

CEREAL SECRETS

The world's largest grain traders and global agriculture

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The four big commodity traders – Archer Daniels Midland (ADM), Bunge, Cargill and Louis Dreyfus, collectively referred to as ‘the ABCD companies’ – are dominant traders of grain globally and central to the modern agri-food system. This report considers the ABCDs in relation to several global issues pressing on agriculture: the ‘financialization’ of both commodity trade and agricultural production; the emergence of global competitors to the ABCDs, in particular from Asia; and some of the implications of large-scale industrial biofuels, a sector in which the ABCDs are closely involved. The report includes a discussion of how smallholders in developing countries are affected by these changes, and highlights some development policy implications, given the importance of the ABCD firms in shaping the world of food and agriculture. The report highlights the ways in which these four firms are decisive actors in the global restructuring of the overlapping food, feed, and fuel complexes that is now under way, and considers how the firms are evolving as they respond to and shape the new pressures and opportunities in the modern agri-food system.

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FOREWORD

This research report provides an analysis of the role and impacts of the world's largest commodity traders on the modern food system. The report was commissioned to support GROW, Oxfam's global campaign to deliver food security in a resource-constrained world. The campaign, launched in 44 countries over the last year, urges governments, companies and civil society to repair the world's broken food system, which leaves nearly one billion people hungry every night, including millions of small-scale farmers and workers who produce much of the world's food.

The traders are a powerful, unique and poorly understood sector. The major traders, Archer Daniels Midland (ADM), Bunge, Cargill and Louis Dreyfus, collectively known as the ABCD traders, share a significant presence in a range of basic commodities, controlling, for example, as much as 90 per cent of the global grain trade. Other emerging market trading companies such as Olam, Sinar Mas and Wilmar are also quickly establishing a global presence.

The major traders do not just trade physical commodities – they operate from the farm level all the way to food manufacturing. They provide seed, fertilizer and agrochemicals to growers, and buy agricultural outputs and store them in their own facilities. They act as landowners, cattle and poultry producers, food processors, transportation providers, biofuel producers and providers of financial services in commodity markets. Traders have been integral to the transformation of food production into a complex, globalized and financialized business. Food prices, access to scarce resources like land and water, climate change and food security are all affected by the activities of traders.

As traders continue to exert a great deal of influence over the global food system, they should be held accountable to be responsible actors. Traders are a central node in the food system, within which large-scale change is necessary in order to ensure that everyone has enough to eat – today and in the future. Yet notwithstanding the vast breadth of traders' influence and activities, there is currently limited public information about the traders and their operations. We hope this report contributes to the increased accountability and transparency of traders, and furthers an urgent dialogue on making the global food system work for all.

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OVERVIEW

This report is composed of two parts. The first introduces the four big commodity traders – Archer Daniels Midland (ADM), Bunge, Cargill, and Louis Dreyfus – which are the focus of this study. Collectively, these trading companies are often referred to as ‘the ABCD companies’ because of the coincidence of their initials. Part 2 then looks at these traders in relation to a number of the global issues pressing on agriculture: the ‘financialization’ of both commodity trade and agricultural production; the emergence of global competitors to the ABCDs, in particular from Asia; and some of the implications of large-scale industrial biofuels, a sector in which the ABCDs are closely involved. It includes a discussion of how smallholders in developing countries are affected by some of these changes, and highlights some development policy implications, given the importance of the ABCDs in shaping the world of food and agriculture.

Based on the findings, the authors conclude:

1. The ABCDs matter. They are not alone, nor unchallenged, but they remain the overwhelmingly dominant traders of grain globally, and what they do is central to understanding international markets (and the domestic politics of food in many countries, too). Too often invisible in policy debates about farmers and consumers, these companies are careful about where and when they get involved in such debates, rarely seeking the limelight. They do not have brand names to protect in the way that a food processor such as Nestlé does. ADM is publicly listed and Bunge is also a fully public company. Dreyfus and Cargill remain essentially family-owned businesses. None of the companies is very forthcoming about its activities, and to track their activities requires patience and guesswork. However, despite the difficulties, it is important to understand their role and their interactions with other companies, national and global.

2. The ABCDs are evolving. This is inevitable, given the way of the world but also given the changes that globalization has brought in its wake. At this stage in their evolution (and some of the companies are over 150 years old), they have begun operating in some cases like banks (and banks, in turn, have found themselves trading on commodity exchanges). The ABCDs continue to trade grain, but grain is not their only activity, nor is it where their growth is most impressive. As they grow, they need more capital, and there is constant pressure for the historically family-owned company, Dreyfus, to undertake public share offerings. With that will come legal demands for greater transparency, although probably not enough to satisfy concerns about the potential for abuse of oligopolistic market power.

3. The ABCDs do not operate in a vacuum. They are shapers of the world they inhabit, but they are also shaped by it. New realities, particularly the rise of new economic powers, including China, Brazil, and India, as well as the re-emergence of Russia and some of the former Soviet republics as agricultural powerhouses, are reshaping the global economy. The ABCDs are responding and adapting to those changes, as well as playing their part in deciding the direction that events should take. The new emerging powers are not as wedded to open trade, deregulated markets, and deregulated capital flows as are the governments they now challenge (the United States and the European Union, in particular). One effect of this change in the balance of power has been to make the likelihood of a meaningful outcome to the Doha negotiations at the World Trade Organization (WTO) improbable. These changes and their implications are only just becoming apparent.

This report makes frequent references to issues related to food price volatility, including the very steep increases in commodity prices experienced in 2006–08, particularly for grains. Between 2006 and 2008, average world prices for rice rose by 217 per cent, wheat by 136 per cent, maize by 125 per cent, and soybeans by 107 per cent. Rising and volatile prices define the context in which policy debates on food and agriculture are taking place today.

Many explanations have been offered for these steep increases, and recent summaries can be found in the intergovernmental agency report to the G20 and the High Level Panel of Experts' report on food price volatility.¹ Explanations ascribe higher food prices to increasing demand for meat-based products, which require animal feed made from grains; higher oil prices, which have led to higher costs for fertilisers and other inputs; the increased use of maize and soybeans for biofuels production, in part due to government policies in Europe and the USA; and deregulation of financial markets opening the way for commodity derivatives, which link food commodities in significant ways to other commodities in financial markets.

There has been a particularly heated debate among economists over whether the increase in investment in agricultural commodities futures markets via new financial derivatives is a main driver of recent food price volatility. However, a growing number of analyses link at least some of the food price volatility of recent years to increased investment in these markets. The Bank for International Settlements, for example, has noted that financialization affects commodity prices, especially in the short term; a conclusion that several UN reports have also recently come to recognize.² The correlation between prices of commodities and commodity assets under management is examined in Part 2.

While supply and demand fundamentals remain important, herd behaviour among investors, which is often linked to the availability of imperfect information, may make price swings more dramatic than they otherwise would have been. Financial actors who know little about the physical production of food are affecting the real world of food production and consumption through investments on commodity futures markets. As such, financialization has further abstracted food from its physical form. This financialization has occurred in a broader context of capital deregulation that has reshaped the way in which food markets interface with financial markets.

It is not the intention of this report to adjudicate these debates. The report does provide some new evidence on these complicated issues, however, and suggests some avenues for further work. It starts from the analysis (by Oxfam and others) that (a) food price volatility is a problem and (b) speculation and biofuels, alongside other factors such as export bans, are helping to drive volatility. It goes on to show that the role played by the ABCD trading firms is important, but that how to address them and limit their power is not obvious, and regulations and changes will probably need to target broader reforms. But understanding the economic and political power of the ABCDs is essential to developing a smart strategy to realize changes that will protect the interests of smallholder farmers and poor consumers in developing countries.

A note on language

'Financialization' has entered the policy insiders' lexicon as an overarching term to refer to the increasingly important role that investors play in the food system. Traditionally the food system involved producers (farmers) and a series of commercial interlocutors, who traded, processed, distributed, and sold food. Today, banks and other investors, as well as dedicated investment funds established as subsidiaries of the ABCDs themselves, have invested billions of dollars in food commodities with no interest in taking possession of any physical commodity. Their behaviour is intimately linked to what is happening in the physical trade of food, of course, but it also affects that trade by affecting prices and behaviour. This is what is meant by the financialization of commodity markets.

A second dimension of financialization is also considered in this report: that of production itself. In this case, the term refers to the increasing involvement of investment funds of different kinds in buying or leasing land and producing agricultural commodities.

A glossary of terms related to financial transactions on commodity markets is provided in Appendix 1.

1. THE ABCD COMMODITY TRADERS

Part 1 represents a preliminary documentation of the role of the largest of the commodity trading companies – particularly Archer Daniels Midland (ADM), Bunge, Cargill, and Louis Dreyfus, collectively known and referred to in this paper as the ABCD companies – in the modern agri-food system.³ It summarizes the scale, scope, and activities of the global commodity traders (see also Appendices 2–4) and briefly analyzes their operational parameters, described as their ‘business model’. It then looks specifically at three commodities – soy, palm oil, and rice – placing them in the broader context of the traders’ business activities, in particular the commodities’ end-use as food, fuel, and feed. Food security, access to land, water use, climate change, labour standards, and the environment are all affected by the activities of these firms in complex and overlapping ways. To evaluate the significance of the big commodity trading companies, it is important not only to understand the range of their activities, but also the changing environment in which they operate. Part 1 closes with a consideration of where some of the threats, and new opportunities, are coming from.

The central finding of Part 1 is that agricultural commodity trading companies are decisive actors in the global restructuring of the overlapping food, feed, and fuel complexes that is now under way. That restructuring ties into the rapid growth of the biofuels sector, large-scale acquisitions of land in developing countries by foreign investors, and the financialization of agricultural commodity markets with the rapid growth of commodity trading by investors who have no interest in acquiring or selling actual commodities. These profound changes in the agricultural landscape have wide-ranging implications for the world’s smallholder farmers, for food price volatility, and for the environment.

INTRODUCTION

Not all grain is traded: in fact, most production never crosses a border. For example, only about 18 per cent of world wheat production and 10 per cent⁴ of maize production is traded globally.⁵ The figures for oilseeds are higher: around 34 per cent of soy crosses a border and 75 per cent of palm oil production, making this last more typical of traditional tropical commodities, such as tea, coffee, and cocoa, which are grown in one part of the world (the tropics) for consumption elsewhere.⁶ In either case, the same few companies overwhelmingly dominate that share of the harvest of grain or oilseed that is traded. Those few companies are the ABCDs.

The ABCD traders tend to be privately held, opaque, and answerable to a board that comprises family members, employees, and/or a handful of private investors.⁷ Combined with the traders’ undoubted economic might, this tends to breed suspicion and conspiracy theories – which are sometimes well founded, as ADM’s payment of a record fine when it was found guilty of price-fixing in 1998.⁸ Yet, while undoubtedly giant in their global reach, their access to capital, and their power over the producers who sell them their crops, the traders are also subject to their own share of pressures and constraints that force them to constantly reassess their strategies and to evolve the way that they do business.

Indeed, the traditional realm of the ABCD companies (bulk commodities) is growing only slowly relative to consumer-oriented or intermediate products in the agri-food sector, and their share of world trade in food and fibre products is diminishing. This is due to the major shifts that are taking place in world production and trade in food, in turn a consequence of the redistribution of power along the agri-food supply chain with the emergence of global retailers such as Wal-Mart,

Carrefour, and Tesco, and changing consumer tastes and expectations. As a consequence, trade in agri-food commodities is increasingly dominated by exports and imports of processed and value-added products, while trade in bulk commodities, which until the early 1980s accounted for most agricultural trade, now accounts for only one-third of the total.⁹

Yet it is also notable that among the four big categories of global agri-food companies (input providers, grain traders, food processors, and food retailers) it is the grain traders that have changed the least in two decades of extraordinary change in the food system. Chemicals companies such as Monsanto and Ciba-Geigy have been reborn as 'life sciences companies' with their move into agricultural biotechnology and pharmaceuticals. In the process, they have seen many mergers and splits, and have largely taken over the commercial seed sector. Food processors, too, are constantly in motion – Unilever and Nestlé are two continuing giants in this group, but many other firms have been swallowed up or merged into new entities, and the existing processors are also constantly changing and adapting.

The so-called supermarket revolution is perhaps the best-documented shift of all – and the most dramatic. Supermarkets now reach down right to the fields where crops are grown, sometimes halfway around the world from where the crops are eventually sold. Supermarkets have truly penetrated every continent, though their presence is least well established in sub-Saharan Africa. Wal-Mart is today the largest firm on the planet, judged by the Fortune 500. In contrast, the only new firm in the top five commodity traders since the mid-19th century is ADM, which was founded in 1902 but which only became a global player in the 1970s. The one other change occurred in 2002, when one of the big five, the Swiss-based André, went bankrupt. Bunge is now just six years from its 200th year of continual operation.¹⁰

These huge firms are not likely to disappear any time soon. They, too, are adapting and they continue to grow and prosper, even though they have garnered less attention than the inputs, processing, and supermarket sectors over the past two decades. For example, a rapid expansion in the consumption of meat products has fuelled significant growth in the demand for feed, which is made from crops such as soy, wheat, and maize. Similarly, the rapid growth of the biofuels sector is dependent upon the crops in which the ABCD companies specialise, especially sugar and maize for ethanol, and palm oil and soy for biodiesel. These new areas of demand ensure the continuing expansion of commodity trading companies.

Moreover, the ABCD companies are not just traders of physical agricultural commodities: they operate all along the agri-food supply chain as input suppliers, landowners, cattle and poultry producers, food processors, financiers, transportation providers, and grain elevator operators, and they provide much of the physical infrastructure involved in agri-food production and marketing. The commodity companies are also increasingly diversifying into the production and marketing of industrial products that are derived from agricultural commodities – such as plant-based plastics, paints, and industrial starches.

In the changing global environment in which the global agri-food system operates, the ABCDs continue to play a unique role. They have the capacity to produce, procure, process, and deliver the raw material inputs that are at the heart of the modern agri-food system, and they are uniquely placed to exploit opportunities across a wide range of activities tied both directly and indirectly to the production and trade in agricultural commodities. As a consequence, they continue to exert a great deal of influence over global food systems and over the lives and consumption patterns of farmers and consumers throughout the world.

THE COMMODITY TRADING COMPANIES

What distinguishes the ABCD firms from their rivals? First, it is their sheer scale and breadth. The ABCDs share a very significant presence in a range of basic commodities, including corn, maize, wheat, oilseeds (such as soy and cottonseed), and palm oil (see Appendix 3). In 2003, for example, the ABCD firms controlled 73 per cent of the global grain trade.¹¹ More than that, they are highly diversified and integrated both vertically and horizontally; for example, Cargill, ADM, and Bunge not only account for more than 60 per cent of total financing of soy production in Brazil,¹² but they also provide the seed, fertilizer, and agrochemicals to the growers, and subsequently buy the soy and store it in their own facilities. The big traders also transport commodities in their own rail cars and ships – for example, Cargill Ocean Transportation,¹³ Louis Dreyfus Armateurs, and the barges operated by Bunge along inland waterways in the USA.

Obviously, the ABCDs do not operate in a vacuum. There are other trading companies, like the Japanese trading firms Mitsubishi and Marubeni, which are vertically integrated and powerful, but by and large they source globally to sell locally. Others, like Glencore, started in minerals and metals and have moved into agricultural commodities. Glencore is a powerful and relatively new actor on the agri-business scene, and although it attracts attention primarily for its non-agricultural divisions (in energy and minerals), it is a significant company in the world of agricultural commodity trading. Several Asian firms are emerging as powerful companies, too, including Singapore-based Olam and Bangkok-based Charoen Pokphand Group. This evolving context is further examined in Part 2.

At the same time, the ABCDs stand out for their size, their breadth, and their economic power at multiple points of the agri-food system. Let us consider the companies in turn.

Cargill is the biggest of the traders, as well as the largest private company in the USA, with sales and other revenues of \$119.5bn¹⁴ in 2011. The company, which was founded in 1865, is owned by common shareholders and trusts from two families who have owned the company throughout its history. Cargill operates across a wide range of commodities, products, and services around the globe. It is organized into five business segments: 1) agricultural services; 2) food ingredients and applications; 3) origination and processing; 4) risk management and financial; and 5) industrial; each business segment has several business units. In addition to being a large grain trader in the USA, Cargill is one of the largest meatpackers, owning operations that produce poultry, beef, pork, and pet foods. Cargill also has operations in animal feed, corn, barley, sorghum, vegetable oils, cotton, sugar, petroleum, financial trading, pharmaceutical and health products, sales of crop protection products, biofuels, oils and lubricants, and many other industrial products. Cargill has 142,000 employees in offices that span 66 countries. Its subsidiaries buy and process grain and beef in Australia, soy in Brazil and Argentina, palm oil and animal feed in Malaysia, palm oil and cocoa in Indonesia, grain, oilseed, coal, and financial services in South Africa, cotton in Uzbekistan,¹⁵ cocoa in Ghana, and much more.

