial investment trump the welfare of food producers and, in fact, push the bar lower as other supermarkets may consider following suit. Given the sway of food retailers over the agro-food system, their further disregard for labor and environmental quality could prove particularly harmful to agricultural producers and overall human health. Similarly, the streamlining of supply chains may reduce supermarkets' costs, but it also limits the number of buyers for agricultural produce. This promises to further reduce the market power of farmers and may eliminate the market altogether for small-scale producers who do not harvest a sufficient quantity of output for buyers who prefer to purchase in volume.

Even as private equity consortiums and other financial actors are reorganizing food retailing, food retailers are diversifying into new financial activities. Typical for non-financial firms in the contemporary era, some have diverted their cash flows from investment in fixed capital into financial investments. For instance, the world's largest food retailer, Wal-Mart, launched a \$25 million dollar private fund to provide equity for the growth of its women and minority-owned suppliers (Wal-Mart 2005) while its closest competitor, Carrefour, has branched-out into a variety of financial investments (Baud and Durand 2012). More prevalent, however, have been retailers' development of their own financial activities. Since the financial deregulation of the 1980s and '90s supermarkets have offered an increasingly wide array of financial products to their customers (Werdigier, 2009). Wal-Mart, Carrefour, Tesco, Kroger, and most major retailers offer financial services like credit cards, check cashing services, insurance programs, bill payment centers, the sale of money orders, and money transfer services. More recently they have begun offering savings and checking accounts, pre-paid debit cards, and even home mortgages. Retailers such as Wal-Mart and Tesco champion their initiatives as offering financial services to underserved/unbanked populations (Werdigier 2009, Juhn 2007). In doing so they downplay the fact that they are often profiting from their customers' debt.

Along with the foreign expansion described above, financial activities have provided an important boost to food retailers' profits, enabling them to satisfy their impatient shareholders in the face of sluggish sales. Baud and Durand (2012) analyzed the interdependencies between

⁴As described in Fairbairn (2013) and below, REITs are one mechanism through which farmland is financialized.

globalization and financialization in the retail sector. Focusing upon the world's ten leading retailers (eight of whom earn a significant share of their revenues from food sales)⁵ they observed that, even though the corporations have experienced slowing revenue growth in their domestic markets since the 1990s, the growth rate of their shareholders' return on equity has increased, with particularly rapid growth since the 2001 dot-com crisis. Indeed, despite falling domestic sales growth, shareholders in retail corporations have fared very well in recent years. Their share of the leading retailers' value averaged 53 percent during the 2002-2007 period, more than double the roughly 22 percent of value that they claimed between 1990 and 2001 (Baud and Durand 2012, Figure A2).

Retailers have pursued a variety of complementary strategies to placate their demanding investors. As previously discussed, they took advantage of openings presented by economic liberalization to expand their operations in the global South, thereby widening their customer base while improving their access to cheap inputs, including labor. As retailers have begun to exhaust opportunities for foreign expansion, they have increasingly turned to financial activities to generate new revenue for shareholders. Their diversification into insurance, banking, and other financial activities has been a boon to stockowners. Relative to the previous five-year period, financial assets as a share of total assets increased for seven of the eight food retail corporations analyzed by Baud and Durand (2012, Figure A8) during 2002-2007. On average, financial assets as a share of total assets increased from approximately 20 percent in 1996-2001 to 30 percent in 2002-2007, a 50 percent increase.⁶

Funding for food retailers' financial ventures – and thereby shareholder dividends – has come, in part, at the expense of retail workers and food suppliers. As described above, the food retail sector has become increasingly globalized and concentrated since the 1990s, shifting the balance of power in the agro-food supply chain from food processors to supermarkets. With the on-going processes of internationalization and mergers and acquisitions, a shrinking number of food retailers are playing an increasingly important role as the gatekeepers between food manufacturers and consumers. The intensification of their oligopsonistic power has enabled food retailers to transfer costs to suppliers, even as they demand lower prices and

⁵ Listed in order of their total revenues the top ten retailers are Wal-Mart, Carrefour, Metro, Tesco, Kroger, Costco, Target, Home Depot, Sears, and Ahold. All but Home Depot and Sears generate a significant portion of their revenues from food sales.

⁶ The degree to which food retailers have financialized their assets varies considerably. Among the major food retailers analyzed in Baud and Durand (2012), Carrefour, Ahold, Metro, and Target were the most financialized, with financial assets accounting for 30 – 40 percent of their total asset holdings. Kroger and Wal-Mart were the least financialized with, respectively, 13 percent and 10 percent of their assets in finance. Baud and Durand observe that the most financialized retailers have benefitted the least from the internationalization of the sector and hypothesize that they have tried to appease shareholders by substituting financial revenues for their relatively weak sales abroad.

changes in quality. For example, retailers have imposed ‘just in time’ inventory management and other changes in their supply chain management, thereby reducing the amount of funds ‘immobilized’ by inventory and storage costs (Baud and Durand 2012, 256). Similarly, retailers have increased the average time between delivery of food items and payment by as much as 50 percent, thereby freeing up additional funds for their financial activities and/or shareholder dividends (Burch and Lawrence 2013, Baud and Durand 2012). With payment for fresh fruits and vegetables typically delayed 45-60 days, but in some cases as long as 90 (Reardon and Berdegué 2002), the later practice promises to prove especially challenging to small farmers in search of markets for their produce, a challenge that is only likely to intensify as leading retailers like Wal-Mart ensure fresh produce by cutting-out middlemen and contracting directly with farmers.⁷

Just as they have done with their suppliers, food retailers have drawn upon their power over workers to underwrite their financialization. The retail sector is labor intensive and highly segmented; most workers are low-skilled, hold only part-time positions, are predominantly female, and have low levels of union representation. The relatively weak bargaining power of these laborers has been further undermined by globalization and the introduction of laborsaving technologies. Under the pressures of financialization, many workers in the food retail sector have been displaced (Burch and Lawrence 2013); those who have managed to keep their jobs have endured longer and intensified working days even as their compensation remains flat (Baud and Durand 2012, Rossman 2010).

The reorganization of labor within their firms, combined with changes in inventory management, has contributed to improved efficiency within the retail sector since the 1990s. The returns from those efficiencies, however, have not been distributed equitably. Even as their productivity has increased, retail workers’ wages have stagnated. Meanwhile suppliers have made significant changes to improve inventory management, yet retailers have appropriated the lion’s share of the net savings. Flexing their economic power vis-à-vis suppliers and workers, retailers have ‘forced’ their partners to fund their financialization (Baud and Durand 2012, 256). In so doing, they have helped to reinforce their position of economic power within the agro-food supply chain while rewarding their demanding shareholders with dividends and share buybacks. Moreover, as suggested by the previously described private equity acquisition of Somerfield Supermarkets, the reconfiguration of food retailing to the objectives of financial capital will likely have detrimental impacts on agricultural producers. As will be discussed in the following section, those farmers are likely to feel doubly pinched as the

⁷ See Hsu (2013) for a description of Wal-Mart’s new produce strategy. and Amy Cohen (2013) for an interesting discussion of why small farmers prefer informal dealings with intermediaries over more direct interactions with large supermarkets.

financialization of agricultural risk and price setting heightens the uncertainty of their already precarious livelihoods.