Archer Daniels Midland (ADM) is by comparison much smaller, with net sales of \$80.7bn in 2011. It is a publicly traded company. Tracing its origins back to 1902, ADM emerged as a global player in the 1970s. Also headquartered in the USA, it is the world's third largest processor of oilseed, corn, wheat, and cocoa. As well as processed food products, it manufactures food ingredients, animal feed, chemicals, and energy products, has over 265 processing plants, and operates in more than 75 countries. Among many other activities, ADM is a major soybean processor in Brazil, as well as a grower and trader of corn, sorghum, and agricultural chemicals. The company also has soybean and animal feed facilities in Paraguay, Argentina, and Bolivia. ADM is the world's largest processor of cocoa beans,¹⁶ sourcing its supplies from Cameroon, Côte D'Ivoire, Ghana, and Indonesia. It also sources palm oil in Indonesia in association with Wilmar International, the largest oil palm trading company in the world.¹⁷ ADM owns 16 per cent of Wilmar International's stock.¹⁸ ADM is expanding its business

in China, producing animal feed, ingredients, and agricultural chemicals. The company is the second biggest ethanol producer in the USA,¹⁹ and a biodiesel producer for the European market as well.

Bunge was founded in 1818 in the Netherlands. At the turn of the 19th century, the company expanded into Brazil and Argentina and only recently, in 1999, moved its global headquarters to the United States. Bunge remains the largest grain trader in South America, as well as the largest manufacturer of fertilizers in the region. It had net sales of \$58.7bn in 2011²⁰ and operates approximately 400 facilities worldwide, specialising in grains, oilseeds, sugar and sugarcane ethanol. It is the world's largest producer of soybean oil²¹ and a major manufacturer of biofuels, mainly turning Brazilian sugar cane into ethanol. Among its many other activities, Bunge produces and transports grains, soy, and edible oils and ingredients in North America and is the largest originator, processor, and exporter of soy in South America²² (notably from Brazil and Argentina). Like most global firms, Bunge is expanding its operations in China and India and has made the transition to public ownership.

Louis Dreyfus was founded in 1851 in Alsace and is today headquartered in France. It is primarily a family-owned conglomerate, with about 20 per cent of its shares held by employees.²³ The firm had net sales of \$34bn in 2009.²⁴ Louis Dreyfus' commodities trading arm, LD Commodities, headquartered in the Netherlands, specializes in the merchandising of grains and oilseeds, coffee, sugar, wheat, and rice. LD Commodities is the world's leading merchandiser of cotton and rice, and one of the largest producers of orange juice, accounting for 15 per cent of global production, largely derived from its ownership of 74,000 acres of Brazilian orange groves.²⁵ Louis Dreyfus holds a leading position in the Brazilian ethanol market and owns the largest biodiesel refinery in the USA. This processes 50m bushels of soybean a year, producing up to 88m gallons of biodiesel for blending with conventional fuels and 1m tons of soy meal for animal feed.²⁶ Louis Dreyfus' energy trading enterprises operate independently from Louis Dreyfus Commodities and are managed separately.

What do these four companies have in common? The next section considers different aspects of the ABCDs' business model that distinguish the biggest traders from the rest.

THE COMMODITY TRADERS' BUSINESS MODEL

Despite their diversity in terms of scale, scope, and focus, there are several specific features that the ABCD companies share. These are separated here into ten specific components, but it should be noted that these components and functions overlap and reinforce each other in significant ways. Taken together, these components can be said to constitute the main framework of the companies' business models.

1. Originators of bulk commodities

The ABCD companies are so dominant in the bulk commodities sector that – especially in soy and palm oil – they play a central role in the decisions that producers make about what to grow, where, how, in what quantities, and for which markets. They do this by providing inputs and other services directly to farmers, and by securing the sale of those products to traders at harvest. Origination is about sourcing grains directly from the farm. ADM, for example, says on its website:

*'ADM is a world leader in the origination and transportation of grains and oilseeds. Our strategy here is to extend our origination footprint as we have in Canada and Eastern Europe, and to grow our destination opportunities in the Middle East, Asia, and Africa.'*²⁷

But the strategy is about more than sourcing from the farm. It is also about deciding what the farm should grow. For example, the website of Cargill's subsidiary AgHorizons says:

‘Professionally trained customer focus teams work one-on-one with their producer customers, building long-term relationships – striving to understand their farming businesses and providing distinctive solutions, matched to their unique needs.’ Such solutions can take a variety of (sometimes unexpected) forms. At different times, the ABCDs have been involved in offering health care to US producers,²⁸ providing mortgages for farm workers to buy mobile homes, and working with chemical and seed companies to promote particular technology packages to farmers (Cargill with Monsanto; ADM with Novartis – now Syngenta).

2. Price-setting or market power

There are relatively few traders purchasing bulk agricultural commodities for international trade. Because they deal in high volumes, the trading houses have enormous leverage in terms of setting the purchase price, particularly with farmers with whom they contract directly, but also with the grain elevators to which farmers in industrialized production systems deliver their grain. In countries like Brazil, those elevators are likely to be owned by Bunge and Cargill in any case; in the USA, there are other intermediaries from whom the big companies buy. Ultimately, the ABCD firms dominate the domestic and export markets of the major exporting countries, particularly in the Americas. They are also expanding their presence in countries where state trading companies have previously been dominant, including Australia, Russia, and China.²⁹

The traders’ market power has two dimensions: horizontal and vertical. The horizontal power is often depicted as an hourglass: typically, agricultural value chains depend on thousands (if not millions) of producers, hundreds (sometimes thousands) of elevators, a handful of processors and/or exporters, and some thousands of consumers (ultimately millions for some commodities). Vertical power is about the role that ABCD companies play in more than one part of the value chain. The ABCDs buy grain from the elevators and then process a large share of it. Their subsidiaries then consume much of the processed grain, as feed for livestock or as feedstock for biofuels. Vertical integration means that there is little room for price discovery;³⁰ the commodities become an internal operating cost and are not sold on the open market.

The size of the firms and the nature of the grain trade create high barriers to entry for newcomers, reinforcing the existing firms’ market power. The barriers to entry are a function of asymmetrical information – the established firms have a worldwide information system that is *sans pareil*. It is also a function of the capital required to engage in the business: there are huge fixed costs in building and maintaining the infrastructure to store and move grain, and the financial instruments that accompany the trade involve very large sums of money.

Linked to this power is the capacity of the ABCD companies to use their global presence to minimize their tax bills. There are a number of allegations of Cargill and Bunge engaging in transfer pricing, with recent cases in Argentina and Uruguay.³¹ This aspect of the ABCDs’ business is revisited in Part 2.

3. High-volume bulk trade

The commodities in which the ABCDs specialize are produced and traded in large volumes, though frequently on low margins. The profitability of trade in these commodities depends not just on world prices, but also on factors such as freight rates, currency exchange rates, and ownership of elevators and other infrastructure, as well as government policies related to export credits, aid policies, subsidies, and tax policies. The grain traders’ profit is not simply a percentage of the sale price. As is explored further below, these companies profit from other activities that surround and relate to the bulk grain trade, such as financial speculation on agricultural commodity markets and index funds, transportation, and storage. The price of grain on world markets is certainly important to them, but they can profit regardless of whether prices are rising or falling – what is important to them is to maintain the high volume of trade.

In fact, because the grain companies have a significant interest in keeping the barges, rail cars, and ships they own busy, higher volumes may at times be more important to company profits than high prices. There are several reasons for this. First, the companies have significant investments in value-added activities in which the grain is an input cost. Livestock companies lost money in 2008, and some of those companies are ABCD subsidiaries. This was offset to some extent by the money they made in other parts of their businesses, particularly those who had fertilizer operations (Cargill and Bunge). Then, the companies also have a significant advantage in their access to information. This makes volatility important: they know better than most what supply and demand are likely to be, and they make big investments every year in financial markets,³² using this knowledge to full effect. Volatile prices are good for knowledgeable speculators.

4. Focus on ‘ingredient’ or ‘input’ commodities

The large commodity trading houses focus their activities on commodities that are not typically end products in themselves, but rather serve as inputs to processed food, animal feed, biofuels production, and industrial processing. These commodities – including palm oil, soybeans, wheat, and maize – are unspecialized and generic, and can easily be substituted for one another. Such commodities are usually traded on commodity futures markets (and associated derivatives markets, such as commodity index funds), which allows for forward purchasing (see the section on futures trading and hedging below). The nature of this business – servicing other industries – is one reason for the companies’ relative anonymity; ordinary consumers rarely have any contact with an ABCD subsidiary.

5. Transportation, storage, and logistics

Trading in bulk poses a number of highly detailed and critical logistical, storage, transportation, and delivery challenges. These involve significant planning and management tasks, including the transportation of a variety of (sometimes perishable) products by land and sea, and the planning and tracking of shipments. The big firms have developed significant expertise in this area; it is a large part of their value-added as traders. The large commodity traders own and operate global storage and delivery systems that are indispensable to the global grain trade. Governments call upon this capacity as well, for example in the delivery of food aid in response to humanitarian emergencies. In many cases, it is almost impossible to know for sure the size of the commodity stocks these firms hold – much of that information is a tightly held secret.³³ Since the elimination of most public stock-holding programmes in the big exporter countries, including the USA and the EU (a gradual process that started in the 1980s), the ABCD firms have themselves begun to hold more physical stocks. The existence and control of these physical stocks can have an important impact on grain prices, and information about them is likely to be very important in guiding these firms with respect to their financial investments in agricultural derivatives markets. In this way, the storage function of the ABCD firms is tightly integrated into other aspects of their business activities.

6. Continuous growth in size through acquisitions, mergers, and private family funding models

Given that the commodity traders’ share of the value of world food trade is declining and that they are growing relatively slowly, their expansion will come mainly from growth in new products (e.g. biofuels, industrial products such as those derived from agricultural inputs, and the like), or acquisitions of, and mergers with, other companies. There have been major purchases over recent decades, such as Cargill’s acquisition of Continental Grain and ADM’s acquisition of A.C. Toepfer. In addition, recent purchases by Cargill include Cargill Australia’s purchase in 2010 of the grains business of the newly privatized Australian Wheat Board (AWB), and the \$300m acquisition of 85 per cent of Sorini Agro (Indonesia) in 2010. Sorini Agro is the world’s second largest producer of sorbitol, a sugar alcohol used as an artificial sweetener. Such acquisitions

generate efficiencies of scale and enhance the companies' capacity for global sourcing of inputs from the cheapest sources. One of the constant stresses on the traders is the search for new capital as they continue to grow; this pressure has pushed Bunge into a public share offering and Cargill into selling its fertilizer subsidiary (Mosaic).

7. Flexibility in modes of landholding and sourcing of raw materials

As originators, access to land is a key factor for the ABCD companies, yet there is no single or preferred 'model'. Decisions concerning access to land depend on a variety of factors, including local laws regarding land ownership and control, labour issues, the cost of land, etc. The main means by which the firms access land are: 1) contract farming; 2) contract or supply agreements with large-scale agricultural producers/plantations; 3) land leasing for direct production or sub-contracting; 4) land ownership for direct production or sub-contracting; and 5) any combination of the above. All would need more documentation to understand their relative importance. A recent example of contract farming involves ADM's contract wheat production in Mexico through its ownership of a 22 per cent share of a local company, Maseca,³⁴ which is Mexico's largest producer of cornflour and tortillas.³⁵ Examples of direct ownership of land by commodity traders are numerous, and include Cargill's operation of two oil palm plantations in Indonesia. In crops such as cocoa, however, small-scale growers continue overwhelmingly to dominate production because of the labour required in the initial harvesting and processing. The big buyers such as Cargill tend to stay at arm's length in this case, buying the harvest only once the beans have been extracted, fermented, and dried by the smallholder growers.

8. Arms-length access to land

Analysis of how the big firms handle land issues is complicated by the fact that if a trader owns land,³⁶ such ownership is often at arm's length, and may involve a combination of ownership of land by a financial subsidiary and the leasing of that land to the parent company. One such case involves LD Commodities, the subsidiary of Louis Dreyfus, which in 2007 established a private equity subsidiary company called Calyx Agro.³⁷ LD Commodities provided an initial capital input of \$200m, and invited additional funding from institutional investors. Calyx Agro directly and/or through its subsidiaries identifies, acquires, develops, converts and sells land in Brazil, Argentina, Uruguay and Paraguay. It also enters into farming agreements and manages and operates these properties.^{38 39} Little is currently known about the terms and conditions on which land is leased, but the ability of the commodity traders to participate in innovative financial arrangements as a way of accessing agricultural land may prove to be extremely important in future developments. For a time, transnational food companies seemed to be moving away from plantation-style production and involvement in the risks of production itself. That might be shifting, as global demand moves inexorably upwards and access to natural resources such as water and soil becomes increasingly contested.

9. Active risk and financial management

The trade in all commodities is characterized by a high level of risk. Any number of factors – natural disasters, crop failures, political or economic shifts – can affect the prices of commodities, which may be locked into a long supply chain. While prices can change quickly, commodity traders are dealing with a physical stock that is bulky, expensive to store, and harvested only at certain periods of the year. Prices are as much about anticipated supply and demand as they are about existing conditions. The level of risk and volatility in the trading of standardized and generic products pushes the companies to look for strategies that will increase their stability and predictability. The finance and risk management divisions of the ABCD traders are huge and absolutely central to their businesses (see the further analysis in Part 2, and also Appendix 4). The companies trade in futures markets on their own account and on behalf of others. They also use hedge funds and other financial tools to manage risk and

enhance their returns. One of the big risks they must hedge against is currency fluctuations, which can have a major impact on the profitability of any given transaction.

The big commodity traders are also actively involved in asset management activities, not all of which are related to food and agriculture, and they all sell these sorts of services to professional or accredited investors. Between 2004 and 2011, Cargill Incorporated owned about two-thirds of Mosaic common stock, one of the world's leading producers of crop nutrients and feed ingredients. In 2003 Cargill established Black River Asset Management, a hedge fund with some \$5bn in assets. In 2010, Black River established two private equity funds, each worth around \$300–400m, to invest in global food and farmland assets, with a focus on aquaculture in Latin America. One of the two funds has a focus on food processing which includes an investment in dairy in China. Cargill's funds seek to make investments in sectors characterized by growing long-term demand in areas of long-standing underinvestment or challenges that have hindered productivity. (Cargill's various financial services companies, including Black River, are described in Appendix 4.) Some of the implications of such investments are not entirely clear as yet, though they could seem to be at least in part an innovative response to the firm's need to generate investment capital while wishing to avoid any public ownership.

The trend is part of the financialization of both commodity markets and agricultural production. This process has seen many private equity funds, asset management companies, superannuation and pension funds, merchant banks, and other financial institutions invest in so-called 'alternative assets', including commodity futures, and agricultural land and the crops it produces, which had hitherto been avoided by most investors as too high-risk. Part 2 delves further into these aspects of the ABCDs' activities, not least to understand better the contribution that the traders may be making to the price volatility and price rises that have markedly increased food insecurity in a number of developing countries.

10. Active engagement in shaping the regulatory context

The large commodities trading firms are able to exert considerable control and influence over the regulatory context within the agri-food sector. They do this through a number of channels, including direct lobbying with governments, placing former staff in key decision-making roles in government (the 'revolving door'), and hiring former government officials to lobby on their behalf. The companies spend a lot of time and money on influencing public and political debate on trade, production, and investment regulations at the domestic and international levels. They are circumspect about this influence, but are strategic in their aims.