The financialization of agricultural risk and price-setting

Agriculture is a risky endeavor. The uncertainty of weather, pests, plant disease, and market prices render farming a precarious occupation that has become even more perilous in face of climate change and globalization-induced price volatility. Throughout much of human history, rural communities have mitigated agricultural risk through so-called ‘moral economies’, whereby locally specific agricultural practices and social institutions such as reciprocity and redistribution have helped to ensure farming families’ access to sufficient food (Scott 1976, Watts 1983). Moral economies were largely undermined by colonial and imperial practices, significantly heightening the vulnerability of southern populations to famine (Davis 2002, Watts 1983). In the 1950s and ‘60s, many post-colonial states (re)instituted a variety of protections for agricultural producers, including grain purchasing boards, price supports, crop insurance, and subsidy programs. These social protections – along with international commodity agreements that helped to stabilize and boost prices for select commodities in international markets – were largely dismantled during the neoliberal restructuring of the 1980s and ‘90s and agricultural risk management was privatized. Rather than relying on public programs that are purportedly inefficient, expensive, and susceptible to corruption, contemporary farmers are now expected to manage risk through financial instruments like derivatives and micro-insurance where the probability of agricultural calamity is assigned a monetary value (Breger Bush 2012). Like other links in the contemporary agro-food value chain, financial motives are playing an increasingly important role in the markets where these instruments are sold. Having been privatized, agricultural risk is now becoming financialized.

Agricultural derivatives are financial contracts whose value is derived from the value of an underlying variable, which is typically the agricultural commodity in question, but might also be some other underlier such as the probability of a weather-related event. Futures contracts – which are standardized contracts in which the seller agrees to deliver a specific quantity of a commodity for a specific price at a specific time and location in the future – are the most familiar type of derivative.⁸ Farmers sell futures contracts as means of hedging against the probability that the price for their crop will fall *below* a specified price; end users like grain traders and food processors purchase futures contracts as a means of hedging against the probability that agricultural prices will rise *above* a specified price and that they will have sufficient access to the agricultural product in question. In addition to these hedgers who have an interest in the actual physical product, speculators – who look to profit from changes in the

⁸ See Breger Bush (2012) for a helpful and particularly clear description of different types of derivatives contracts.

price of crop futures but have no interest in the actual physical crop – are active participants in derivatives markets. The purported benefit of speculators is that they ensure the liquidity of crop futures (i.e. they help to create sufficient demand for futures, enabling farmers to lock in a price for their crop rather than bearing the uncertainty of market conditions at harvest time). Trading derivatives is, thus, a means for shifting economic risk; speculators seek to profit from the riskiness of agricultural production and uncertain markets.

One of the purported benefits of derivatives markets is that they facilitate ‘price discovery’. That is, traders’ collective wisdom about the probabilities of future economic outcomes will manifest itself as a market price that will guide farmers and help them to make better decisions about the types and quantities of crops to cultivate (Berger Bush 2012). Yet as John Maynard Keynes argued in the wake of the Great Depression, the future is inherently uncertain and financial actors betting on the future are prone to herd behavior that can send the wrong price signals and exacerbate economic volatility. Indeed, it was Keynes’ insights that informed the implementation of a suite of New Deal banking policies in the US and beyond, including regulations on agricultural derivatives markets.⁹ Chief among these was the Commodity Exchange Act of 1936, which empowered U.S. federal regulators to establish position limits that restricted the number of contracts that speculators could hold in a given derivatives market. The objective was to enable sufficient speculation for liquidity and price discovery, while simultaneously preventing large traders from herding their counterparts towards speculative bubbles and price volatility.

Faced with intense lobbying that included the likes of Alan Greenspan, the US Congress began easing restrictions on agricultural derivatives trade in the 1980s, a process that culminated with the passage of the Commodity Futures Modernization Act (CFMA) in 2000. Driven by the logic that regulations stymie liquidity and the flow of relevant information into futures pricing,¹⁰ CFMA effectively deregulated commodities trading in the US. It removed position limits on speculators and allowed for the opening of unregulated exchange markets. Combined, these developments opened the door, allowing a variety of new investors – including hedge funds, pension funds, insurance companies, sovereign wealth funds, and investment banks – to speculate on an array of increasingly complex agricultural derivatives. Speculation on food

⁹ Ellen Russell (2008a) provides a fascinating account of how, despite their purported intention, New Deal banking policies failed to harness finance as the servant, rather than the master, of the real economy. In addition to her general history, see Clapp and Helleiner (2012), Spratt (2013), and Ghosh et al. (2012) for informative histories about Keynesian thinking and the regulation of agricultural derivatives in the U.S.

¹⁰ As discussed in Spratt (2013) and Ghosh et al. (2012), this logic is akin to Milton Friedman’s ‘Efficient Markets Hypothesis’.

commodities exploded, increasing tenfold between 2000 and 2011 (Spratt 2013).¹¹ Rather than a means for protecting food producers and users from agricultural uncertainty, derivatives markets are increasingly arenas for speculative betting. In 1996, 88 percent of futures contracts were held for hedging purposes; that share plummeted to 40% in 2011 (Spratt 2013).

Many of the new investors have deposited their money in commodity index funds (CIF) that amalgamate derivatives for a variety of commodities into a single value. Pioneered by Goldman Sachs and now offered by a number of investment banks, CIFs have formally transformed agricultural risk into an 'asset class' that has been especially attractive to large-scale investors like pension funds, hedge funds, and sovereign wealth funds because they require little knowledge of the actual markets (Kaufman 2011, Murphy et al. 2012). Speculation in CIFs exploded following financial deregulation, ballooning from US \$13 billion in 2003 to US \$317 billion in 2008 (Kaufman 2010).¹² The index funds accounted for the majority of new investments in agricultural derivatives until the 2007-08 food price crisis: they accounted for 65 – 85 percent of total investment between 2006 – 2008 (Spratt 2013). Since then, hedge funds and other 'active' traders who speculate on short-term price movements have come to play a more prominent role, while CIFs – which tend to take a 'long' position by rolling over commodity futures contracts prior to their expiration and reinvesting those proceeds in new contracts – have seen their share of total investments drop to 45 percent (Ghosh 2010, Spratt 2013). Whether they go short or long, the non-commercial investors who have come to dominate the trade of agricultural derivatives since its deregulation have profited from rising and increasingly volatile food prices. One question that emerges is whether their speculation is, in fact, causing the very price increases and volatility from which they benefit.