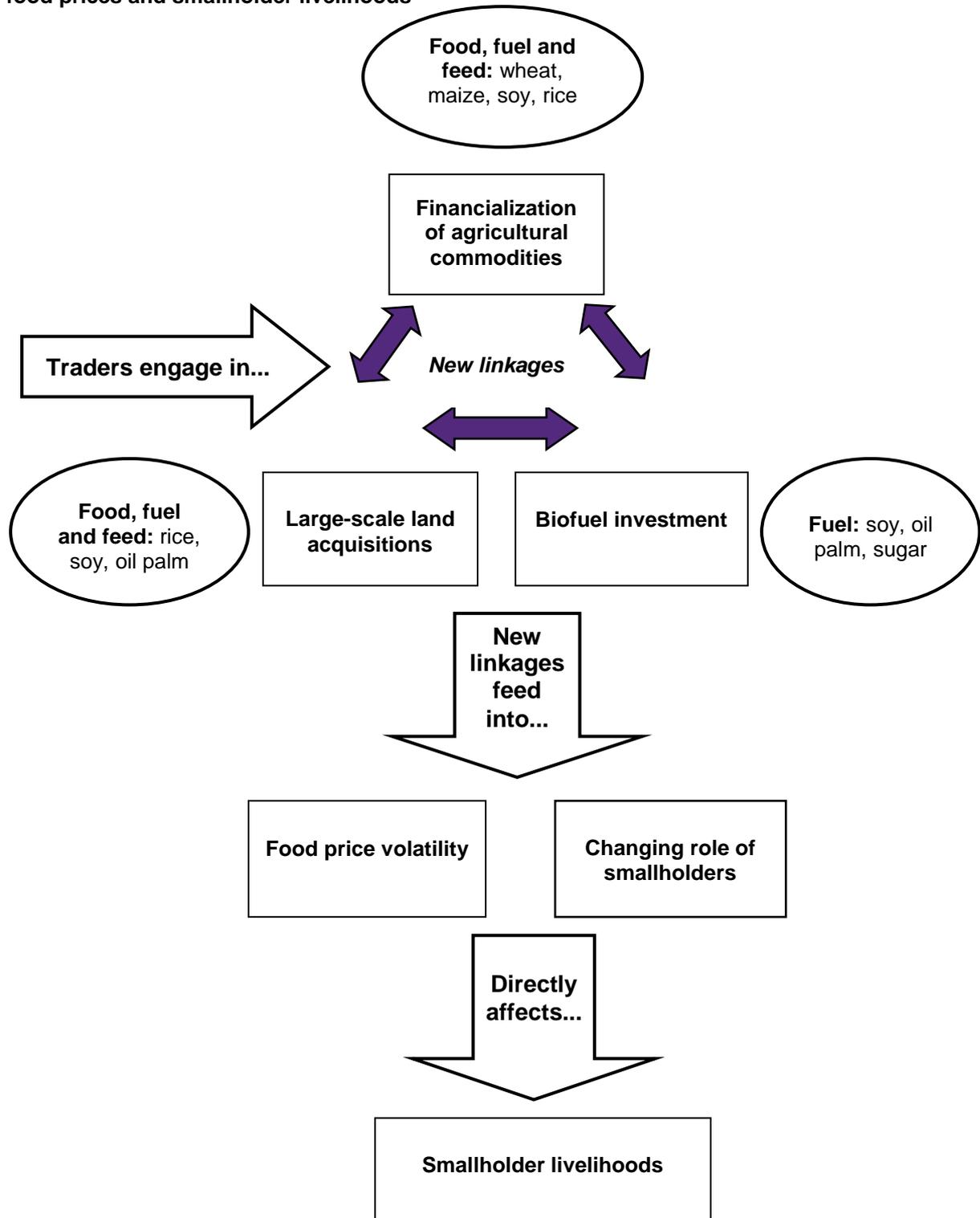
The big firms also work with others in the industry to set private standards for the commodities in which they deal. For example, each of the ABCD companies is an active participant in the Roundtable on Sustainable Palm Oil (RSPO). They do not, however, engage in more open standard-setting processes, such as the dialogue led by John Ruggie, the UN Secretary-General's Special Representative on business and human rights. Additionally, each of the large trading firms engages in shaping public perceptions of their activities and business role in society through media campaigns, which in turn influence the level of public scrutiny and regulatory environment the firms face. For example, the ABCDs all outwardly portray their businesses as being central to ending world hunger and saving the environment.

These ten features together are part of a model that seeks to minimize risk and manage outcomes by controlling as much as possible of the production, pricing, trade, logistical base, financial income, and regulatory context, and by hedging against future uncertainties. Through each of these components of their strategy, privileged access to information is key to the companies' success. Their activities in all of these areas guarantees them access to the information they need regarding supply, demand, and risk, while promoting a regulatory environment that privileges their way of doing business.

What is the relevance of the traders and their business model for the current instability in the global agri-food system? In the past decade, the combination of these business model

components has led each of the ABCD firms down a similar path in their activities, in particular their involvement in the linked activities of investment in biofuel crops and operations, active engagement in the agricultural commodity derivatives trade, and the acquisition, either directly or indirectly, of large-scale land holdings, to either serve as a speculative financial investment or as a physical base for producing commodities for the food, feed, and fuel nexus of their activities (see Figure 1).

Figure 1: Key activities of agricultural commodity traders and their knock-on effects for food prices and smallholder livelihoods



These three major types of investment and activity are intricately linked with one other, and are mutually reinforcing. The rise in the financialization of commodity markets has been widely

understood to have contributed to, or at least exacerbated, sharp swings in commodity prices, including for both food and oil, which in turn has sparked speculative investment in land and investment in biofuels. The swift and sharp rise in these three interlocking and relatively new types of investment has been seen by many as a major restructuring of key portions of the global agri-food system, and the large commodity trading firms have been integral to the development of each of them. Their existing business model made them the natural actors to take up these roles, and their size and integration both horizontally and vertically have given them a unique hold on this portion of the agri-food system. As this restructuring has coincided with the onset of sharp food price volatility, particularly in the past five years, important questions are raised about the role of these trading companies in either sparking or exacerbating food price volatility more broadly and the wider effects that this has on the global food system and the smallholders within it.

THREE COMMODITIES: SOY, PALM OIL, AND RICE

The principal commodities that the major trading companies deal in are listed in Appendix 3. They are mainly soybeans, wheat, maize, palm oil, sugar, and, to a lesser extent, rice. Three commodities are described here to illustrate the ABCDs' role: soy, palm oil, and rice.

1. Soybeans⁴⁰

The top producers of soybeans worldwide are the United States, Brazil, Argentina, China, and India. China is also the world's biggest importer, followed by the European Union, Mexico, and Japan, while the USA is still the world's largest exporter, followed by Brazil, Argentina, Paraguay, and Canada. Argentina is the largest exporter of soybean oil, by far, followed by Brazil, the USA, the Netherlands, and Paraguay.⁴¹

About 85 per cent of the global soybean harvest is processed, or 'crushed', into soybean meal and oil. Approximately 98 per cent of the soybean meal is further processed into animal feed. The remaining 2 per cent is used to make soy flour and proteins. Of the 15 per cent that is turned into oil, 95 per cent is consumed as edible oil. The remaining 5 per cent is used for industrial products such as fatty acids, soaps, and biodiesel. Some 90 per cent of US biodiesel is made from soybean oil (this percentage is lower in Europe).

Soy processing is dominated by the ABCD companies. Soybean oil costs roughly twice as much to produce as palm oil and so processors have to exploit significant economies of scale to remain competitive. This means that soybean crushing is a capital-intensive industry. The same companies (Bunge, Cargill, and ADM) dominate in all the major exporting countries. Within the USA, these three firms process 71 per cent of the crop.⁴²

The soybeans traded globally are typically grown on industrial farms, and increasingly the world supply comes from genetically engineered seed. Brazil resisted GM soy for some years, but has since dropped its resistance, and GM seed now dominates production there too. The GM seed is overwhelming provided by Monsanto.

Soybean expansion in Brazil has been responsible for significant population movements into the Amazon forest region; an estimated 11 agricultural workers have been displaced for each person employed in soybean production in Brazil, and this has fuelled a huge migration to the Amazon, where they have cleared forest to create new farms.⁴³ More recently, the Amazon 'Soy Moratorium' (see page 47) and the expansion of production in the Cerrado savanna region have been accompanied by a dramatic decrease in Amazon deforestation. There are family farms producing soybeans in the USA and in Brazil, but the farms are heavily mechanized. It is not a sector with many small-scale producers.

Soy production relies on relatively little use of pesticide but rather more herbicide. Overall, soy production and end-use are significant contributors to climate change: soy production relies on fossil fuels and fossil fuel-derived inputs for production, processing is energy-intensive, significant transportation is required to move the commodity around the globe, and the primary end-uses (feed and fuel) are themselves both associated with significant greenhouse gas emissions.

2. Palm oil

Palm oil is used mainly for the production of edible oils for the food industry. More recently, it has also been used as a feedstock for biodiesel. Palm oil and its derivatives are found in half of all processed and packaged foods; these foods use some 70 per cent of all palm oil production. Among the leading companies that buy palm oil for this purpose are Nestlé and Unilever.

The rapid emergence of biofuels as a competing source of demand for palm oil has led to significant pressures to raise output in recent years. Production in the two leading producer countries – Malaysia and Indonesia, which together account for 87 per cent of world output – has increased very significantly.⁴⁴ Malaysia's output grew from 10,842,100 metric tonnes in 2000 to 16,993,000 tonnes ten years later, an increase of 57 per cent.⁴⁵ In Indonesia, the increase was 214 per cent over the same ten-year period. This increased production has for the most part relied on expansion of cultivated areas. Indonesia has indicated that it is planning to cultivate another 4m hectares by 2015 for use in the biofuels sector alone, while overall demand for palm oil is expected to double by 2030 and to treble by 2050.⁴⁶

Most oil palm is cultivated on large-scale plantations, since the economics of milling and marketing favour a larger scale of operations. Nonetheless, smallholders in Malaysia and Indonesia still account for some 35–40 per cent of the area planted to oil palm and around 33 per cent of production.⁴⁷ Most of these smaller producers are located within a short distance of a mill, since the oil fruit must be processed within 24 hours of harvesting if the crop is not to lose quality. To this extent, smallholders are in a contractual relationship with the plantation operators and mill owners, which in turn are usually owned and operated by a few large companies.

Cargill owns two plantations in Indonesia and accounts for around 11 per cent of the value of the country's exports of palm oil. The company has long had a presence in Malaysia, but as a refiner rather than as a plantation operator, taking supply from palm oil mills throughout the country. One of the largest plantation owners is the Wilmar Group, a Singapore-based conglomerate that owns more than 235,000 hectares of palm oil operations in Indonesia and Malaysia, as well as fertilizer and shipping interests. The close links between the producers and the commodity traders are well illustrated in the case of Wilmar and ADM. Following a series of mergers, acquisitions, and strategic partnerships between Wilmar, the Malaysian Kuok Group, and ADM in 2006, Wilmar emerged as one of Asia's leading agribusiness groups, and ADM ended up with a 16.4 per cent ownership interest in the company.⁴⁸

3. Rice

Rice is the most widely consumed grain in the world, but it is also the least traded. The leading producer country is China, with an output in 2008 of 193,354,175 tonnes of rice paddy. But China's rice exports were only 22,000 tonnes – just 0.01 per cent of production. Thailand is the world's leading exporter: in 2008, it exported 8.6m tonnes of its total production of 31.6m tonnes, or just over 27 per cent.⁴⁹

Following Thailand in terms of export volumes is Viet Nam at 4.7m tonnes, then Pakistan and India, each with about 2.4m tonnes. The leading importers are the Philippines at 2.5m tonnes, the United Arab Emirates at 1.2m tonnes, and Iran at 1.1m tonnes. In total, only 5–7 per cent of global rice production is traded. Most countries only engage in trade when there is a surplus of

production (i.e. not regularly), or where demand exists for a higher-quality product that is sought in wealthier markets, such as the sale of jasmine rice from Thailand and basmati rice from Pakistan.

Louis Dreyfus is the only one of the four big commodity traders to have any significant involvement in the rice trade. The company sources paddy, brown, and milled rice from all over the world and transports it mainly to Africa, where it holds an estimated market share of 30 per cent. Louis Dreyfus is the largest single purchaser of Thailand's export rice, taking about 700,000 tonnes a year. This gives it an 8 per cent share of Thailand's rice exports.⁵⁰ Another major exporter is the Singapore-based Olam International, which is among the top three suppliers of rice, cotton, cocoa, and coffee to world markets. In the latter part of 2010, Olam International and Louis Dreyfus entered into negotiations which, had they succeeded, would have created the largest rice exporting company in the world. However, the merger talks collapsed in February 2011.⁵¹

COMMODITIES FOR WHAT? THE ROLE OF THE TRADERS IN END-USES

Another way of thinking about the role the commodity traders play in the agri-food system is to consider how the commodities are used. There is considerable overlap and substitution possible among the different crops. The following analysis focuses on the major growth of the primary end-uses for globally traded agricultural commodities – food, feed, and fuel.

Food products

Commodity traders are not directly represented at the 'high end' of the agri-food supply chain and they do not produce well-known brands of food products. As Cargill states on its website, 'You will not find the "Cargill" brand on store shelves, but you will find that we are behind many of the brands you know well.'⁵² With only a few exceptions, the company's outputs consist of ingredients for food manufacturers and inputs to the retail sector, restaurants, and others in food service, including fast food outlets. Cargill supplies companies such as Kraft, Nestlé, Unilever, and General Mills – and, in some cases, finds itself in competition with the food processing companies. Both Cargill and ADM do, however, manufacture a range of chocolate products, under the brand names of Peters (Cargill) and Ambrosia (ADM).

Where the commodity traders come closest to the food sector is through supplying fast food chains. For example, Cargill's extensive poultry operations supply retail outlets throughout Europe and North America. Cargill companies supply all the eggs used by McDonalds in the USA,⁵³ and Cargill recently established poultry operations in Russia to supply McDonalds fast food outlets there (these had previously been supplied by its French subsidiary).⁵⁴

The traders do, of course, sell wheat. They also own mills, to make flour from wheat and maize that is then sold to bakeries and tortilla makers. They do not themselves make bread.

Animal feed

The USA is the main producer of animal feed, followed by China and Brazil. The main plant inputs to animal feed are oilseeds (soy) and cereals (such as maize, corn, and wheat). The animal feed industry in most countries is locally owned, and usually forms part of an integrated system of animal production. In China, for example, the largest feed company is the New Hope Group, owned by Chinese interests, and the second largest is the Charoen Pokphand Company of Thailand, the world's sixth largest producer of poultry. In India, the largest feed company is Godrajev Agrovet, a vertically integrated poultry company.

The commodity traders operate at the low-value end of this agri-food supply chain: they supply the inputs to feed manufacturers. In this capacity, they account for the largest volumes of commodities supplied to various markets.

In 2007–08, of the 1,750m tonnes of cereals produced globally, some 750m tonnes (43 per cent) were used in animal feed products.⁵⁵ For maize, 60 per cent of total world production went to feed, while for wheat, the share used for feed was 17–20 per cent.⁵⁶ In the case of soybeans, production totalled 230m tonnes in 2008, of which 85 per cent was used for animal feed. The commodity traders are the originators of a great deal of soybean production throughout the world, particularly in the Americas.

Biofuels

'Biofuels' is the term used to describe a wide range of fuels that are, in one way or another, produced from biomass (the term used to describe all plants and animals in the world). Most attention in the current debate is focused on industrial-scale conversion of crops to produce bioethanol and biodiesel, which ABCD traders play a major role in producing and distributing. Bioethanol is made mainly from sugar, cassava, maize, and other starchy crops, while biodiesel is usually made from oil palm and soybeans, animal fats, or recycled greases. Both can power vehicles in their pure form, but usually are used as an additive to petroleum and diesel.

The consumers of grains as feedstock for biofuels are concentrated in richer countries. The USA is the largest producer of ethanol in the world, with around 200 of the largest companies producing 11bn gallons of corn ethanol a year. Brazil is the world's second largest producer of ethanol, predominately from sugar cane (see Appendix 6 for global figures on biofuel production). Some 85 per cent of world production of liquid biofuels is in the form of ethanol, and the USA and Brazil account for 90 per cent of total world output. The EU is the largest producer of biodiesel, accounting for 68 per cent of world production, followed by the USA with 17 per cent.⁵⁷

Clearly, the inputs to ethanol and biodiesel production use commodities that are also important as food for human consumption (as well as animal feed). For example, 12 per cent of global maize use in 2007 was devoted to ethanol production (in addition to the 60 per cent used for animal feed). Of the 40m-tonne increase in maize use in 2007, 30m tonnes were absorbed by ethanol production plants.⁵⁸ In the USA, the industry relies mainly on maize for ethanol production, and in 2010 close to 40 per cent of the US maize crop went to ethanol plants.⁵⁹ According to FAO/OECD estimates, 93m tonnes of wheat and coarse grains were used in ethanol production in 2007, twice as much as was used in 2005; this represented more than 50 per cent of the growth in the use of wheat and coarse grains over that two-year period.⁶⁰ In Brazil, sugar is the main feedstock for ethanol production. Biodiesel currently accounts for some 15 per cent of liquid biofuels, but output is expected to increase a little more quickly than that of ethanol.⁶¹ Ethanol is already a mature sector in Brazil.

As well as being involved as originators in producing the inputs to biofuels throughout the world and trading these products globally, the commodity traders have extensive, if varying, involvement in the production and processing of biofuels in most of the leading producer countries. Cargill produces ethanol in the USA, Brazil, and El Salvador and biodiesel in Europe, and sources palm oil in Indonesia from its own plantations as well as from thousands of small producers. In 2009, Louis Dreyfus joined up with a major Brazilian sugar company, Santelisa Vale, to create LDC-SEV, the second largest renewable energy company in the world.⁶² In the United States, ADM operates seven plants capable of producing 1.8bn gallons of ethanol a year,⁶³ and also produces 450m gallons of biodiesel a year from plants in the USA, Indonesia, Germany, Brazil, and India.⁶⁴ Bunge's biofuel operations are largely focused on its sugar milling activities and ethanol production, particularly in Brazil, and the supply of inputs to biofuel manufacturers.

THREATS TO THE TRADERS

The history of the traders is imposing, in some cases extending over 150 years. The companies have successfully grown and evolved to create enormous fortunes and to wield very significant power – economic, political, and social – in the world's food systems. But nothing lasts forever. The ABCD commodity traders are not immune to challenges. Here is a short list of the most pressing, which are areas for further research.

First, the traders' imperative to grow and keep on growing (Cargill likes to boast that it doubles in size every seven years) carries inherent risks and difficulties. Finding new and creative ways to attract new capital is a constant challenge.

Second, the retail sector has transformed itself, and with it many aspects of the food system. Although the supermarkets' direct engagement with farmers and production has focused on fresh produce, where the traders are not present, the challenges posed by supermarkets to some of their big customers, especially food processors, cannot go unnoticed by the traders themselves. For example, Nestlé has started to move back down the supply chain in its chocolate operations, creating competition for the historically dominant traders, including Cargill.

Third, the technologies of globalization, particularly information technologies, are eroding some of the advantages cornered by the global traders. Global networks have become cheap, quick, and accessible to many more people than was the case even ten years ago.

Fourth, global food markets have undergone a series of profound and possibly game-changing shocks in the past few years. The food crisis, the financial crisis, and the mounting evidence of how climate change is already disrupting food systems have all undermined confidence in global trade as a reliable mechanism for the delivery of food security. The agenda of trade liberalization that the ABCDs have invested significant energy in securing is in question in many developing countries, and in some richer countries as well. The companies are well placed to influence the newly emerging powers of the global economy, especially Brazil and also China and Russia to some extent. But they face new and important challenges to the free market ethos that has allowed them to consolidate so much power over the past 20 years.

CONCLUSIONS

The business model of the agricultural commodity trading companies combines specific and unique features that have enabled them to become major and significant actors in the ongoing restructuring of the overlapping food, feed, and fuel complexes. Through their roles in biofuels investment, large-scale land acquisition, and the financialization of agricultural commodity markets, the ABCDs are at the forefront of the transformation that is determining where money in agriculture is invested, where agricultural production is located, where the produce is shipped, and how the world's population shares (or fails to share) the bounty of each harvest. They are also, directly and indirectly, shaping the world in which the majority of the world's food producers – primarily female small-scale producers in developing countries – must somehow survive, and be allowed to thrive.

The wide-scale restructuring of the food and agricultural landscape now in evidence has significant implications. New kinds of investment and the size of those investments are reshaping the relationship that smallholder farmers in developing countries have with the land and natural resources (especially water), as well as their access to food. They have also reshaped public discourse about agriculture and food security, and the processes that determine how public investments will be made and how markets will be regulated. New investments by traders also influence the degree of food price volatility and have physical impacts by changing the physical face of the land, particularly when ecosystems are altered to accommodate plantation-style production.

Part 2 of this paper examines these issues in greater depth and looks at their implications for the ABCD companies and their competitors, for developing country agriculture, and for smallholder farmers.

2. GLOBAL TRENDS AND THE ABCDS: FINANCIALIZATION, COMPETITION, AND CHALLENGES

INTRODUCTION

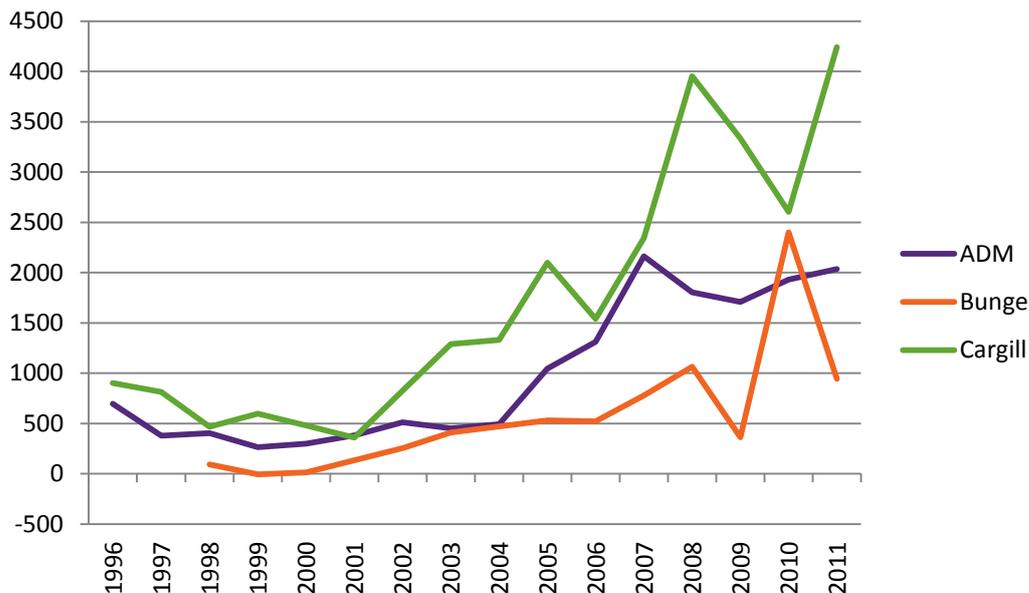
Part 2 examines the ABCD companies in relation to recent changes sweeping the agri-food industry, starting with a section on the financialization of commodity markets. This is the longest section, and is a snapshot of the ABCD companies' involvement in commodity market trading and a consideration of the reforms that might be needed to curb potential abuses of market power. The discussion is broken into several sub-sections, including one on the financial services companies operated by the ABCDs; a look at hedging, speculation, and the regulation of both in historic and contemporary contexts; and ABCD responses to proposed regulatory reforms to curb speculation on commodity markets.

Other sections look at the ABCDs in relation to renewed concern by national tax authorities that foreign firms must pay their way, to the emergence of new competitors, to the role played by investors in agricultural production, and to the tensions generated by the rapid expansion of industrial biofuels production. It also looks at concerns around smallholder producers and other affected communities living in the global South, who are disenfranchised or otherwise disadvantaged by global food and agriculture markets, before concluding with some possible policy implications.

ABCD PROFITS IN TIMES OF FOOD PRICE VOLATILITY

Overall, 2011 was a big profit year for commodity traders, bigger even than 2008, when all of the ABCD firms saw profits rise in line with the surge in global food prices (see Figures 2 and 3). Reporting their annual results in early August (half-yearly for Bunge, whose fiscal year follows the calendar year), ADM, Bunge, and Cargill all announced increased profits, although Bunge later reported a decline overall for 2011 due to lower profits in the second half of the year. Cargill also reported lower profits in the June–November 2011 business. Dreyfus does not report its results, but is also estimated by commentators to have significantly increased its profits for the year.

Figure 2: Profits of ADM, Bunge, and Cargill (\$ millions)



Sources: Company websites, corporate earnings reports, financial press

Note: Fiscal years vary (those of ADM and Cargill run from June to June, and Bunge's from December to December). Dreyfus does not disclose its profits to the public.

Figure 3: FAO Food Price Index, 1990-2012 (2002–04 = 100)*



Source: FAO <http://www.fao.org/worldfoodsituation/wfs-home/foodpricesindex/en/>

*Real price index, representing nominal prices deflated by World Bank Manufactures Unit Value Index (MUV).

Overall, the period of high prices and high volatility appears to have served the companies' financial interests well, though they have lost money in some areas too, and all had relatively bad years in 2009, following the financial crisis and the collapse in international trade that followed. Disruptions to commodity markets in 2010, including the Russian export ban, created opportunities for grain trading firms to profit from food price shifts. According to the *Financial*

Times, however, talking about 2011, 'the main driver of the surge in profitability [...] would not be the rise in prices – traders usually hedge their positions, although they can also profit from big directional movements in prices – but rather the collapse of normal trade routes for grains'.⁶⁵

However, at the beginning of the 2012 financial year, the companies' profits had weakened compared with the records set in 2011, with Cargill in particular hit by sharp declines in profits. The extreme levels of volatility made even the traders risk-averse, meaning that they were unable to exploit opportunities. 'Prices were not reflecting underlying fundamentals,' said Bunge CEO Alberto Weisser. 'It makes positioning much more challenging so we all operated much more cautiously.... We walked away from some business that in a different environment we might have executed.'⁶⁶ Cargill, similarly, complained of 'the persistently high degree of uncertainty in the global economic environment, which injected turbulence into commodity markets and limited prudent trading opportunities'.⁶⁷

Given how diversified the companies are, and that they report their earnings from the different divisions (albeit in a very generalized way), it is possible to see that being diversified is part of their strategy, as well as having places to put grain when straight sales are no longer profitable (into livestock feeding or biofuels, for instance). The deregulation of the financial markets and the considerable uncertainty, confusion, and even fear that characterizes commodity markets today (fear in the sense that investors do not know where best to put their money, with interest rates low and stock markets so volatile) have also created new opportunities for the largest traders. All the traders are capitalizing on these opportunities to some extent with their investment funds, established for internal purposes and for external clients (discussed in more detail below). It is very hard to determine the extent to which the traders' strong profit performance is based primarily on their financial activities as compared to their traditional physical trading. The reality is likely a bit of both. Here is a snapshot of the companies' recent results.

ADM

ADM increased its profits significantly in 2007–08 due to the sharp rise in commodity prices (higher prices accounted for 90 per cent of the gain in net sales value, according to the ADM press release that announced end-of-2008 fiscal year results).⁶⁸ Net sales and other operating income increased by 59 per cent in fiscal year 2008 over 2007, although net earnings dropped 17 per cent (to \$1.8bn), because 2007 results included profits from the sale of several businesses ('asset withdrawals') that created one-off income. For ADM's ethanol business, increased sales were offset by increased input costs (higher corn prices) and higher manufacturing prices (higher energy prices). ADM's overall profits in 2008 were \$1.78bn and its 2009 results fell only slightly to \$1.68bn.

Although its fiscal 2010 profits rose to \$1.93bn, ADM lost money due to the Russian export ban in the latter part of 2010. Profits fell some 30 per cent in the July–September period in 2010 compared with 2009. Citigroup noted that the firm 'failed to capitalise on the excellent opportunities that presented themselves this quarter due to global disruptions in wheat supplies, an area ADM typically excels at'.⁶⁹ ADM's announcement of results also blamed drought earlier in the year for lower profits. 'Merchandising and Handling profit decreased over last year, due primarily to negative impacts from supply shifts early in the quarter as a result of drought conditions and government actions in the Black Sea region,' it said.⁷⁰ At the same time, corn ethanol margins and volumes improved as energy prices fell, presumably reducing manufacturing costs, while government mandates ensured continued growth in consumption.

Despite a weak start to the fiscal year, ADM's overall 2011 profits reached \$2.04bn due to strong performance in both oilseeds and corn, the latter of which saw sharply increased prices. In a letter to shareholders, ADM noted, 'A year like 2011 highlights the benefit of our global sourcing, transportation and processing network. When civil unrest in the Middle East, drought and trade embargoes in the Black Sea, the earthquake and Tsunami in Japan and flooding in

the USA caused disruptions – in supply, demand and the trade flows that connect them – our team sourced alternative supply, managed risk and continued delivering crops and products to serve vital needs for food and energy.⁷¹

ADM's profits declined sharply in the first half of the 2012 financial year, due mostly to weak results for oilseeds and corn, despite strong prices. The losses led the firm to cut about 1000 jobs.⁷²

Bunge

In the end-of-year announcement of results for 2008, Bunge's CEO, Alberto Weisser, reported, 'In 2008, Bunge produced record results in one of the most volatile years in recent memory. We earned over \$1 billion in net income for the first time and produced \$2.5 billion of cash flow from operations. We start 2009 with a comfortable liquidity position and a strong balance sheet. The weak global economy will pose challenges, but we see reasons to be optimistic that conditions for our industry will improve during the course of the year.'⁷³ Despite optimism, Bunge saw profits fall to \$361m in 2009, in the wake of the global financial crisis. But this dip was only temporary.

In late 2010 Bunge benefited from price rises triggered in part by the Russian export ban. That year Bunge's profits soared to \$2.35bn, although a large part of that increase was a one-time bump linked to the sale of its fertilizer nutrients business.⁷⁴ Announcing results for 2010, Weisser said, 'I hate to say that we benefit ... what we have done is a very deliberate strategy to build a global network of systems to be one of the companies who can provide food when it is necessary.'⁷⁵ Although the ban initially cost Bunge money in the region, the company regained this on the back of rising profits in other regions. 'Margins expand at these moments because markets get nervous ... it plays to our strength. Because of our global network these dislocations give us opportunities,' said Weisser.⁷⁶ The company's 2010 annual report acknowledged the profits derived at least in part from its financial activities: 'The derivative instruments that we use for hedging purposes are intended to reduce the volatility on our results of operations, however, they can occasionally result in earnings volatility, which may be material.'⁷⁷

In 2011, profits came in at \$942m.⁷⁸ As Weisser noted at the announcement of the results, 'In 2011, Bunge produced strong results in many parts of our businesses, but faced significant headwinds in others.'⁷⁹

Cargill

Cargill made record profits in 2008 (nearly \$4bn) as food prices shot up rapidly. The company openly acknowledges that it profits from its unique base of information. Its profits in 2008 were not due to rising commodity prices alone, but rather to its ability to predict price changes in a period of volatility. Cargill was among the first to bet on falling wheat prices in the second part of the year, based on harvest information, which enabled it to clean up in futures markets. Other traders were caught going the other way. According to Cargill's CEO Greg Page, it is all about putting together bits of knowledge from different parts of the company's business. 'When we do a good job of assimilating all those seemingly unrelated facts, it provides us an opportunity to make money ... without necessarily having to make directional trades, i.e. outguess the weather, outguess individual governments.'⁸⁰

Cargill's profits fell in 2009, but still came in at \$3.33bn. Cargill's 2009 annual report said, '[T]he insights gathered from many activities and places enabled our trading teams to avoid being stung by plummeting commodity prices.'⁸¹ The 2010 fiscal year saw Cargill's profits fall to \$2.6bn, but this was based on vastly different performances across the firm's many businesses, with strong performance in its risk management and financial services divisions.

In 2011, the firm earned record profits. Cargill asserts that it was its origination and processing unit (grains and oilseeds) that was the main profit driver of its earnings. It claimed that it 'developed an early and accurate read' on weather events in the latter part of 2010 (droughts in Russia and Ukraine) and the way that these would affect trade and supply/demand relationships. Changes in trade flows created opportunities. Cargill specifically mentioned volatility in 2010 as a key ingredient for its profits: 'Our results were led by the food ingredients and commodity trading and processing segments, both of which experienced resurgence in volatility across agricultural commodity markets'.⁸² It added that increased volatility 'put Cargill's global breadth, trading and risk management skills more acutely into play'.⁸³ In August 2011, Cargill announced its highest revenues ever: 'Full-year consolidated revenues were \$119.5 billion, up 18 percent from \$101.3 billion in the prior year'.⁸⁴ Its 2011 profits stood at a record \$4.24bn. But while profits were high in trading areas, Cargill also faced higher costs for food ingredients segments – e.g. beef and food packing due to higher input costs.

Following these record 2011 profits, the first two quarters in the 2012 financial year saw massive declines in profit for Cargill, on the back of turbulent commodity markets and 'limited prudent trading opportunities'.⁸⁵ In December 2011 Cargill announced that some 2,000 jobs worldwide would be cut.⁸⁶ The firm's third quarter earnings in fiscal 2012, however, strengthened significantly.⁸⁷

Louis Dreyfus

Louis Dreyfus does not report its profits, so it is hard to know precisely how it has fared in the recent period of food price volatility. But it has clearly not suffered. Javier Blas, commodity editor of the *Financial Times*, put the company's revenues in 2009 at \$34bn, twice as much as in the preceding year.⁸⁸ And in December 2011, chairman Margarita Louis-Dreyfus told the press that that year would be 'almost as good' as 2010, when it had '\$1 billion in profits'.⁸⁹

As prices have become higher and more volatile, some traders are moving away from the traditional large volume and thin profits model, to buying more assets for production and logistics, including transport and storage. Dreyfus is following the trend, reportedly looking into acquiring more production assets – including logistics – as discussed below in the section on the financialization of production.⁹⁰

THE FINANCIALIZATION OF COMMODITY TRADING

Financialization can be defined as the '...increasing 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'.⁹¹ Financialization – a clumsy and unhelpfully obscure word – has now entered the policy insiders' lexicon as an overarching term for the increasingly important role that financial investors play in agri-food systems. Financialization is a factor in both the commodity futures markets (dealt with in this section) and in agricultural production itself (dealt with in the next section).

Until recently, the food system largely involved producers and a series of commercial interlocutors, who traded, processed, distributed, and sold food. Today, banks and other investors, as well as dedicated investment funds established as subsidiaries of the ABCD companies themselves, have invested billions of dollars in food commodities, with no interest in taking possession of any physical commodity. Their behaviour is intimately linked to what is happening in the physical trade of food, of course, but it also affects that trade by influencing prices and behaviour. The ABCDs have long used financial instruments to support and expand their businesses. The deregulation of capital and commodity markets over the past two to three decades, however, has changed the scope of this activity significantly, both as to the range of

activities the traders can engage in, and the kind of competition they face from others now that the markets are deregulated.