When food prices vaulted to record levels in early 2008 – the UN Food and Agriculture Organization's index of food prices shot-up 45 per cent in just nine months – more than 50 million people were effectively priced out of the food market and the global population of malnourished people soared to more than one billion (FAO 2009). Although prices dropped later that year, they have remained at pre-crisis levels and markedly more volatile, a point that was emphatically illustrated when the price index shot up 33 per cent to a new record high during the final six months of 2010 (FAO 2013).

Official attempts to explain the contemporary food price crisis have focused upon the so-called 'market fundamentals'. As discussed in Clapp (2009, 2012), the World Bank, the FAO, the

¹¹ Worldwide the number of futures and options contracts traded on regulated exchanges increased threefold between 2002 and 2008 while the value non-exchange listed contracts increased more than 14-fold, to US \$13 trillion (Mayer 2009).

¹² A study conducted by Lehman Brothers revealed that the volume of speculation on CIFs increased 1,900 per cent between 2003 – 2008 (De Schutter 2010)

International Monetary Fund (IMF), the US Department of Agriculture, the Organization for Economic Co-operation and Development (OECD), inter alia, attributed rising prices to a mismatch between supply and demand. Most analysts agree with some, but not all, aspects of the official narrative. For instance, there is broad agreement that the diversion of food and farmland to the production of agro-fuels has significantly reduced the supply of food (Akram-Lodhi 2012, Bello 2009, Ghosh et al. 2012, Clapp 2012), yet several scholars have disproven the popular argument that the transition to higher protein diets in India and China – which has been limited to the wealthiest consumers – is straining global food stocks (Akram-Lodhi 2012, Ghosh et al. 2012, Clapp 2009). Some critics have observed that while it is possible to explain rising food prices in the language market fundamentals, doing so fails to account for the underlying *causes* of supply and demand curve shifts, namely, the neoliberal restructuring that has undermined agricultural autonomy in the global South and rendered the region dependent upon food imports that are controlled by a handful of transnational agro-food corporations (Bello 2009, Clapp 2009). Given the current structure of the global food system, there is a general consensus that changes in supply, if not necessarily demand, account for some of the recent increase in food prices (Clapp 2009, 2012; Ghosh et al. 2012, Spratt 2013). At the same time, however, there is a growing awareness that even though market fundamentals may be pressuring food prices upwards, they cannot explain the *magnitude* of the recent spikes in food prices or the volatility of price movements (Clapp 2012, Ghosh et al. 2012). Many blame the financialization of agricultural derivatives for exacerbating underlying price movements.

Examining data dating from 1990 to 2011, Ghosh et al. (2012) show that there was a strong correlation between increased speculation on commodity futures and commodity prices. In particular, they noted that as liquidity for wheat, maize, soybeans, and crude oil began to increase in 2003-04, particularly so from 2007 onwards, the prices for those commodities in spot markets moved in tandem. Ghosh et al. (2012) also observe that volatility in the spot markets where physical commodities are actually traded increases with speculation in futures markets, but that the severity of the volatility depends upon the way in which it is measured. Based upon data dating from 1990 to 2011, they observe that price volatility beginning 2007 is at least as strong, if not stronger, than at any other previous time and that the increased volatility is associated with rising liquidity in futures markets (Ghosh et al. 2012, 477-8). Spratt (2013) similarly shows that increased financial investment in agricultural commodities coincides with higher commodity prices and increased price volatility, which is punctuated by severe spikes.

Even as they document the association between speculation and rising and increasingly volatile commodity prices, Ghosh et al. (2012) and Spratt (2013) caution that correlation does not necessarily mean causation. Indeed, advocates of deregulated futures markets maintain that,

rather than causing food prices to rise, investors were simply attracted to increasing prices. Moreover, they maintain, food markets have always been volatile and hedge funds and other speculators are attracted to that volatility. In a highly influential study conducted for the OECD, for example, Irwin and Sanders (2010) do not find a statistically significant relationship between activity in agricultural derivatives markets and price volatility, leading them to dismiss claims that rising speculation has increased volatility in commodity markets. They maintain that there is no obvious channel through which speculation in futures markets can impact prices in spot markets.

Countering, Irwin and Sanders (2010), Spratt (2013) and Ghosh et al. (2012) maintain that activity in futures markets can, in fact, impact actual commodity prices by shaping expectations. Given that private actors control most food stocks in the neoliberal era and that information regarding those stocks is proprietary, participants in actual grain markets have limited information about market fundamentals and, thus, look to the futures markets for guidance (Spratt 2013). In other words, buyers and sellers in spot markets, look to the futures markets when determining prices, thus jumping on the investor-led bandwagon. Indeed, price changes in futures markets are increasingly leading price changes in spot markets for key commodities like wheat, corn, and soybeans (Hernandez and Torero 2010), suggesting that financial actors in agricultural derivatives markets are directly influencing global food prices.

The costs and benefits of the food price crisis have not been distributed equally. Perhaps not surprisingly, the beneficiaries have been limited to some of the very financial actors that helped to drive-up food prices and exacerbate volatility, namely the hedge funds that speculate on changes in derivatives prices and the exchanges where revenues are based on trading volumes (Spratt 2013). Meanwhile, food consumers and producers, particularly in the global South, have suffered. Even then, however, it is important to note that not all nations have suffered equally. A large state banking sector, capital controls, and active fiscal policy, for example, enabled the Chinese government to mitigate the effects of the crisis upon its citizens (Ghosh 2010). Yet in most areas of the global South, the spikes in global commodity prices have translated into stubbornly high food prices (Ghosh 2010). Spending 50 – 80 per cent of their income on food, poor people in developing countries were hard hit, particularly women and children (Clapp 2012, Heltberg et al. 2013). In addition to the obvious and physically detrimental impacts of decreased food consumption, rising food prices have been associated with withdrawing children from school, emotional stress, domestic violence, crime, prostitution, and longer working hours for the poor (Heltberg et al. 2013).

Price volatility has also hurt farmers. Agricultural producers look to market prices when determining which crops to produce and how much to produce. Yet as speculative actively

increasingly governs prices in spot markets, farmers receive the wrong price signals, resulting in oversowing when prices are artificially high and undersowing when prices are artificially low (Ghosh 2010, Breger Bush 2012). On top of this, volatility has exacerbated the uncertainty of agricultural production, which can have particularly dire consequences for small-scale farmers operating at the margins of agricultural production. Thus, by distorting market signals, the financialization of agricultural derivatives undermines the viability of small-scale agriculture and may have a detrimental impact upon the long-term global food supply (Spratt 2013).