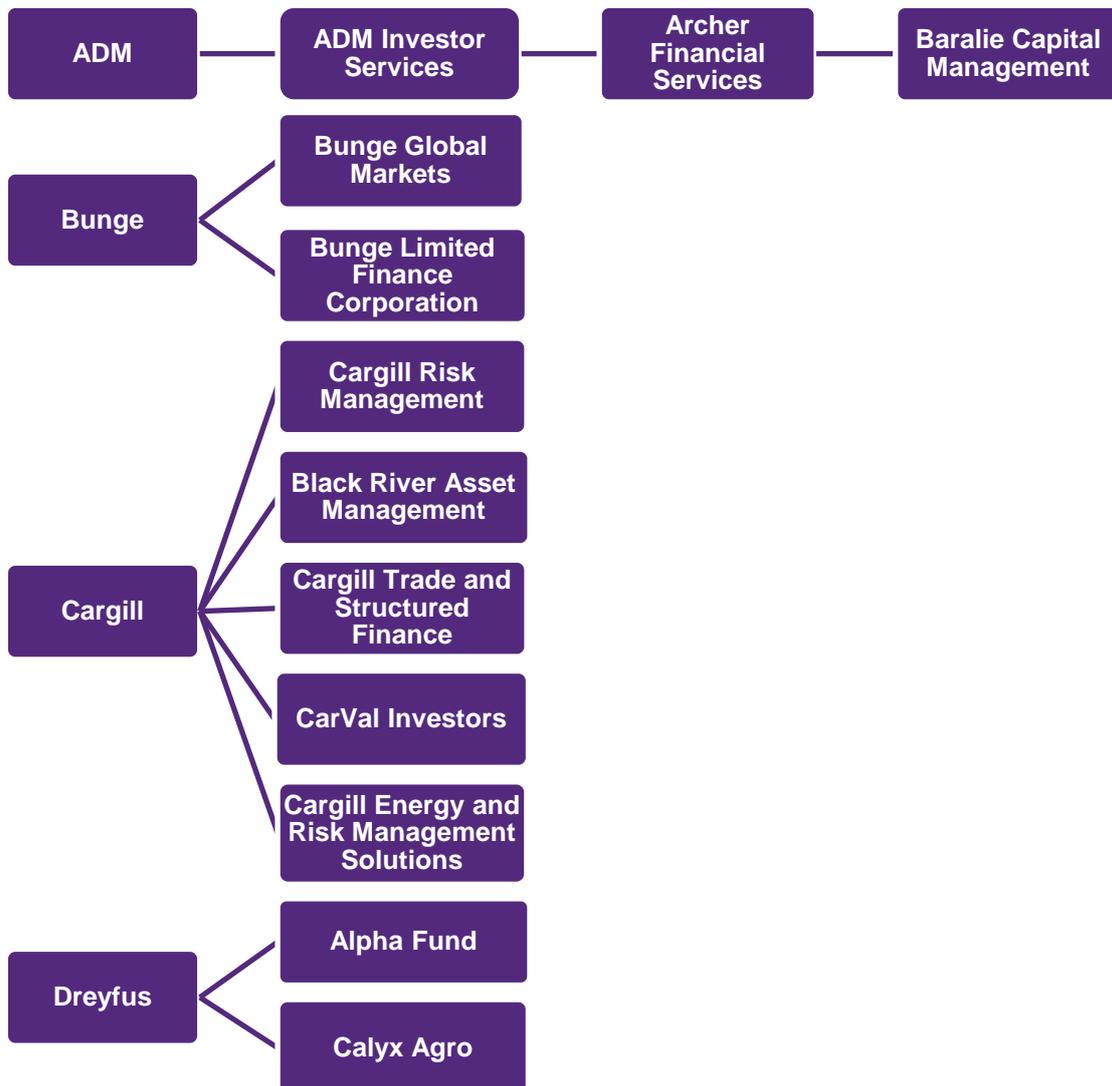
1. Financial services divisions of the ABCDs

Linkages between food and finance date back centuries to the origins of agricultural commodities futures exchanges – markets where future delivery of agricultural commodities can be bought and sold.⁹² Commodity exchanges were established in London in the 18th century, and more institutionalized agricultural futures trading markets were established in the UK and in the USA in the mid-1800s. Grain traders (including the oldest of the ABCDs) were among the first participants in these markets. Speculators have long played a role in these markets as well, providing liquidity in exchange for the chance to make significant profits. In this sense, food and finance have long been linked. Traders have used insider knowledge to manage their investments and to hedge their risks since their firms were first established over 150 years ago.

Yet something important has changed. The connections between finance and food markets have become more intense and intricate in recent decades as a result of financial deregulation (explored in more detail below). We are only just beginning to understand the full extent of the complexity involved. Historically, banks were prohibited from the hedging activities permitted to commercial grain companies. Deregulation relaxed the rules, in the 1980s allowing financial actors, including banks and investment brokers, to sell to investors products known as derivatives⁹³ based on food and agricultural commodities. As deregulation unfolded in a series of regulatory and legislative changes during the 1990s, these new products grew more complex. Today, financial products are often bundled with other non-food commodities, and the amounts of these derivatives that are traded on markets have grown significantly in recent years. These developments have linked the worlds of food and finance in new ways: food has become 'financialized'.

Although traditional physical grain trading is still important as an income earner for the commodity trading firms, each of the four ABCD firms has also been able to turn its knowledge into a marketable asset to sell to investors. The traders are attractive to potential investors because of their unique and extensive knowledge of agriculture. The way that the futures markets are set up in effect means that 'insider trading' is legal for these firms' activities in the commodity futures and agricultural derivatives markets. The *Wall Street Journal* reported in 2009, 'In contrast to stocks, commodities trading is the only major US 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.'⁹⁴ And the *Financial Times* notes, 'Physical traders are often the first to know when crops are falling short or energy cargoes are interrupted, giving them an edge over others.'⁹⁵ What the regulations say they cannot do, however, is to deliberately manipulate prices. This is forbidden for market actors, including the grain trading firms.

Figure 4: Financial services divisions of the ABCDs



These financial services divisions are further described in Appendix 4.

Capitalizing on growing investor interest, the ABCDs have developed new business lines managing third-party money through commodities hedge funds and the sale of other financial products, such as tailored over-the-counter (OTC) derivatives such as swaps.⁹⁶ Trader firms actively use agricultural derivatives in their daily business as a means to:

- **Hedge risks in the physical markets** – to manage price risk in order to stabilize markets, protect margins, defend market share, enable forward budget planning, etc.;
- **Hedge risks in different parts of their business** – to secure prices of physical grains for processing units, for example to make up for losses in other parts of the business (they call this ‘connectivity’);
- **Speculate on their own account** with the aim of making profits (they claim that this is just a small amount of their business);

- **Offer financial services to third parties** (agricultural and food processing companies, farmers, investors, banks) who want access to complex hedging products e.g. farmers to protect margins, large-scale investors (pension funds, hedge funds, endowments) to earn returns on investments, food processing companies to manage price risks of ingredients.

Today there is no longer a clear separation between the commodity derivative products sold by traders and the banks; each encroaches into areas in which the other has long specialized. Both are selling products based on commodity futures to third-party investors.⁹⁷ The financial products that the ABCD companies provide include investment products for institutional investors such as hedge funds and pension funds, which are seeking exposure to commodities in their investment portfolios, at the same time that they provide advice to farmers and large food firms on hedging their risks in food and agricultural commodity markets.

The financial divisions of these firms have expanded in recent years, indicating that they are increasingly important to the business model of the ABCDs, with investors continuing to flood to commodities.⁹⁸ Cargill, for example, has fully embraced this model of providing financial services to third parties as a means of diversifying its activities, along with its movement towards food processing as part of a broader diversification strategy.⁹⁹

2. Hedging or speculation, or both?

With the profits of the ABCD firms soaring just as agricultural commodity and food prices began to rise after 2006 (see Figures 2 and 3), many have begun to question whether the traders are genuinely hedging their risks or whether they are also speculating in order to turn a profit from the volatility of commodity prices. In particular, there is concern about whether these firms are capitalizing on their knowledge and experience (not to mention their global reach and deep pockets) to exploit futures markets to secure profits for themselves beyond genuine hedging. With the establishment of investment funds for internal purposes and external clients, these concerns have only been heightened.

The question of whether these firms are engaging in such trades and derivatives as a speculative venture or as a hedge hinges largely on whether they have a commercial need for the actual physical commodity they are buying or selling. This is not always clear, particularly as they are now increasingly selling their services to third party investors. The reality is likely that both hedging and speculation are involved, though the firms have tended to hide behind their bona fide hedging activities, making the case that genuine hedging may result in windfall profits, something that they do not consider to be speculation. Because the traders do not report details of their individual business segments, it is almost impossible to determine the proportion of their income that is derived from sales of financial products or speculation on their own account.

3. Regulation and the ABCDs' financial activities

The fact that the ABCD firms are providing financial services for speculative purposes to external investors, even if they do not engage in such speculation for their own benefit, does raise important questions about the role of the traders in the increase in speculative investment in agricultural and food markets. Traders, because they have a commercial link to physical markets, have long enjoyed exemptions from regulations designed to curb manipulation of the market by speculators (particularly exemptions from position limits), on the grounds that they needed to be able to hedge the risks they run in buying, storing, and selling commodities. These exemptions also apply to their financial dealings on commodity futures markets because they are ultimately 'end-users', or commercial traders i.e. they deal in the physical commodity as a key part of their business.

The ABCDs argue that they are hedging genuine risk as end-users when they engage in the futures and agricultural derivatives markets, and thus should remain exempt from regulations that have been put in place to prevent excessive speculation. However, there is an obvious

weakness in the traders' argument. Once those funds are open to other investors, how do the ABCDs justify not playing by the same rules as others? If the companies wish to sell their services to investors, that activity ought to be clearly and wholly separate from any of their commercial hedging activities, with the burden of proof that that this is so resting clearly with the trading firm.

Questions have also been raised about whether these firms are manipulating markets for their own gain. Bunge Global Markets was found in 2009 to be in contravention of the Commodities Exchange Act by the US Commodity Futures Trading Commission (CFTC). Twice in March 2009 Bunge traders placed buy and sell orders for soybeans in the pre-opening trading session, which they then cancelled before the market session opened. The CFTC found that the traders had no intention of executing those orders (something that the traders openly acknowledged), but instead were deliberately seeking information about support for specific price levels. Their activity influenced the Globex (electronic trading platform) Indicative Opening Price (IOP), which is an opening price broadcast to Chicago Mercantile Exchange market feed data and all CME Globex users. The CFTC noted, 'If successful, they would have obtained information that was unavailable to other traders. Because the traders had no intention of allowing the orders to be executed, placing the orders caused prices to be reported that were not true and bona fide...' and as such were in violation of parts of the Commodity Exchange Act.¹⁰⁰ The CFTC ruling was released in 2011, and Bunge was fined \$550,000 for this violation and ordered to 'cease and desist' from violating those parts of the Act.¹⁰¹

4. Regulatory reform and the reaction of the ABCDs

The regulatory context

In the USA, agricultural futures markets have been tightly regulated for nearly a century. The Grain Futures Act of 1922 required that all futures trading could only take place on approved exchanges, which were required to outlaw manipulation or cornering of the market. Daily reporting of trading on the market by large traders has been required since 1923, on the grounds that the large traders could influence prices and needed to be more closely monitored than others. The US Commodity Exchange Act of 1936 empowered US federal regulators (now known as the Commodity Futures Trading Commission, or CFTC) to establish 'position limits' on 'non-commercial' traders who are not bona fide hedgers. Non-commercial traders are those who do not trade the actual commodity, such as speculators and banks. Commercial traders are those who are end-users of the commodity, such as farmers, grain elevator operators, food processors, and trading companies.

Position limits place a ceiling on the number of agricultural futures contracts a single non-commercial trader is allowed to hold. The purpose of the regulation was not to eliminate speculation, which is widely seen to perform a useful price discovery function. Instead, the idea is to prevent market manipulation and distortion by overly powerful speculators that could cause havoc for farmers, food producers, and consumers. The 1936 Act speaks of the objective of eliminating 'excessive speculation' that causes 'sudden or unreasonable fluctuations or unwarranted changes' in commodity prices.¹⁰²

The regulatory framework in the USA began to soften when position limits were effectively relaxed over the 1980s and 1990s. In 1986 the US Congress directed the CFTC to consider including the use of future markets to manage financial investment portfolio risks in its definition of bona fide hedging. This request prompted the CFTC to issue a number of clarifications and interpretations that effectively expanded the definition to include trading strategies aimed at reducing financial risk.¹⁰³ The CFTC also granted exemptions from speculative trading limits to a number of financial institutions starting in the 1990s.¹⁰⁴

Banks also began to request and were granted 'no action letters' from the CFTC. These letters provided regulatory relief by stating that the regulatory body would not recommend enforcement action against the requesting entity for failure to comply with specific CFTC rules or regulations

if a proposed transaction or activities was completed by that entity. In requesting no-action letters, banks argued that they should not be subject to enforcement action because their hedges in commodity markets were hedges against real risks in financial markets. The relaxation of the rules by these various means in effect transformed banks and other financial services firms into commercial traders because they were treated similarly to end-users. With an effective exemption from position limits, banks began to sell directly a variety of financial products 'over-the-counter' (OTC), which means that they are not directly traded on commodity futures exchanges. Such products also include 'commodity index funds' (CIFs), which bundle together different kinds of commodities, including agricultural commodities. These trades were not regulated because they were not traded on an exchange, but banks were able to hedge the risk from the sale of those products on futures markets because of their exemptions from position limits.

The Commodity Futures Modernization Act (CFMA) was passed in the USA in 2000, legislation that exempted OTC derivatives trade from CFTC oversight. The OTC commodity derivatives trade, including CIFs, was not subject to any position limits under this regulation, nor any reporting requirements. The Act also allowed purely speculative trading in OTC derivatives. In other words, investments in these products were not required to be hedges against a pre-existing risk for either party. In effect, the CFMA codified what the no action letters had already established, limiting the oversight of the CFTC and opening the possibility of a much higher volume of speculative trading in commodity markets.

Trader firms already saw themselves as commercial actors, but in some cases they asked for exemptions from rules as well. In 2006, for example, Cargill requested exemptions from regulation from the CFTC for future sales of OTC agricultural derivative products to external customers by a new financial division of the firm. Cargill wanted to be sure that its subsidiary would be exempt from regulation if it became a separate agricultural trade options merchant. The CFTC granted 'no action' relief to Cargill for its soon-to-be-established subsidiary to act as an ATOM (agricultural trade options merchant – for which the rules state that the firm must be a producer, processor, or commercial user, etc.):

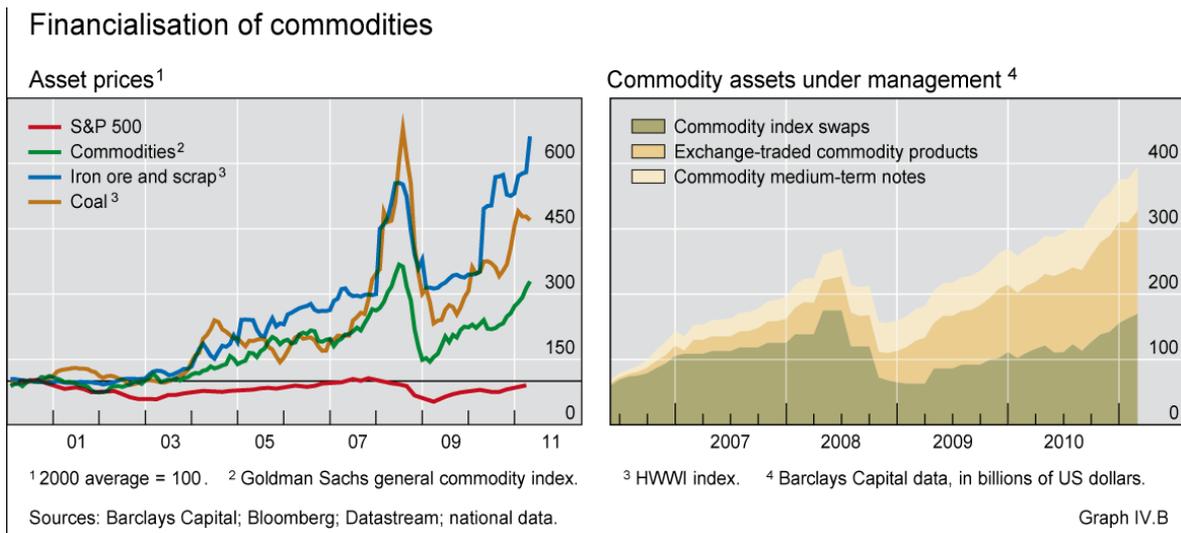
*'Clearly, as used in the agricultural trade options regulations, the phrase, "producer, processor or commercial use of, or a merchant handling" a commodity was intended to apply more broadly than to just first handlers of commodities. The division believes that the Applicant, as a wholly-owned subsidiary of a grain merchant such as Cargill, is an appropriate candidate for inclusion within that broader application of the "producer, processor..." category.'*¹⁰⁵

The US regulatory context was important, as it applies to the most important agricultural commodity markets in the world, primarily the Chicago Mercantile Exchange Group, which includes the Chicago Board of Trade, the world's oldest and largest futures and options market. There are, of course, other futures markets that specialize in specific agricultural products, including London's Liffe, which specializes in coffee and cocoa, and the Bursa Malaysia, which focuses on palm oil. Some others have relatively small volumes and serve more local markets, such as the Tokyo Grain Exchange, the Brazilian Mercantile and Futures Exchange, and the Indian Multi-Commodity Exchange. In a regulatory sense, the USA had the most extensive regulation on commodity markets, but some light regulations existed in the EU. In the period prior to the 2008 financial crisis, the EU did not regulate OTC derivatives and applied only minimal regulations to commodity derivatives traded on exchanges.¹⁰⁶

After 2000, there was a massive increase in investment in OTC financial products linked to commodities, as well as an increase in the complexity and types of agricultural commodity derivatives available for investors. Between the start of 2005 and March 2008, commodity futures contracts held by investors worldwide doubled in value, to an estimated \$400bn. The sharp increase in these kinds of investment was mainly attributable to large-scale investors such as hedge funds, sovereign wealth funds, pension funds, university endowments, and other institutional investors. Commodity index funds have been especially attractive to these typically

long-term and passive investors because they require little knowledge of the physical markets. As commodity prices began to rise in the early 2000s, investment in these instruments grew from \$15bn in 2003 to \$200bn by mid-2008, more than a ten-fold increase.¹⁰⁷ Holding investments in CIFs as part of a long-term passive investment strategy has, according to some analysts, the same effect as the hoarding of physical stocks, but in practice this hoarding of futures contracts is virtual. According to former hedge fund trader Michael Masters, '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.'¹⁰⁸

Figure 5: Financialization – asset prices compared with commodity assets under management



Source: Bank for International Settlements (2011) 81st Annual Report. <http://www.bis.org/publ/arpdf/ar2011e.pdf>

Around 15–30 per cent of CIF investment is in agricultural commodities. Index fund investment in corn, soy, wheat, cattle, and hogs ballooned to \$47bn in 2007, up from \$10bn just a year earlier. By 2008, some \$70bn was invested in agricultural hedge funds (up from half that amount just three years earlier), and by the end of 2010 the amount stood at \$195.8bn.¹⁰⁹

Regulatory reform

Following the financial crisis in 2008, concern mounted about derivatives trade more broadly. Financial reform initiatives in both the USA and the EU began with a view to placing more regulation on this trade, including agricultural commodity derivatives. Trader firms have been keen to ensure that they retain exempt status as end-users, allowing them to continue their business as usual. But because they have ventured into financial trading of derivatives, including for third party investors, their activities could be covered by this new legislation. In both the USA and the EU, the details of the legislation are still under negotiation.

The ABCD firms have all been active in seeking to influence the shape of these financial reforms, especially as they relate to commercial operators such as themselves. In particular, they are keen to ensure that the new rules do not change their status as commercial operators, and that they are not required to provide more transparency in the OTC trades they are involved in. At the same time, these firms support more stringent rules on non-commercial operators, such as banks. Cargill in particular has lobbied extensively for reporting, transparency, and position limits for non-commercial participants, but wants to see the rules designed in a way that suits its own needs. To this end, it has claimed that, although it does sell investments to third

parties, it should maintain its commercial operator status and thus be exempt from the new regulations.

This position on the part of the traders reveals that these firms in effect are seeking tougher oversight of their competitors in the agricultural derivatives markets, specifically banks, which would in effect clear away competition and create more business for their own financial firms. It is important to ensure that the new regulations do not merely allow the ABCDs' financial arms to replace the activities of the banks, which would not result in reduced speculation on these markets overall.

The USA: the Dodd-Frank Bill

The 2008 financial crisis was the impetus for the Dodd-Frank financial reform act in the United States. The act, which reformed the US financial regulatory system, was passed into law by the US Congress in July 2010. A piece of that legislation called for the regulatory agency in charge of commodity derivative markets, the Commodity Futures Trade Commission (CFTC), to issue regulations to diminish, eliminate or prevent excessive speculation on food commodities, among others. The CFTC issued a final ruling in October 2011 to determine to what extent they would regulate excessive speculation. However, this final CFTC ruling, pertaining to speculation and language to regulate it, has not yet been implemented.

Traders are concerned about new regulations under this new legislation. The new rules are designed to prevent excessive speculation, and as such seek to regulate non-commercial actors in particular. The law calls for OTC markets to be brought under government regulatory control for the first time, in particular:

- Most OTC swaps to be cleared through central clearing houses (which act as an intermediary between the seller and buyer of a contract) and traded on exchanges;
- Regulators to be given the authority to impose capital and margin requirements on swap dealers and major swap participants, and also to collect information on all swaps and to publicly report aggregate data at regular intervals;
- Regulators mandated to impose position limits.¹¹⁰

Because commodity trading firms deal in both physical (commercial) and financial (non-commercial) transactions on commodity futures markets, it is not always clear if they are actually commercial or non-commercial actors. Some of their activities could well be regulated under the new bill, although the companies are lobbying to avoid this outcome. Cargill has noted that some of its activities are hedging, while others are services to external parties, and it has noted that the latter may be subject to regulation.¹¹¹ Bunge is also concerned about the coverage of the regulations. The company mentioned the Dodd-Frank legislation several times in its 2010 annual report: 'While it is difficult to predict at this time what specific impact the Dodd-Frank Act and related regulations will have on Bunge, they could impose significant additional costs on us relating to derivatives transactions, including operating and compliance costs, and could materially affect the availability, as well as the cost and terms, of certain derivatives transactions.'¹¹²

Trading firms have made their views heard by participating in meetings with the CFTC, submitting letters and positions, and testifying in Congressional hearings on the matter. Cargill met with the CFTC on 12 different occasions over the Dodd-Frank Bill, while Bunge had four meetings, Louis Dreyfus had six, and the Commodity Markets Council, to which ADM, Bunge, and Dreyfus all belong, met with the CFTC on five different dates (see Appendix 5 for details of these meetings).

Trading firms claim that their financial derivatives activity is a legitimate or bona fide hedge against risk in the physical markets as well as to hedge their financial activities, and as such their financial operations that manage risk for their own businesses should not be regulated – i.e. they should be exempt. As Jon Hixson of Cargill argued in Congressional testimony,

'Hedging is a valuable economic activity which is backed by an offsetting position. Such hedging does not create systemic risk and should be exempted from the mandatory margining and clearing requirements.'¹¹³

Trader firms are also trying to ensure that genuine hedges against business risks for end-users should not have to post collateral (margins) against swaps because this is costly for the firms.¹¹⁴ They also argue that they should not be subject to position limits due to their end-user status or be required to clear their transactions. Cargill, for example, argues that mandatory clearing is 'extremely difficult' for customized products, especially as the firm has over 130 types of OTC product.¹¹⁵

Overall, the aim of the interactions with the regulators has been to ensure that commodity trading firms continue to be seen as end-users in the eyes of the legislation, and as such be exempt from the new regulations, which in their view should target banks, which pose more of a risk to the financial system. In a letter to the CFTC on position limits, Cargill vice president Linda Cutler noted:

*'Cargill's business will be significantly affected by the Proposed Rules. The hedge exemption is vital to Cargill's management of its commodity price risk in its business activities as a purchaser, processor and seller of physical commodities. In sum, Cargill's ability to manage its own risk impacts the prices it pays to agricultural producers who supply commodities to Cargill, as well as the prices it charges to processors and end-users who buy from Cargill. Position limits and the hedge exemption are also important for Cargill's business of providing risk management services to other businesses, by acting as a swap counterparty to businesses using swaps to hedge their risks.'*¹¹⁶

The letter continued:

*'If the proposed rules were adopted without changes, however, there is a substantial risk that they would undermine the efficiency of the markets for hedgers, by reducing liquidity and disrupting markets which currently function well.'*¹¹⁷

At the same time that it has fought to maintain exemptions, Cargill has acknowledged that some of its activity is non-commercial. The firm told the CFTC that it anticipates that it will have to register as a swap dealer under Dodd-Frank rules – because of the activities of its financial and risk management divisions. This would put it in the same category as Wall Street banks, and may increase its trading costs, because it would have to hold more capital and add collateral. Cargill has argued that the rules should apply only to the divisions that deal swaps, not those using swaps to hedge and manage risk of the commercial side of its business. Cargill claims that risk management is a 'very small part' of its business overall.¹¹⁸

Other commodities traders that engage in swaps have resisted being classified as swap dealers. ADM, Bunge, and Dreyfus are working through the Commodity Markets Council (CMC), which makes the claim that the traders should be considered as commercial actors and therefore be less regulated. The CMC claims that under the proposed rules a large proportion of what is now considered hedging would be redefined as speculation. Christine Cochran, CMC president, has said: 'We believe the CFTC needs to seriously consider major structural changes in its approach, both in defining what constitutes a bona fide hedge, the process for making bona fide hedge determinations, and in its proposed reporting regime.'¹¹⁹

The EU

In December 2008 the European Commission announced its intention to undertake regulatory reforms of its financial markets with a view to increasing price transparency by shifting OTC trade to more formal trading platforms. It also intended to give regulators the possibility of setting position limits to curb speculation, as well as more detailed reporting on derivatives trading activity. Specifically, the EU is seeking to reform the European Market Infrastructure

Regulation (EMIR) and the Markets in Financial Instruments Directive (MiFID). The proposals call for:

- Most OTC derivatives (those that are standardized) to be traded on exchanges and ‘swap execution facilities’ (as outlined in proposals for reform to MiFID);
- OTC derivatives to be processed through clearing houses and reported (as outlined in proposals for reform to EMIR).

The reforms on trading on exchanges and clearing of OTC derivatives through clearing houses and on reporting are broadly similar to the US Dodd-Frank legislation, but they differ in what the current proposals do not include. Proposals on the table currently do not call for position limits, nor has it been decided whether to require collateral on uncleared contracts.¹²⁰

Cargill seems to be the most vocal of the ABCDs at the EU level, and has participated in EU consultations on the proposed reforms. It submitted a comment on EMIR in July 2010, for example, stressing that ‘end-user’ commodity trading firms such as it did not pose any systemic risk to the financial system. Cargill stated that it supported exemptions from clearing for non-financial users of OTC derivatives ‘to hedge commercial risks related to raw material supplies and their financing’ and saw that the intent to gather information would break its confidentiality:

‘The information gathering, if it is to be effective, should be focused and concentrate only on areas where there is indeed a systemic threat. For a broader brush approach, what would the competent authority do with the information? We have concerns about the confidentiality of our commercial business operations and would want to see tight controls on confidentiality of the information reported. Some of the bespoke business that we do contains intellectual property that we would not want to see shared... If it becomes known broadly in the market how we are thinking about that market then such knowledge would impair the efficient functioning of the market.’¹²¹

Cargill further noted that clearing would impose financial costs on the firms due to margin requirements.

ADM and Bunge also have clear channels for influence, either through their direct presence in Brussels or through membership of industry associations, although they tend not to make direct submissions to the EU consultations. In particular, ADM and Bunge, as well as Cargill, are the major members of FEDIOL, which represents the EU oil and protein meal industry.¹²² FEDIOL submitted a comment on MiFID in January 2011, emphasizing that under any future EU regulation its members should have status as ‘commercial’ players and should therefore benefit from lighter regulation.

‘We would be ready to look further into a periodic reporting by categories of players, as per the US system of reporting, in which companies that hedge their physical goods position are classified within the “commercials” category. We further insist that commodity firms shall be exempt from MiFID when they deal on own account in financial instruments or provide investment services in commodity derivatives on an ancillary basis as part of their main business and when they are not subsidiaries of financial groups.’¹²³

5. Conclusions

The ABCD traders have been important players in the financialization of commodity markets, and this needs to be recognized. They also are seeking to ensure that they can continue in this role, even as others such as banks are targeted for more stringent regulation in commodity futures markets. The debate on whether they should be exempt from stricter disciplines on speculation merits broader public debate.

This analysis suggests some conclusions about the financialization of commodity markets in relation to the ABCDs.

- Historically, speculation and hedging in agricultural commodity markets were distinct activities. Financial investors were typically speculators; commercial operators in the grain business were hedgers. Changes to legislation and regulation have blurred the boundaries.
- Commodity prices are increasingly influenced by factors that have nothing to do with physical reserves. While debates have raged in recent years as to whether financial speculation in agricultural commodity markets is a leading driver of food price volatility, there is a growing consensus that there is at least a short-term impact on food prices as a result of increased financial speculation on those markets. While there is no evidence that the deregulation of commodity markets has helped the commercial sector to improve performance,¹²⁴ there is a real risk that the activity is affecting prices in real markets, and therefore hurting some of the world's most vulnerable populations.
- Deregulation of financial markets has created new, more complicated investment tools and products. The ABCD traders have capitalized on these developments, as have other financial institutions. These agricultural commodity derivatives have in some cases merged agricultural commodity and non-agricultural commodity assets, linking food commodities in important ways to other commodities within financial markets.
- The ABCD traders are facilitating the speculation of others by offering agricultural commodity tools to third party investors via their financial services divisions..
- The scale of money involved in commodity trades has grown exponentially in a very short time. Experts disagree about the importance and effects of this activity, much of which is speculative, although many commentators (both outsiders and insiders) suggest that there is cause for alarm.¹²⁵ The level of commodity price volatility is not unprecedented, but its significance is, because of the rapid increase in developing countries' dependence on international markets to meet demand for food staples. This argues for caution and a need to put the onus on the ABCDs (and other financial actors) to prove that there is no harm from their activities.
- This raises some important challenges to the tendency of many donors to push developing countries into using financial tools, including reliance on commodity futures markets, to manage volatility. Physical food reserves and increased local production for local markets might offer stability that financial tools cannot in the current environment.
- ABCD firms have been very active in lobbying to influence financial regulatory reforms in both the USA and the EU. They are specifically seeking to retain their exemptions from regulations that would place limits on their levels of investment in commodity futures markets. At the same time, they are in favour of stricter regulation for banks that are carrying out similar activities.

Currently, there is not much awareness in the broader public or even among those focused on financial regulatory reforms of the role of the ABCD firms in the financialization of commodity markets. To date, banks have been the most frequent targets of analysis on this topic. The ABCDs are also intimately involved in selling financial products to third party investors, although it is difficult to discern how significant their activities are compared with other financial institutions such as large investment banks. With growing awareness that such speculation influences food price volatility, the role that trader firms play in encouraging this activity needs to be recognized. Close attention should be paid to the role of the ABCDs and their lobbying to influence the current efforts to re-regulate financial markets in both the USA and the EU.

THE FINANCIALIZATION OF AGRICULTURAL PRODUCTION

In addition to the role of the ABCD traders in hedging and speculation, there is another aspect of financialization that relates to new forms of investment in direct production. In the context of

food and farming, financialization refers to the growing involvement in agricultural production, processing, and distribution of a range of finance institutions which have never before invested in agriculture – asset management companies, private equity consortia, merchant banks, superannuation/pension funds, hedge funds, sovereign wealth funds, and others (including the financial services divisions of the ABCD traders – see Figure 4).

It is important to distinguish these more recent activities from the traditional role played by the commercial banking sector in relation to agriculture. Banks have, of course, had a long involvement with food and farming, but their traditional role has been limited to making available working capital through loans, credit, overdraft facilities, etc. The commercial banking system has never sought ownership of farm properties, nor invested in agricultural production by acquiring a share of the equity in parts of the agri-food supply chain.

Yet this is exactly what the new financial players are doing. The hedge funds, private equity consortia, and pension funds are investing in land and productive enterprises and, in some instances, are actively involved in the day-to-day management of on-farm operations. This is a relatively new phenomenon, since for many years financial institutions have not seen food and farming as attractive ‘asset’ classes, preferring instead to invest in shares, bonds and securities, property, and other assets that have proved to be profitable over the longer term. Agriculture has historically been seen as a risky venture that generated low returns. This has changed in recent years, and the food system has come to be seen as a sector that will guarantee long-term growth. The reasons for this are several:

- The decreasing per capita availability of land;
- An anticipated increase in commodity prices over the long term due to finite resources and a still-growing (and increasingly rich) global population;
- The shift towards meat-based diets;
- The creation of markets in farm-related carbon credits and water rights;
- The increasing levels of investment by land-poor and food-deficient countries;
- The increasing value of farmland.

In 2011, the International Land Coalition (ILC) documented reports of more than 2,000 land deals under consideration or negotiation worldwide, covering a total of 203m hectares over the past decade – an area more than eight times the size of the UK. Most of this investment took place in 2008–10.¹²⁶ Many such investments are concentrated in the least developed countries, but the regions of North America, Europe, and Australasia have also received a significant flow of inward investment capital, for example, from the sovereign wealth funds of Middle Eastern states such as Qatar and Saudi Arabia, which have bought land for beef, sheep, and wheat production.