Ironically, even as the financialization of agricultural derivatives has intensified the uncertainty and financial hardships faced by agricultural producers, derivatives and other financial instruments have been promoted as a development tool to help farmers cope with that very uncertainty and volatility. Since the early 1990s, the World Bank, the UN Conference on Trade and Development, the IMF and other major development actors have promoted derivatives as a solution to the poverty and price risk faced by small-farmers (Berger Bush 2012). It is not surprising, then, that the fastest growing derivatives markets are located in the global South. Between 2003 and 2006, agricultural contracts in non-OECD exchanges increased by 26 per cent, compared to 16 per cent in OECD countries. With respective growth rates of 50 per cent and 43 per cent in 2010, the most rapidly growing derivatives markets are located in Latin America and Asia (Breger Bush 2012). Yet as Breger Bush (2012) illustrates, rather than improving conditions for small-scale farmers, the proliferation of derivatives markets exposes them to greater risk and contributes to widening inequality. By facilitating speculative trading, unregulated derivatives contribute to more volatile agricultural markets. The small farmers who are supposed to manage price risks in those markets, however, face a number of obstacles for doing so and are largely excluded. Their larger counterparts who already have better means for coping with risk are able to do so, though, resulting uneven opportunities for mitigating risk. Other beneficiaries include agri-business enterprises that are also able to hedge their risks, financial speculators, and other financial elites (Breger Bush 2012).

Recognizing small farmers' exclusion from derivatives markets, influential development institutions like the UN Development Programme and the German Society for International Cooperation, in collaboration with financial service enterprises, have promoted micro-insurance as a means of managing the risks of agricultural production. As Da Costa (2013) observes for the Indian context, however, the number of micro-insurance providers has grown rapidly in recent years, yet very few farmers are purchasing their plans. Consequently, insurance brokers and other actors who stand to benefit from the marketization of risk management have engaged in far-reaching pedagogical interventions aimed at teaching farmers the 'rationality' of insurance and 'structurally adjusting culture', all with the aim of creating effective demand to sop up the (over)supply of micro-insurance programs. As with

agricultural derivatives, Da Costa (2013) notes that micro-insurance treats the symptoms of insecurity and risk, without addressing the underlying causes.

The financialization of food trade and processing

Although it has received much less attention, there is significant evidence suggesting that, like other links in the agro-food value chain, the trade and processing of food has become financialized in recent years. Characteristic of the financialization process, this has entailed food traders and processors diversifying into – and earning an increasing share of their revenues from – financial activities. At the same time, financial actors are playing an increasingly active and direct role in the manufacturing, storage, and exchange of food. That is, there has been a blurring between finance and these intermediate links in the agro-food supply chain. Drawing upon the limited reports on this phenomenon, this section documents how the financialization process is benefitting investors at the expense of food workers and food consumers and grain traders at the expense other actors in the agro-food and financial sectors.

According to the ‘shareholder value’ thesis, the rise of finance can be attributed to the alignment of corporate managers’ and shareholders’ interests such that both believe that the sole purpose of the firm is to maximize the value of stock options (Krippner 2011, Palley 2007). Such has been the transformation of food processing in the era of financialization. Food manufacturers have become increasingly beholden to shareholders demanding returns of 20 – 30 per cent (Rossman 2010). Rather than offering healthier food, for example, food processors have opted to produce products laden with salt, sugar, and fat that stimulate overeating and thereby maximize dividends for stockowners (Moss 2013). Similarly, pressure to maximize shareholder value has also been linked to massive job loss in the European Union and the US, as food manufacturers have opted to outsource production to poorly compensated precarious workers in the global South (Rossman 2010).

In addition to pushing unhealthy but profitable food and increasing worker exploitation, food processors have also increased shareholder value by outsourcing research and development (R&D) (Rossman 2010). Rather than hiring food scientists and investing their resources in innovation, many of the top food manufactures have financialized R&D. Nestlé, Kraft, Unilever, PepsiCo, and Coca Cola, among others, have established private equity and venture capital subsidiaries that troll for innovative start-up enterprises that they can target for acquisition, a merger, or investment.¹³ Even if they do not acquire the start-up outright, financial

¹³ Information about Kraft’s private equity initiative can be found on the company’s website < http://www.thekraftgroup.com/private_equity_investment/>; Information about Pepsico, Nestlé, and Unilever’s venture capital funds can be found on their respective webpages:

partnerships and venture capital help to ensure control over product procurement. ‘Multinational corporations,’ one observer noted, ‘treat the start-up world like a research and development department; they seek nimble, innovative companies that are outside the corporate structure’ (McDermott 2012). In so doing, they also increase their profits while strengthening their oligopolistic power.

The financialization of food manufacturing has not only entailed processors becoming more beholden to shareholders and establishing subsidiaries to engage in investment banking, it has also consisted of investment banks playing a more active role in food processing. Goldman Sachs, for instance, has bet that the ‘meatification’ (Weis 2013) of Chinese diets will increase the profitability of the country’s poultry sector. The investment bank recently purchased a 13 per cent holding in the country’s second largest meat and poultry processor and invested another US \$300m for the purchase of ten poultry farms (Burch and Lawrence 2009).

The blurring of finance and food has not only unfolded in food processing, but in grain trading as well. Murphy et al. (2012) provide an insightful discussion of how the world’s four largest grain traders – Archer Daniels Midland (ADM), Bunge, Cargill, and Louis Dreyfus (or, as they are collectively referred to, the ABCDs) – are engaging in a variety of financial activities. All of the ABCDs have established investment vehicles that allow external investors to speculate on agricultural commodities and other dimensions of food production. Perhaps their most successful ventures have facilitated investment in agricultural derivatives markets, where grain traders have a long history of hedging against undesirable price movements but, since the financial deregulation that began in the 1980s, have become increasingly active in speculation. Growing uncertainty about food prices has spurred interest in the ABCDs’ investment funds. As noted above, grain storage that was previously public has been privatized under neoliberal restructuring, translating into significant uncertainty about food supplies. Due to their dominance of agricultural trade and their direct contact with food suppliers, the ABCDs are among the first to know about supply conditions, making their financial products particularly attractive to investors wishing to speculate on agricultural derivatives markets. Indeed, operating under the slogan ‘monetize our expertise’, Louis Dreyfus’ hedge fund, the Alpha Fund, expanded rapidly, growing some twenty-fold within its first two years and, ultimately, refusing to accept new investors because the fund had grown so large after a mere three years of operation.

<<http://www.pepsico.com/PressRelease/PepsiCo-Goes-Innovation-Hunting-With-20-Tech-Media-Start-Ups-During-Two-Day-Peps07272010.html>>, <<http://www.nestle.com/media/pressreleases/allpressreleases/venturecapitalfund-5mar02>>, <<http://www.unileverventures.com/>> (all accessed on July 5, 2013). McWilliams (2010) reports on Coca-Cola’s venture capital initiatives.