The ABCD companies are also involved in these activities. Their involvement takes two main forms, the first of which is their ownership of investment funds and asset management companies. These attract investment capital, which is then invested in parent company activities. For example, in 2007 Louis Dreyfus Commodities invested \$65m to establish Calyx Agro Ltd., a private equity investment vehicle that buys, operates, and sells land in Latin America:

‘Calyx Agro plans to capitalize on the region's growing agribusiness sector and potential for farmland appreciation by acquiring land that is presently operating with low technology or used for livestock breeding. In turn, the company will seek to improve production yields, which is expected to ultimately drive a higher resale value of the land.’¹²⁷

Both Bunge and Cargill have also established asset management companies that are investing in land and productive facilities, mostly in Latin America. In 2010, Bunge established a fund that was aiming to attract more than \$100m in investment, in order to buy land for sugar and ethanol production in Brazil.¹²⁸

Secondly, ABCD companies are recipients of significant capital from the new financial institutions that are investing in agricultural production. The full extent of such investments is not clear at the moment; to ascertain the sums involved and the extent of the relationships will require a good deal of original research. A recent analysis of the involvement of German investment funds in land acquisitions throughout the least developed countries, however, documented extensive investments in all the ABCD companies. In the case of Deutsche Bank, for example, six of its agricultural asset management funds have in the order of \$200m altogether invested in ADM alone.¹²⁹

The implications of the financialization of commodity production go further than this, however, and not always to the benefit of ABCD firms. The risks are particularly evident in the case of Latin America, where a number of financial institutions are investing in commodity production in ways that pose a significant threat to the commodity traders' business model. For example, in recent years a number of private equity consortia and hedge funds have invested significant sums in the establishment of what are known as 'mega-farms' in Latin America and elsewhere, for the capital-intensive production of a range of commodities such as soybeans, corn, and cotton.

To this extent, these new companies are coming to replicate the role of the ABCD companies as originators and processors of commodities for global trade, a role that has been dominated by the established commodity traders in the past. A case in point is El Tejar, the world's largest farm company. El Tejar's majority shareholders are the London-based hedge fund Altima Partners, with 40 per cent of the equity, and the private equity company Capital Group, with 13 per cent.¹³⁰ El Tejar currently cultivates 1 million hectares of soybeans, corn, and cotton across Argentina, Brazil, and Uruguay, and has announced plans to expand production to 1.6m hectares by 2015. The company owns just 20 per cent of the land it farms and leases the rest, usually employing the landowner to plant and harvest the crops. It also outsources all of its machinery, thereby reducing its fixed costs.¹³¹

Another case in point is the Argentinian-based firm Cresud, the only farm company listed on the Buenos Aires stock exchange as well as on NASDAQ. In 2010, Cresud controlled around 650,000 hectares of land, most of which it owned, although only 100,000 hectares were used for crops and pasture.¹³² The company adopts a flexible policy towards land acquisition and use, expanding operations on some areas, developing some land for sale, and holding other tracts as a land bank.¹³³ Cresud has a 35 per cent stake in BrasilAgro, a farmland investment company listed on the Brazilian stock market.¹³⁴ Cresud has also entered into a joint venture with China's largest farming company, Heilongjiang Beidahuang Nongken Group, to buy land and farm soybeans in Latin America.¹³⁵

Chinese investment in Latin America is also growing rapidly, and reached \$15.6bn over 2010–11, a three-fold increase from the previous year. Of that amount, Brazil received about 60 per cent and Argentina close to 40 per cent, with an increasing share going to agriculture.¹³⁶ China has expressed concern about its level of dependence on ABCD companies for feed imports, indicating this as one of the drivers of Chinese investment in the sector. As one report explains:

*'... as more of its people eat meat, China is expected to increase its soybean imports, mostly for animal feed, by more than 50 percent by 2020, according to the United States Department of Agriculture. Last month, Chongqing Grains signed a \$2.5 billion agreement to produce soybeans in the Brazilian state of Bahia. Last October, a Chinese group agreed to develop about 500,000 acres of farmland in Río Negro Province in Argentina.... In Goiás State, nearly 70 percent of the soy grown went to the Chinese last year, and the Chinese are seeking to use about 20 million acres of pastureland that has not been cultivated for decades.... Farmers here say they share Chinese officials' goal of breaking the stranglehold of international trading companies like Cargill and Archer Daniels Midland...'*¹³⁷

In fact, China is so concerned about its growing dependence on the ABCD companies and the lack of control it has over prices (despite being such a large importer) that, according to Eric Brooks, industry analyst and editor of the on-line intelligence database eFeedlink, its government has initiated moves to control the market share of the commodity traders in China:

*'... much of China's oil seed crushing capacity is owned by multinational giants such as Cargill, Archer Daniel Midlands (ADM), Dreyfus and Bunge. With government worried about the latter's propensity to import much of their oil seed stock, Beijing last year imposed strict limits on additional investments by foreign-owned crushers. Hence, we do not expect them to impact either China's feed or crushing sectors in coming years.'*¹³⁸

This suggests that the share of one of the most rapidly growing markets for soybeans and other inputs to animal feed production will not expand beyond the figures indicated in Table 1 – and in fact, the market share of the ABCD companies is likely to diminish as consumption of soybeans grows.

Table 1: Market shares as a percentage of China's soy crushing sector (installed capacity) (2010)

Wilmar International	20%
China Agri-Industries (COFCO)	12%
Heilongjiang Jiusan Oil and Fat Co. Ltd	9%
Chinatex (state-owned)	9%
Cargill	7%
Noble	5%
Bunge	4%
Hopeful Grain and Oil Group Co. Ltd	4%
Shandong Bohai Industries	3%
Louis Dreyfus Commodities	2%
Others	25%

Sources: eFeedlink database, at <http://www.efeedlink.com/contents/06-30-2009/7ccbe678-6182-4641-864f-47ad1cf67a2c.html>; Reuters (2010) 'Company news: movers and shakers in China's soy crushing sector', 7 April 2010, <http://mobile.reuters.com/article/companyNews/idUSSGE63502O20100407>

Similarly, the government of South Korea has expressed concern about its growing dependence on the ABCDs, which is also likely to lead to a rethink of government import policy.¹³⁹ Coupled with the trend towards the development of 'mega-farms', backed by capital from the new financial investors, these changes are likely to have far-reaching implications for the ABCD companies.

COMPETITORS: EMERGING ASIAN TRADERS

While the four major, and long-serving, trading companies still maintain a dominant position in the world trade in grains, oilseeds, sugar, and other commodities, it is arguable that now, for the first time, they are facing a degree of competition from a number of new trading companies, most of which have only recently been established. While the names of several of these new companies, such as Wilmar International (established in 1991), Olam (1989), Sinar Mas (1962), the Noble Group (1986), COFCO (1949), and Glencore (1974) are already familiar, few observers will be aware of Gaviolon (2008), Libero (2010), Agrottrade (1989), Vitol (1966), or the United Grain Company (2009). Fewer still will be aware of the plans by countries such as South Korea and Abu Dhabi to establish alternative trading platforms on the back of their attempts to ensure their own food security by importing the foodstuffs they do not produce themselves.¹⁴⁰

Add to this the fact that a number of the established Japanese trading companies – the *sogo shosha* such as Mitsui and Marubeni – are proposing to expand their grain trading and production operations, and it can be seen that, in many respects, the ABCDs may well find their dominant position being eroded.

The origins of these more recent developments are to be found in a variety of factors, and have been noted elsewhere in this paper. For example, the rapid growth of meat consumption in the BRICs and other countries has led to the expansion of the animal feed industry and significant growth in demand for soybeans and grains that can be used as livestock feed. Much of this increased production of animal feed is occurring in Latin America, and is destined for China (which already accounts for more than half the global trade in soybeans).¹⁴¹ As already noted, China has expressed concern about the extent of its reliance on imports by the ABCD companies. In addition to policy measures to restrict their presence in its feed market, China is encouraging other, newer players such as Wilmar International and COFCO. Other import-dependent countries such as Abu Dhabi¹⁴² and South Korea¹⁴³ have also expressed concern at their dependence on imports, especially since the increases in commodity prices in 2006–08 revealed the fragile nature of their food supply chains.

As importantly, the gradual opening up of the previously under-utilized farmlands of the old Soviet Union, such as in Ukraine, is leading to greatly enhanced levels of production of grain, soybeans, and other commodities, which are being handled by newly emerging traders such as Russia's United Grain Company. In addition, new production and trading opportunities are opening up in a number of key Asian sites (including Indonesia, Malaysia, and Papua New Guinea), where production of commodities such as palm oil and sugar is rapidly expanding, resulting in cultivation on newly cleared land on a massive scale. The growth of these new suppliers of palm oil, soybeans, and grains is also having the effect of eroding, in relative terms, the dominant market position of traditional suppliers of grains and feedstock, namely Australia, Canada, and the USA, where the ABCD companies have traditionally been very strong.

Finally, there is the issue of the availability of low-cost information and data collection, and the erosion of the 'information oligopoly' of the ABCD companies. This is not just an issue associated with the development of the internet, but the fact that all innovations in communications mean that many more people, in more remote spaces, are able to access market information almost immediately, from anywhere in the world. As Richard Ferguson, a trader working with Renaissance Capital, has argued:

*'The technological shift is that the information oligopoly that previously aggregated among the dominant industry quartet, Archer Daniels Midland, Bunge, Cargill and Louis Dreyfus (ABCD), has now disseminated among a considerably wider group of participants. Knowing it was not raining in the state of Victoria in Australia, while simultaneously knowing it was raining too much in parts of Iowa, was once expensive information to obtain and control, and only the well capitalised – specifically the ABCD companies – could afford it. Aggregating this sort of information and using it to one's advantage was never going to be an option for the type of traditional farming community ... and underfunded farmers [who] have long been at the mercy of well-capitalised trading houses. However, the fact that the cost of information has declined significantly in the past 10 years means that one significant competitive advantage in the ABCD armory is no longer the weapon it was.'*¹⁴⁴

There is not the space here to consider all of the important emerging commodity traders. Instead, the focus is on a limited number of the major companies: Wilmar International, COFCO, Olam, and the Noble Group; followed by a brief discussion of a small number of the more recent players from Abu Dhabi, Korea, Japan, and Russia. In addition, the particular involvement of new companies in the biofuels sector is highlighted, as an emerging commodity area in which the traditional comparative advantage of the ABCDs is not so pronounced, and thus representing a more competitive environment.

Wilmar International

Wilmar International is based in Singapore and is Asia's leading agribusiness group. It was founded in 1991 as a palm oil trading group and is today the world's largest integrated palm-oil company, with a market value of \$35.6bn. A 2006 reorganization of the company saw the Kuok family emerge as the largest single shareholder, followed by Archer Daniels Midland. COFCO (see below) also took an initial 2 per cent shareholding, and later increased this to 5 per cent.¹⁴⁵ In 2007, Wilmar International became the largest trader of palm and lauric oils in the world, the world's largest refiner of edible oils, with 61 refineries and a capacity of 15m tonnes per year, and the world's largest palm biodiesel manufacturer. It is also one of the largest plantation companies in Indonesia and Malaysia (with landholdings of some 573,400 hectares), the largest trader and processor of edible oils and oilseeds in China, and the largest edible oil refiner in the Ukraine.¹⁴⁶

Geographically, China is the company's most important location, since it is there that some 50 per cent of its revenue is generated.¹⁴⁷ Wilmar is the largest major crusher of oilseed for animal feed, with 20 per cent of the market. Wilmar has a number of joint ventures with COFCO in oil crushing facilities,¹⁴⁸ and also a number of joint ventures with other new traders, including an investment with Olam in palm and rubber assets in Africa. In 2007, Wilmar also set up a 50/50 joint venture with Gaviion, a US grain handling company, to establish Wilmar Gaviion Pty Ltd.¹⁴⁹ This joint venture company is investing in the sourcing and distribution of a variety of feed ingredients and oils and fats. Among the first projects it undertook was the purchase of a port facility in Brisbane, Australia, for shipping grains.¹⁵⁰

Wilmar has emerged as a major player in the biofuels sector, after undertaking a significant investment programme in 2006 designed to quadruple its biodiesel capacity from 250,000 tonnes to 1,050,000 tonnes a year. The company has also entered into a number of joint venture projects with Olam International and with Elevance, an Illinois-based manufacturer of specialty chemicals from natural oils.¹⁵¹ This latter project involves the establishment of a biodiesel facility within Wilmar's new integrated manufacturing complex which is now under construction at Surabaya, Indonesia, with an eventual expected capacity of 360,000 tonnes of biofuels products.

Along with a number of other companies focusing on biofuels, such as COFCO, Bunge, and others, Wilmar International has been taking a major interest in the Australian sugar industry, which serves to demonstrate the level of competition among the new traders as they seek feedstock and other inputs for their emerging biofuels activities. In early 2011, Wilmar acquired a company called Sucrogen, which comprised the sugar and renewable energy businesses of Australia's CSR Sugar.¹⁵² Subsequently, Wilmar made a bid for another Australian sugar producer, Proserpine Sugar, but was outbid by COFCO Australia, which valued the company at A\$120m. This meant that Wilmar and COFCO found themselves in competition both for feedstock for ethanol production and for raw sugar products for the Chinese food industry.¹⁵³ Eventually, Wilmar prevailed and purchased Proserpine Sugar for A\$120m.¹⁵⁴

COFCO

COFCO was originally established in 1949, as the China National Cereals, Oils and Foodstuffs Corporation, with a monopoly over the import and export of key commodities such as fats and oils. It remains under state control, and operates as a conglomerate with operations in real estate, hotels, and financial services, as well as food and agribusiness. It is China's largest food and agribusiness company, as well as the country's largest grain trader. For the last 18 years, COFCO has ranked among *Fortune* magazine's Global Fortune 500 Companies. One of its subsidiaries, COFCO Tunhe, is among the largest tomato processing companies in the world, producing tomato paste, canned tomatoes, sauces, and other products. Another subsidiary, China Agri-Industry Holdings, is the second largest operator of oilseed crushing facilities for

animal feed products in China (after Wilmar).¹⁵⁵ COFCO also markets a wide range of branded foodstuffs, including chocolate, meat products, wine, edible oils, and more.

After operating solely within China's geographical confines for most of its existence, COFCO has recently undertaken a number of investments overseas. In 2009, for example, it acquired the US-based Maverick Food, a meat processor and a producer of small goods and frozen bakery products, from the US company Smithfield Foods. COFCO has also entered into joint venture agreements with Chinese and overseas companies, including ADM, which has a minority stake in two joint ventures through COFCO: East Bay Oils & Grains in East Bay, Guangdong province, and COFCO-ADM Heze Oils & Grains in Heze, Shandong province. Through one of its major subsidiaries, China Foods, COFCO is also seeking to make acquisitions overseas that could consolidate its wine and confectionery business, and open up new opportunities to diversify.¹⁵⁶

COFCO's investments overseas have been strongly encouraged by its recent move into biofuels production, and in particular ethanol, using cassava and sugar as feedstock. Through its specialist ethanol subsidiary, China Agri-Industry Holdings, the company has undertaken major investments in the ethanol sector, but because of the constraints on local sources of feedstock, and in particular official concerns about food security, the company has been led to source much of its requirements from neighbouring countries in the Mekong region, notably Laos. But, as noted above, COFCO has also purchased sugar production and processing capacity in Australia, most recently with its acquisition in June 2011 of full ownership of the Tully Sugar Mill (in the face of intense opposition from Bunge, which was also underwriting a rival bid by the co-operative owners of the mill).¹⁵⁷ With an annual capacity of 260,000 tonnes of raw sugar, as well as ownership of several cane farms and other real estate, Tully Sugar is one of the largest sugar companies in Australia.¹⁵⁸ Again, as noted above, COFCO was in competition with Wilmar to acquire the Proserpine Sugar, but ultimately lost out.

Olam International Limited

Olam International was established in London in 1989, but subsequently moved its headquarters to Singapore, and listed on the Singapore Stock Exchange in 2005. The largest shareholder is the KC Group, an India-based conglomerate company employing more than 12,000 people in over 54 countries. The Group, which was founded in 1860, manufactures and distributes a wide range of products, including textiles, electronic goods, and cars. It also holds 19.7 per cent of the total issued share capital of Olam. The second largest shareholder is Temasek Holdings, one of the Singapore government's sovereign wealth funds, which owns a 15.99 per cent share of Olam International.

Olam currently operates in four commodity areas: edible nuts, spices, and beans; confectionery and beverage ingredients; food staples and packaged foods; and industrial raw materials. It is the world's largest supplier of cashew nuts, robusta coffee, and sesame, and is among the three largest suppliers of cocoa, rice, and spices. It is among the world's top five suppliers of peanuts, cotton, and tropical hardwoods.

With operations across more than 60 countries, Olam has more than 13,000 employees, sources more than 20 products from over 45 origin countries and markets them to over 10,000 clients.¹⁵⁹ Olam sees itself as an effective supply chain manager which originates a range of products and adds value through processing inputs required by the global food sector. In 2010, Olam sought to merge with Louis Dreyfus, and although this particular initiative did not reach fruition, the discussions reflect the changes occurring in the global commodity trading system as a result of rapid expansion and growing competition.

Olam's involvement in biofuels is fairly recent, and its current commitment appears to be concerned mainly with establishing sources of supply for the raw materials inputs, such as palm oil and sugar. In 2007, it established a \$209m joint venture with Wilmar International, called Nauva Investments, to establish integrated palm oil, sugar, and rubber assets in Africa. In

addition, in 2010 Olam undertook a major investment of \$83m for the production of palm oil in Gabon.¹⁶⁰

Noble Group

The Noble Group was established in 1987 and is headquartered in Hong Kong and listed on the Singapore Stock Exchange. The Group derives most of its revenues from its mining and processing interests and its supply of raw materials such as iron ore. Although agriculture currently accounts for only 22 per cent of revenues,¹⁶¹ it is a fast-growing focus for the company and accounts for 38 per cent of its gross profits. In 2009, China Investment, Beijing's sovereign wealth fund, took a 15 per cent stake in Noble,¹⁶² and further joint ventures between Noble and Chinese investors are anticipated.