Murphy et al. (2012) document how, in addition to commodity investment funds, the ABCDs offer a variety of financial products to investors. Louis Dreyfus, for instance, has established a land investment fund, Calyx Agro, that acquires, converts, and then sells – one might call it ‘flipping’ – farmland in Latin American. Indicative of the extent to which the grain trader has become financialized, the Louis Dreyfus subsidiary is managed by former investment bankers from Bear Stearns and Citigroup and has received investments of US\$60 – 70 million from financial giants AIG and KPS Capital Partners (de Lapérouse 2012). Among the ABCDs, Cargill is the most involved in financial activities (Murphy et al. 2012). Since 2003, when Cargill began offering financial services to external investors, it has created a number of financial subsidiaries that offer a variety of financial products, including commodity index funds; asset management services; insurance; and opportunities to speculate on real estate, commercial credit, and energy. In short, Cargill, the world’s largest private company, is not only a grain trader, but a financial enterprise as well.

As with other links in the agro-food value chain, the financialization of food distribution has not been one-way. Even as the ABCDs have become active in financial markets, financial actors are increasingly engaged in food trading. This has taken the form of major financial institutions like AIG and Deutsche Bank investing billions of dollars in grain traders’ funds. But it has also entailed financial actors becoming directly involved in the physical storage and transport of agricultural commodities. Catering to speculators’ interest in price movements rather than actual products, a number of hedge funds have emerged in recent years to facilitate investors’ participation in food and agricultural derivatives markets. In addition to purchasing livestock, grain, and other agricultural products, these funds have acquired storage facilities and transport vessels, enabling them to buy maturing futures contracts from fellow investors. In addition to charging fees for their services, the funds benefit from their more direct access to information about agricultural supply (Meyer 2009).

While information about the contribution of financial activities to the ABCDs’ revenues is not publically available, evidence suggests that they have been quite profitable. Murphy et al. (2012, Figure 2) have collected data on the profits of ADM, Bunge, and Cargill since the late 1990s. In general terms, profits were relatively flat for the ABCs in the late ‘90s, but they began to steadily increase after the Commodity Futures Trading Act of 2000 formally deregulated speculation in agricultural derivatives markets, and have increased significantly since the onset of excessive food price volatility in 2007. Bunge and Cargill explicitly acknowledge that their strong performance in recent years is based, at least in part, on their financial activities (Murphy et al. 2012).

No doubt part of the ABCs recent profitability can be attributed to higher food prices. Yet their unique access to food suppliers is also the source of information regarding global food stocks, giving them an advantage when hedging and speculating on price movements. Traders are among the first to know when supplies are falling low, giving them an edge in derivatives markets (Meyer 2011). Cargill, for instance, was among the first to speculate on falling wheat prices in 2008 (Murphy et al. 2012), a move correlated with a significant increase in profits. The grain traders have touted this knowledge as a reason to invest in their financial products. As questions have emerged over whether the ABCDs are manipulating financial markets for their own gain, however, observers like Murphy et al. (2012) have likened their activities to insider trading.

Though they generally try to maintain a low profile, the major grain traders have actively lobbied for their continued ability to speculate in agricultural derivatives markets. In the wake of the 2008 financial crisis, the US and European Union governments have proposed rules to, once again, regulate commodities trading.¹⁴ A key question is whether the new regulations should apply to grain traders who have long relied on agricultural derivatives as a means for hedging against unfavorable price shifts. In letters, testimony before legislators, and meetings with regulators, the major grain traders have maintained that they should be exempt from the new rules. Even as they support regulations on banks and other financial players in derivatives markets, the ABCDs maintain that they themselves should be excused from speculative limits since they are, in fact, end users with a commercial interest in the physical agricultural products (Murphy et al. 2012). In other words, the ABCDs who actively blurred hedging with speculation during the deregulated era are lobbying for the exclusive privilege to continue doing so in a regulated environment. This, of course, would give them an even greater advantage in derivatives markets and enhance their power vis-à-vis food producers. Their oligopsony power in spot markets for physical commodities would be replicated in the markets for agricultural risk, thereby strengthening their position in the agro-food value chain.

The financialization of agricultural inputs and farmland

Finance has long played a role in the provisioning of agricultural inputs. Since advent of industrial agriculture and the attendant commercialization of inputs, farmers have relied upon agricultural credit to purchase seeds, agrochemicals, and, of course, farming equipment. Has this link in the agro-food value chain become more financialized in recent years? Are suppliers

¹⁴ As discussed in Clapp and Helleiner (2012), the US has led this initiative with the 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act and the EU is following suit, albeit with rules that are likely to be less stringent. Yet even with the passage of the Dodd-Frank bill in the US, there is still significant uncertainty about how the rules will apply to grain traders who, despite their recent speculative activity, are also legitimate end users with an interest in the physical product.

earning a greater share of their revenues from financial activities? Are financial actors playing a greater role in the provisioning of inputs? To date, there has been no systematic analysis of the financialization of agricultural inputs. There is, however, reason to believe that sector is undergoing transformations similar to those elsewhere along the agro-food chain. Since the 2007-08 spike in food prices, financial actors have made significant investments in enterprises that produce tractors and other farm equipment, seeds, and agrochemicals (Ross 2008, The Economist 2009). A review of the financial press suggests that investors are particularly interested in the fertilizer industry. On the logic that farmers will respond to rising food prices by expanding and intensifying their production, private equity groups have invested in fertilizer producers in China, India, Egypt, western Africa, and other key nations (Davis 2011, Friedland 2011, ICIS 2007, IFC 2011, Ross 2008).

Similarly, there is reason to believe that the providers of agricultural inputs are earning a greater share of their revenues from financial activities, particularly the provisioning of credit. The neoliberal restructuring that entailed states reducing – and in most cases eliminating – subsidies for agricultural inputs and curtailing support for rural development banks, did not reduce production pressures on agricultural producers. On the contrary, it exacerbated them, spurring many farmers to intensify agricultural production. Paradoxically, this had the aggregate effect of lowering crop prices, a process known as ‘immiserizing growth’, where the increased production of agricultural commodities puts downward pressure on prices, thereby exacerbating farmer poverty and, ultimately, debt (Vakulabrahaman 2004, 2005). In short, neoliberal restructuring has driven many poor farmers to increase their expenditures on seeds, fertilizers, and other inputs that have become more expensive with the elimination of state subsidies even as it has driven down the price of output (Isakson 2013). The resulting farmer debt is, ironically, a boon to moneylenders and agricultural suppliers who sell inputs on credit. Whether those suppliers are earning a greater share of their revenues from credit is a question deserving further research. Rising debt has forced many farmers to part with their primary asset and, indeed, the very foundation of their livelihoods: their land. Ironically, they are doing so as land is becoming increasingly more coveted by transnational agribusiness and financial investors.

Farmer ownership of land has been an enduring – though not necessarily universal – feature of capitalist agriculture. While there has been significant integration, both horizontally and vertically, within and along agro-food chains, fragmented family farms have predominated agricultural production (Heffernan 2000, Clapp 2012, Wheaton and Kiernan 2012). The persistence of family farms has been attributed to the riskiness of agricultural production and the challenges of appropriating surplus value. The unique ability of family labor to engage in self-exploitation at key times during the agricultural cycle allow it to produce at a lower cost

than hired labor while the uncertainty of weather, pests, plant diseases and prices translate into excessive risk for non-farm capital. Thus, rather than assimilating land and farming, agribusiness has generally engaged in more value-generating activities upstream (i.e. provisioning seeds, equipment, and other inputs) and downstream (i.e. trading, processing, and retailing food) (Selby 2009, Clapp 2012, Cotula 2012). Meanwhile, it has opted to let farmers absorb the risk of agricultural production while controlling their practices through contracts, product specifications and other arrangements (Lewontin 2000, Watts 1994, Oya 2012).

The contemporary food crisis is restructuring agro-food supply chains. Rising commodity prices and the fear that sourcing crops will become increasingly competitive, have increased the perceived value of agricultural production and land ownership, fueling the so-called 'land rush' (Cotula 2012). Along with a variety of other actors – including agro-food enterprises, governments, sovereign wealth funds, and agro-fuels developers – private institutional investors are scrambling to profit from appreciating land values. Deininger et al.'s (2011, 53) systematic review of media reports suggests that, while agribusiness and industry account for the majority of land deals, investment funds are key players.¹⁵ Several observers note that financial actors' interest in farmland has increased significantly since the advent of the food, energy, and financial crises in 2005 (Highquest 2010, Daniel 2012, Fairbairn 2013).¹⁶ Financial insiders estimate the current value of private institutional investments at US \$30 – 40 billion, with the potential to increase some 30-fold to US \$1 trillion (Wheaton and Kiernan 2012).

There are a number of vehicles for investing in farmland. Investors wishing to speculate on its value can deposit their funds in large investment banks, hedge funds, private and publically traded real estate investment trusts (or REITs), or in companies that combine farm management with strategies to acquire agricultural land (Highquest 2010). Originally, endowments and wealthy individuals/families were the principal depositors in land acquisition funds. Their role is shrinking, however, as hedge funds and large institutional investors, including pension funds, are contributing more to existing funds or, in some instances, establishing their own (Highquest 2010). Many of these investors are channeling their funds through investment organizations headquartered in tax havens like the Cayman Islands, Panama, and Mauritius (Borras et al. 2012, Cotula 2012).

There are varying explanations for the financial sector's growing interest in farmland. Analysts of the Marxian persuasion focus upon the systemic dynamics of capitalism. McMichael (2012),

¹⁵ Deininger et al. (2011) also observe that only a few sovereign wealth funds are directly involved in land transactions, opting instead to channel their funds through private institutional investors.

¹⁶ Despite growing interest, Fairbairn (2013) notes that even the most enthusiastic investors commit no more than 1 per cent of their overall portfolio to farmland.

for instance, attributes growing interest in land to capitalism's inherent tendency towards crisis. Declining profits in the real sector, combined with the convergence of crises in energy, climate, and conventional financial markets have driven financial investors to seek safer opportunities for accumulation in land and agricultural production. Given that much – though certainly not all (Borras et al. 2012, Cotula 2012) – of the land acquired is located in foreign markets, these land acquisitions can be likened to a 'spatial fix', wherein financial actors seek accumulation opportunities abroad when domestic markets are no longer capable of delivering (Harvey 2010).¹⁷ Fairbairn (2013) questions whether financial actors' newfound interest in land – a physical input – represents an end to the era of financialization, as investors funnel their surplus capital into an illiquid asset that has traditionally been prized for its use value. Ultimately, however, she concludes that investor interest is yet another example of the blurring between finance and economic production. Financial interest in land is based primarily upon its anticipated appreciation in value, while the value generated by agricultural production is perceived as an added bonus. In other words, financial actors are first and foremost speculators. Their motivations can be contrasted with other actors in the land rush (e.g. agribusiness, government enterprises) who are more concerned with agricultural production but who, like finance capital, are eager to capitalize upon financial and non-financial returns.

Though not necessarily in contrast with Marxian explanations, orthodox understandings of the financialization of land focus upon the so-called 'market fundamentals'. Financial actors themselves do not point to the accumulation imperative of capitalism, but rising commodity prices, increasing consumption of animal protein, the competition for land that is intensified by urbanization and suburban sprawl, and declining land quality, all of which are indicators of rising land values and a sound investment strategy (Highquest 2010, Magnan 2012). Valid or not, the language of supply and demand legitimizes perceptions of appreciating land values while financial actors' claims that there is close to \$1 trillion of untapped 'investible' land creates the spectacle of windfall profits, thereby sparking investors' 'animal spirits' and attracting massive quantities of capital in financial funds (Li 2012, Wheaton and Kiernan 2012).

In addition to high returns, investors are also attracted to land as a means of managing risk. Speculators' flight to quality during economic downturns is not novel, but the emergence of farmland as an 'asset class' compels investors with the dual promise of high yet stable returns (Wheaton and Kiernan 2012, Cotula 2012). In a survey conducted for the OECD, private institutional investors identified inflation hedging – or the expectation that land will retain its value in the face of rising prices – as their primary motivation for investing in farmland.

¹⁷ In an alternative Marxian explanation, Akram-Lodhi (2012) attributes the global land grab to the need to push down food prices, thereby maintaining the real wage of workers even as their rate of exploitation – and thereby capital accumulation – increases.

Moreover, they noted, the returns on land have a low correlation with equity markets and are thus a desirable means for diversifying risk in asset portfolios (Highquest 2010).

Historically, private institutional investors held the majority of their farmland in Europe, North America, and Australia, where risks – but also returns – were low. In recent years, however, they have turned their attention to South America, particularly Brazil, and Africa (Highquest 2010). While these ‘frontier’ lands have the potential of higher returns, they also come with higher risks. Those risks have been mitigated somewhat in recent years, though, as the governments in host countries and development finance institutions have sought to facilitate the land rush. For their part, states that are enticed by promises of development and spurred by the imperatives of capital accumulation have helped to identify ‘idle lands’ and enable their acquisition (Borras et al. 2012, Cotula 2012, Highquest 2010). Meanwhile, the World Bank, through its member bodies, has smoothed private institutional investors’ participation in these transactions. In her fascinating account, Daniel (2012) describes how the Bank promotes private equity markets as a catalyst for development. Its Multilateral Investment Guarantee Agency (MIGA), for example, provides contracts that guarantee foreign direct investment against a number of risks, thereby enabling fund managers to attract funds from investors who want to insure themselves against non-commercial (i.e. political) risks. Similarly, the Bank’s International Finance Corporation (IFC) has backed a number of private equity funds that invest in agriculture and supports networking among institutional investors. The IFC has also launched a US \$500 million fund that provides investors with an exit option from funds operating in emerging markets, thereby making their investments more liquid. Combined, these initiatives have facilitated financial actors’ acquisition of low-priced farmland in the South while reducing the risk of doing so, no doubt spurring their participation in the recent land rush.

Analyzing the financialization of land through the political economy framework requires consideration of how financial investment changes land-based social relations (Bernstein 2010, Borras and Franco 2010, White and Dasgupta 2010). Doing so, however, can be problematic. As noted earlier, private financial institutions are one of several types of actors participating in the land rush. Not all land deals are undertaken by financial actors nor are they necessarily driven by financial motives. Traditional agribusiness and many governments, for instance, are more concerned about their access to food than the appreciation of land values (Murphy et al. 2012). Thus, one should be careful not to conflate the general outcomes of the land rush with the outcomes that are specifically rooted in financialization. How, if at all, do farmland acquisitions by financial actors/motives differ from those by non-financial actors/motives? Do outcomes differ among different types of financial actors? Answering these questions requires one to consider the pre-existing structural and institutional conditions that shape land acquisitions. It also requires an appreciation for the blurring between financial actors (who are

increasingly recognizing the productive value of land) and non-financial actors (who are increasingly using land as a financial asset) (Fairbairn 2013).¹⁸

As Li (2012) has observed, in order for land to become an object of finance, it must be inscribed as such. Historically rooted practices, meanings, and relationships with the earth must be abstracted, eliminating qualitative differences and contextual understandings, if land is to become a financial asset with a quantified price. Inscribing land with titles, measurements, and other instruments allow for comparison and the assignment of value. This abstraction of land into market metrics allows for it to be understood a 'bundle of assets' that can be de-bundled and re-bundled in novel ways so as to 'unlock' and 'create' value for investors. Such is the case with REITs (that aggregate income streams from land-based investments into a fund that investors can buy into) and opco-propco schemes (whereby an enterprise divides itself into distinct entities, one that owns the land and leases it to another that operates it). The monetization of newly unlocked forms of value accentuates the fictitious commodification of land, thereby heightening its vulnerability to abuse, and creates opportunities for wealthy actors to appropriate land-based values to the detriment of others.

Although media reports tend to focus upon instances of outright land purchases, most deals in the land rush consist of long-term leases (Borras et al. 2012, Cotula 2012). If financial actors are primarily interested in the exchange value of land, one would suspect that they would be more inclined towards land purchases, while agribusiness and other actors who are concerned with agricultural output would have few reservations with long-term leases. To date, no study has identified how, if at all, the types of deals vary among the different types of actors. Given the blurring between financial and non-financial actors, the distinction may not be particularly sharp. Fairbairn (2013), for instance, identifies three types of investor strategies: 'own-operate', 'lease-operate', and 'own-lease out'. Both the 'own-operate' and the 'lease operate' models are indicative of the investors' interest in agricultural production. Indeed, those pursuing the 'lease-operate' strategy are not speculating on the value of land, but the value of crops, and represent a significant break from traditional financial activity.

The 'own-lease out' model is most in-line with understandings of land as a financial asset (Fairbairn 2013). Under this strategy, investors simply acquire land and then rent it to tenant farmers; their interest is in the rental profits and the land's ability to store value, not agricultural production per se. Many investors who pursue this strategy rent the land back to the very farmers who cultivated it before the transaction (Highquest 2010), suggesting that in

¹⁸ It is also worth clarifying that financial control over land is not novel. Credit providers for agricultural inputs and land purchases have long been able to exercise control over agricultural production, often determining which crops will be grown, the conditions under which they will be grown, and terms and conditions of their exchange.

some instances the financialization of farmland is associated with a fundamental change in land-based social relations where independent farmers are transformed into tenant farmers. To the extent that they had a choice, producers opting into to such an arrangement were likely motivated by debt or some other hardship.

Among the private institutional investors who operate their landholdings – or hire a farm management enterprise to do so on their behalf – many are opting to cultivate flex crops that can be used for multiple purposes. More than three-quarters of the farmland acquired by financial actors is cultivated with major row crops like oilseeds, corn and wheat, while sugarcane is also widely grown (Highquest 2010). These crops have multiple uses – as food, animal feed, agro-fuels, or for industrial purposes – and therefore have a relatively reliable demand. The diversified uses of flex crops are believed to substitute for a diversified product portfolio: price shocks are muffled by redirecting large quantities of versatile crops to where they are in greatest demand. Given their versatility, including their perceived ability to provide ‘green energy’, flex crops are often touted as a solution to the contemporary food, fuel, and climate crises (Borras et al. 2012, McMichael 2012). Such logic suggests that the cultivation of flex crops is not only a means for financial actors to mitigate risk, but that it also contributes to social welfare.

Private institutional investors are proud of their farmland activities and proclaim a variety of development-related entailments. In return for lease concessions and opportunities for land purchase, investors have helped to finance schools, healthcare centers, and cultural activities like sports teams (Highquest 2010, Magnan 2012). They also maintain that their projects create jobs, improve public infrastructure, generate taxes, and improve market access for farmers neighboring their agricultural projects (Highquest 2010). They are, perhaps, most proud of their contributions to agricultural productivity.

Based upon the logic that small family farms are backward and inefficient, financial actors frame their activities as socially necessary investments that will modernize agriculture and solve the contemporary food crisis. ‘Given the small scale of the average farm globally and the challenges for such businesses accessing capital’, two financial insiders write, ‘the *scope and need for institutional capital* to be deployed in agriculture in order to improve efficiencies and generate higher returns is significant’ (Wheaton and Kiernan 2012, 1).¹⁹ Moreover, they consider the concentration of family farms into larger industrial operations as a solution to Malthusian scarcity and a positive contribution to society:

¹⁹ Emphasis added

What is striking is the proportion of land owned and operated by family farmers, resulting in a very fragmented industry. One of the attractive features from an investment perspective is the opportunity for consolidation given the importance of scale in driving returns from agriculture (Wheaton and Kiernan 2012, 4)

Whether the consolidation and industrialization of family farms will improve agricultural efficiency is debatable.²⁰ Whatever the case, the logic that farmers must be displaced in order to improve productivity and that private institutional investors are the best positioned to do so, represents a failure to consider alternative strategies for agrarian development. As the UN's Special Rapporteur on the Right to Food, Olivier de Schutter (2011), has observed, state investment in rural infrastructure and support for land and water rights would also improve agricultural productivity, but it would do so in a way that protects the rights of poor farmers and improves their livelihoods.²¹

Whether private institutional investment in land will generate rural employment is also questionable. Many investment funds boast that their projects will create quality jobs for local actors (Highquest 2010), some even make promises to do so during their negotiations (Magnan 2012). As several scholars of the land rush have observed, however, investors are primarily interested in land; if it is not functional to their operations, labor will be expelled (Li 2011, Daniel 2012, Levien 2012). In instances where local workers are employed, they are often done so on adverse terms as contract farmers or plantation workers (Borras et al. 2012, Alonso-Fradejas 2012).

In short, the financialization of farmland has blurred the line between land as a productive asset and land as an object of speculation. Driven by the Malthusian notion that increased agricultural production is the solution to the contemporary food crisis, the financial sector is betting that the principal yet quantitatively limited input, land, will appreciate in value. In seeking land, private institutional investors are not only fueling the land rush, they are also spurring the development of land markets. Elsewhere along the agro-food supply chain, finance is implicitly pushing farmers off the land through rising input costs (and debt), declining bargaining power vis-à-vis buyers, and increasingly uncertain market conditions. Combined with the pull of appreciating farmland values, many small farmers may be enticed to sell their land, only to find that there are few alternatives elsewhere for their labor. The result will be increasingly precarious livelihoods, rising poverty and a growing concentration of landholdings

²⁰ Given the inequitable distribution of food and the growing allocation of crops to the agro-fuels red herring, one should also question the very need to increase agricultural productivity.

²¹ It is also worth noting that investors are rarely interested in acquiring the most marginal, unproductive lands. Instead, they have a preference for the best quality land in terms of soil fertility, proximity to markets, water availability and irrigation potential, and the availability of other infrastructure (Cotula 2012).

(cf. De Shutter 2011, Li 2011). Moreover, as finance exerts greater control over how land and labor enter agricultural production, it will undoubtedly prioritize financial dividends over food security, the welfare of workers, and the maintenance of farmland. A systematic study of how financial participation in the land rush differs from that of other actors would help to evaluate these claims.

Conclusion

As it has done elsewhere, the financialization of the agro-food value chain has blurred the line between financial activities and food provisioning. Financial actors are seeking to profit from various activities in food and agriculture, while traditional actors within the agro-food sector are increasingly orienting their activities towards financial objectives. This is a process that has unfolded within all of the major links of the agro-food supply chain, from the most upstream link of farmland control to the most downstream link of food retailing. Financialization has transformed power relations within and along the supply chain, allowing empowered actors to appropriate a greater share of agro-food value. Along the chain, financialization has strengthened the position of food retailers as the most powerful set of actors within the agro-food system. Capitalizing upon their unique position within the heavily concentrated global food economy, retailers have been able to force food manufacturers, distributors, and workers to fund their financial activities, thereby improving the profitability of supermarkets and reinforcing their position of power.

Like food retailers, enterprises of various types within the agro-food system have succumbed to the 'shareholder revolution'. As the managers of agro-food enterprises realign their interests with shareholder values, the workload of laborers has intensified as their wages have remained stagnant and their positions more precarious. Small-scale agricultural producers have not fared well either. In addition to the growing competition for farmland, farmers' position vis-à-vis input suppliers and buyers of various stripes (grain traders, food retailers, and food manufacturers) has weakened as a result of changes in the agro-food system. The vulnerability of small farmers has been exacerbated by the financialization of agricultural risk, which has accentuated the volatility and uncertainty of agricultural prices and market conditions. Faced with the growing threat of dispossession, declining terms of trade, increasingly unstable markets for their output, small farmers are arguably the biggest losers of the financialization of the agro-food system.

Even as financialization has put tremendous pressure upon small farmers and their livelihoods, it has also generated profitable opportunities for other actors in the agro-food system. This is particularly evident with the de-bundling and re-bundling of assets so as to unlock, securitize,

and market new types of value. The unlocking and ultimately monetization of asset values renders them vulnerable for appropriation by wealthy investors. New investment instruments for land and agricultural risk have indeed proven quite profitable for agribusiness and financial actors while largely excluding the small farmers whose livelihoods are directly impacted by the transformations.

Is there a role for finance in agro-food provisioning? Given the regressive impact that financialization has had upon the distribution of value in the agro-food value chain, one could certainly justify a negative response to that question. Alternatively, some might argue that the financial sector serves an important economic function by providing the funds necessary for investment and, in the case of agricultural derivatives markets, generating liquidity so that farmers and food buyers can effectively hedge their risks. They might suggest that capital simply needs to be re-regulated, much like it was during the Golden Age of Keynesian capitalism. Yet, in seeking to compel financial actors to contribute to a more just and viable food system, the profitability of financial activities must also be considered (cf. Russell 2008b). Constraints on their profitability might very well encourage them to sabotage the social objectives. Even modest measures face backlash if they impinge upon financial profitability (Russell 2008b). This raises the question of whether finance for food and agriculture might be provisioned through alternative institutions that are not beholden the quest for profits. That is, might finance be reorganized as a servant to the food economy, rather than its master? While this may seem like a radical alternative, the injustice of billions of malnourished and food insecure people demands that we consider radical and solutions.

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FOOD SOVEREIGNTY: A CRITICAL DIALOGUE INTERNATIONAL CONFERENCE PAPER SERIES

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A fundamentally contested concept, food sovereignty has — as a political project and campaign, an alternative, a social movement, and an analytical framework — barged into global agrarian discourse over the last two decades. Since then, it has inspired and mobilized diverse publics: workers, scholars and public intellectuals, farmers and peasant movements, NGOs and human rights activists in the North and global South. The term has become a challenging subject for social science research, and has been interpreted and reinterpreted in a variety of ways by various groups and individuals. Indeed, it is a concept that is broadly defined as the right of peoples to democratically control or determine the shape of their food system, and to produce sufficient and healthy food in culturally appropriate and ecologically sustainable ways in and near their territory. As such it spans issues such as food politics, agroecology, land reform, biofuels, genetically modified organisms (GMOs), urban gardening, the patenting of life forms, labor migration, the feeding of volatile cities, ecological sustainability, and subsistence rights.

Sponsored by the [Program in Agrarian Studies at Yale University](#) and the [Journal of Peasant Studies](#), and co-organized by [Food First](#), [Initiatives in Critical Agrarian Studies \(ICAS\)](#) and the [International Institute of Social Studies \(ISS\)](#) in The Hague, as well as the Amsterdam-based [Transnational Institute \(TNI\)](#), the conference “Food Sovereignty: A Critical Dialogue” will be held at Yale University on September 14–15, 2013. The event will bring together leading scholars and political activists who are advocates of and sympathetic to the idea of food sovereignty, as well as those who are skeptical to the concept of food sovereignty to foster a critical and productive dialogue on the issue. The purpose of the meeting is to examine what food sovereignty might mean, how it might be variously construed, and what policies (e.g. of land use, commodity policy, and food subsidies) it implies. Moreover, such a dialogue aims at exploring whether the subject of food sovereignty has an “intellectual future” in critical agrarian studies and, if so, on what terms.

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