In terms of its involvement in biofuels, Noble is a significant processor of oilseeds and owns palm plantations, sugar farms, and other agricultural assets. In December 2010, it bought two sugar mills from Brazilian ethanol producer Grupo Cerradinho for \$950m, expanding its existing sugar crushing capacity by 84 per cent.¹⁶³ In Argentina, the Noble Group is investing \$50m in a biodiesel plant, its first investment of the kind in the country. The facility will be located in Santa Fe province and will include a port, a storage facility for grain, and a co-generation plant in addition to biodiesel production and soybean crushing facilities.¹⁶⁴

Further considerations

While the commodity crisis of 2006–08 had its greatest impact on poor people in the poorest countries, it also led to the realization by many wealthy countries that the food supply system they had long taken for granted was, in fact, not as secure as they had believed. In particular, the resource-rich, food-poor states of the Middle East became very aware of their situation, and started to seek ways in which they could secure future food supplies, in particular by using the resource wealth they had accumulated in sovereign wealth funds to acquire land overseas, and establishing state-owned and operated farms producing commodities such as beef, wheat, and sheep. A further response has been to seek to reduce their dependence by establishing their own global trading companies. Abu Dhabi is a case in point. In 2010, it established Abu Dhabi Sources (ADS), a government-owned trading house with a capital base of several hundred millions of dollars. ADS will be covering the same activities as Cargill, Louis Dreyfus, and others, by importing grains and other food commodities.¹⁶⁵ Similarly, in 2010, South Korea announced plans to establish a new grain-handling company to set up an international distribution network over a ten-year period, by investing in land and handling and storage facilities overseas. According to local economic researchers:

*'At present, South Korea is overly dependent on companies such as Cargill, ADM, Louis Dreyfus LCD and Bunge that control the global grain market. A recent report by the Korea Rural Economic Institute (KREI) claimed the country often paid more for grain purchased through such companies than it would have if [it] bought products on the open market.'*¹⁶⁶

In addition, the established Japanese trading houses, the *sogo shosha*, have significantly expanded their role in recent years, in part to secure domestic supplies and in part to increase their role in food exports throughout Asia.¹⁶⁷

While the new emerging traders will have a major battle on their hands to compete effectively with the ABCDs, there is little doubt that some of the larger companies – and especially those with extensive experience and a global reach such as the *sogo shosha* – will be very effective performers. At the same time, the established companies will not stand still, and already there is evidence that they are diversifying by extending their reach further along the agri-food supply chain. According to one researcher:

*'Not only has there been a proliferation of corporate farming as the traditional family farm ownership structure has declined, but commodity trading houses – the old middlemen – are buying first and second stage food processors such as flour mills, maltsters, stockfeed millers and sugar refineries.'*¹⁶⁸

In addition, the future may belong to those commodities traders who are able to expand geographically, especially into key food-producing countries.¹⁶⁹

NEW PRODUCTS: THE ABCDS AND BIOFUELS

All of the ABCD companies are, to varying degrees, engaged in the biofuels sector, but none to the same extent as ADM.

Archer Daniels Midland

ADM has been involved in ethanol production for many years, ever since the USA began to produce large surpluses of grains in the 1970s.¹⁷⁰ Since that time, ADM has been involved in intense lobbying of US politicians for subsidies and incentives for ethanol production. It is the largest beneficiary of US government subsidies to the ethanol industry, for example in 2007 receiving an estimated \$1.3bn of the more than \$2bn in government support to ethanol production.¹⁷¹

ADM is the largest of the corn ethanol manufacturers in the USA, and in 2010 it had a production capacity of 1.8bn gallons at seven large plants in Illinois, North Dakota, Iowa, Minnesota, and Nebraska.¹⁷² ADM accounts for about one-fifth of the US ethanol supply and (subsidies apart) this commodity was the largest single contributor to its profits in 2007, accounting for 19 per cent of profits and 7 per cent of sales.¹⁷³ The company also has biodiesel operations in Missouri and North Dakota, as well as in Germany, Brazil, India, and Indonesia, producing a total of 450m gallons per annum.¹⁷⁴

ADM in Brazil

ADM established its initial operations in Brazil in 1997, when it purchased a number of soybean processing plants in Rondonópolis, Campo Grande, Joaçaba, Três Passos, and Paranaguá. Since then the company has expanded into fertilizer, meat, and oil production. It is Brazil's largest domestic meal supplier, the largest soybean meal exporter, the second largest exporter of soybeans, the second largest soybean crusher, and the second largest producer of bottled oil, with 21 per cent of Brazil's bottled oil market. Overall, ADM is the Brazilian economy's fifth largest exporter.¹⁷⁵

In 2007, the company began biodiesel production in Rondonópolis, using soybeans as feedstock. It expanded its biodiesel operations in 2011 with the construction of a second biodiesel plant in Joaçaba, with a production capacity of 164,000 tonnes per annum, which will bring its total biodiesel production capacity to 246,000 tonnes per year.¹⁷⁶ In 2008, ADM also became involved in ethanol production in Brazil, when it acquired part-ownership of the Limeira do Oeste ethanol mill in a joint venture with Canaa, a company controlled by former Agriculture Minister Antonio Cabrera. In 2011, ADM purchased the remaining 51 per cent of the mill, making it the plant's sole owner. It seems clear from this that ADM is not only the largest ethanol producer in the world's largest ethanol market, but that it is also seeking a major position in the world's second largest market.¹⁷⁷

In February 2011, ADM announced plans to invest also in palm oil production in Brazil, in order to add to its feedstock sources in the production of biodiesel. From 2013, over a period of five years, the company plans to bring some 12,000 hectares of land in the state of Pará into palm oil production and to construct a processing plant near São Domingos do Capim, 100 miles east

of Belém, the state capital. The company claims that its membership of the Roundtable on Sustainable Palm Oil (RSPO) ties in with Brazil's Social Fuel Stamp programme, which, it says, '... provides incentives for biodiesel producers to purchase feedstock from small family farms. As part of this program, ADM will contract with approximately 600 family farms for 6,000 hectares of palm production and provide them with technical assistance focused on sustainable agricultural practices.'¹⁷⁸

ADM, Indonesia, and Wilmar International

ADM has long been involved in Indonesia, mainly in the sourcing of cocoa beans, which are shipped to Singapore and the Americas for processing. However, in recent years, ADM has become more closely involved through its strategic interest in the Singapore-listed Wilmar International Limited, Asia's agribusiness group (see section on 'Competitors' above). When Wilmar was publicly listed in 2006, ADM acquired a 16.4 per cent ownership interest, and it is mainly through this company that ADM operates in Asia. Wilmar operates over 80 crushing, refining, and packaging facilities producing protein meal, edible oils, and flours, primarily in China and Indonesia. Wilmar also operates ten palm oil plantations in the wider Asia region. Wilmar is a supplier of palm and lauric oils to ADM, while ADM is a strategic supplier of soybeans and other products to Wilmar.¹⁷⁹ In 2007 ADM announced plans to open a biodiesel plant in Indonesia with Wilmar International Ltd., but it is not clear whether this will happen.¹⁸⁰

Cargill

Cargill claims that, because of its diversified production profile and its major commitment to food production and distribution, it is taking a cautious approach to biofuels, and is maintaining its diversified structure in which food is its primary interest. Despite this, the company is a significant producer of ethanol and biodiesel in the USA, investing \$1bn in total in ethanol and biodiesel production. It owns corn ethanol production plants in Iowa, Nebraska, and Missouri, as well as biofuels assets in Europe, Brazil, and Argentina, among other places. In April 2011 it acquired Tate & Lyle's corn wet mill ethanol plant in Fort Dodge, Iowa. The plant processes 150,000 bushels of corn a day, and has an ethanol production capacity of 115m gallons a year, bringing Cargill's total ethanol production capacity to 235m gallons of ethanol annually.¹⁸¹

Cargill has other investments in biofuels companies, both in the USA and elsewhere. They include Virent Energy, a biofuel start-up company which was originally funded through Cargill Venture, the company's venture capital arm. It has since become the responsibility of Black River Asset Management, Cargill's investment management firm. Virent Energy Systems continues to attract investment capital from Cargill and other large energy companies; for example, in 2010 the company announced that it had secured \$46.4m in funding from Shell and Cargill in order to speed up its research programme.¹⁸² In 2006, Cargill also took a 25 per cent stake in the UK's Greenergy Biofuels, a company with sales of nearly £2bn and over 50 per cent of the UK biofuels markets. Its clients include the Tesco supermarket chain, which now offers biofuel blends at more than 40 per cent of its petrol stations, as well as major oil companies, bus companies, haulage companies, distribution companies, and fleet end-users.¹⁸³ Other joint ventures with start-up companies include Gevo, Elevance (which also has a joint venture with Wilmar),¹⁸⁴ Agravis Raiffeisen AG, which involves a 200,000-tonne biodiesel plant and an oilseed crushing plant in Mainz, Germany, and the Vanden Avenne Group of Belgium, which involves a 250,000-tonne biodiesel plant in Ghent.¹⁸⁵

Cargill is also a major investor in ethanol and biodiesel production in Brazil. It operates an ethanol terminal and two sugar-cane mills in Santos, São Paulo state, and in 2011 entered into a joint venture with the Brazilian group Usina São João, to invest in sugar, ethanol, and electricity production.¹⁸⁶

Cargill has major investments in biodiesel in Argentina, including the company's largest soybean processing facility in the world, at Villa Gobernador Gálvez, where it has invested

\$112m in an 18MW energy co-generation facility and soybean biodiesel plant that can produce over 200,000 tonnes per year.¹⁸⁷

Bunge

The main role of Bunge in the North American biofuels sector appears to be that of a supplier of inputs to strategic partners with whom it has established relationships. As an originator of corn, and with its infrastructure in the form of elevators in the mid-Western states of the USA, Bunge is a major supplier to ethanol production facilities across North America. In addition, as a major player in the soy/canola crushing industry, Bunge Oilseed Processing is a key supplier of vegetable oil to the biodiesel industry. Typical of its strategic partnership arrangements is the relationship that Bunge has with the Renewable Energy Group (REG) of Iowa. REG is a major biodiesel production company with numerous biodiesel production plants in operation throughout the USA. Bunge has a minority stake in REG, and is a supplier of raw materials to the company. It also provides risk management and logistics expertise to assist with the growth and expansion of REG, including the co-location of Bunge oilseed processing facilities with REG biodiesel production facilities.

Bunge is more directly involved in the ownership of production facilities outside of the USA, and particularly in Brazil. Since 2008, Bunge has invested approximately \$3bn to acquire, build and expand its current sugarcane operation. This figure includes the acquisitions of Moema, Santa Juliana and the Monteverde Agroenergetica mill at Ponta Porã as well as the construction of the Pedro Afonso Acucar e Bioenergia plant. The acquisition of Moema in 2009 made Bunge the third largest ethanol producer in Brazil, after Cosan and Louis Dreyfus.¹⁸⁸ Bunge intends to invest another \$2.5bn in coming years, and anticipates having a 30m tonnes crushing capacity by 2017. This expansion was supplemented by the establishment in May 2010 of a \$100m investment fund that would be dedicated to agricultural land investments in Brazil. The company was targeting a variety of crops, but the main focus was on sugar cane production.¹⁸⁹

Louis Dreyfus

Louis Dreyfus has two oilseed crushing plants processing soybeans and canola in Indiana (USA) and Saskatchewan (Canada), two corn-to-ethanol plants in Nebraska and Iowa, and fruit processing and packing plants in Florida. In Argentina the company has a major presence in oilseed processing, while in Asia its main focus is on oilseed processing in China and soybean and palm oil in India.

It is the company's strong position in sugar, however, that makes Louis Dreyfus a major player in the biofuels market. In overall terms, the company has a crushing capacity of 40m tonnes of sugar cane annually, and it operates 329,000 hectares of sugarcane plantations, with an annual production of approximately 2.8m tons of sugar and 1.5m cubic metres of ethanol.¹⁹⁰ Most of this capacity is concentrated in its Brazilian subsidiary, Biosev, which operates 13 processing units and produces approximately 5m tons of sucrose per year for domestic and overseas markets.¹⁹¹

Dreyfus has also recently undertaken major investments in the biodiesel sector in Europe and elsewhere. In 2007, the company opened the largest fully integrated soybean processing and biodiesel plant in the USA, at Claypool, Indiana, with an annual capacity of 88m gallons of biodiesel, produced from 1m tons of soybeans. In 2009, it acquired a 200,000-tonne-per-year refinery for biodiesel in Wittenberg in Germany, one of the largest of its kind in the world. In 2011, Dreyfus also announced plans to expand biodiesel production in Argentina, with an investment of \$40m in a 300,000-ton-per-year plant in the Rosario region, which is designed to utilise the feedstock it already produces in the region.

Two issues of concern related to biofuels

There are many issues raised by the expansion of biofuels production in recent years, including debates on how much of an environmental contribution biofuels actually make and the ethical challenges posed by continued reliance upon fossil fuels (which industrial biofuels perpetuate) and the many social, economic, and political issues posed by dependence on private vehicles and continuing urban expansion. Two issues stand out for greater consideration: the debate over 'food versus fuel' and the impact of biofuel production on access to land and forest resources.

i) Food versus fuel

The debate around the issue of food versus fuel came into sharp focus with the steep increases in commodity prices between 2006 and 2008. Among the explanations for this was the increased use of products such as maize and soybeans for biofuels production, in part the result of government policies in Europe and the USA. Initially, a number of organizations attempted to quantify the contribution of biofuels to the overall increase in commodity prices over the period 2006–08. The numbers ranged from 70 per cent of the price increase (one World Bank study) to 3 per cent (USDA estimates). IFPRI's more middle-of-the-road guess of 30 per cent gained perhaps the most credence.¹⁹²

Despite the widely varying figures, there is no longer much debate about the fact that industrial biofuels created a demand shock that was significant. Moreover, the nature of the demand for biofuels (steady amounts of feedstock, 365 days a year) and the purchasing power of the customers involved have changed the relative bargaining power of various consumers against the interests of poor people (with weak purchasing power and relatively elastic demand because of price sensitivities) and in favour of the rich (who drive cars and are worried about fuel emissions). The G20 summit of Agriculture Ministers made it clear that there is strong political reluctance among powerful countries to address the concern that industrial biofuels production, with or without government mandates, is pressuring an already dangerously low global food supply.¹⁹³ But the evidence is hardly debated any more: with or without consensus on the extent of the impact of industrial biofuels production on food prices, it seems clear that biofuels production will require some degree of regulation, if only in anticipation of times of scarcity, which seem only too likely to lie ahead. If (as Oxfam has calculated) a 1 per cent increase in food prices means 16 million more people living with hunger, then even a modest supposition that biofuels have increased prices by 5 per cent implies that they have added 80 million people to the almost one billion estimated to face chronic hunger.¹⁹⁴

ii) Access to land and forest resources

The issue of the impact of biofuels on access to land, and the threat to the livelihoods of people who depend upon forest resources, has been widely discussed, and hotly contested. Many companies have been accused of jeopardizing the rainforests of Indonesia, Malaysia, Papua New Guinea, Gabon, the Democratic Republic of Congo and other West African states, and of Brazil in particular.

Cargill is among the companies that have been identified as having contributed to the destruction of forests in the production of soybean and other commodities. In 2003, Cargill was accused of unlawfully constructing a soy handling facility at Santarem, in the state of Pará in Brazil. According to Greenpeace International, with the completion of this facility, land prices for the production of soybeans soared and the rate of deforestation accelerated.¹⁹⁵

In 2006, however, following sustained pressure from Greenpeace, Cargill¹⁹⁶ and other soy processors adopted a 'Soy Moratorium'. The moratorium committed the companies not to buy soybeans from lands in the Amazon that had been deforested since 2006. Some 150 soy farms are now reportedly operating under this moratorium and since 2006 less than 1 per cent of deforestation in the Amazon Biome has been attributed to soy farming.¹⁹⁷

Yet problems remain. Not all producers operate within the existing protocols. And production takes place on land that could otherwise produce food, forcing a debate on the relative merits of soybean cultivation versus the cultivation of food crops.¹⁹⁸ Just as importantly, the Brazilian forest code was recently changed, and a broad amnesty of deforestation fines was granted to farmers who illegally deforested until 2008. These amendments would dispense with elements of the soy moratorium, and would open more land for possible cultivation.

In addition, there are concerns that the moratorium in the Amazon is increasing pressure on other regions of Brazil. Soy expansion in the Cerrado has led to deforestation and displacement, for example. There are also proposals to greatly expand the area of land under cultivation to palm oil, including ADM's planned investment already discussed. The biofuels subsidiary of the state-owned oil company Petrobras – Petrobras Biocombustível – is planting some 6,000 hectares to palm oil, with plans to expand this to 74,000 hectares. There are also reported to be proposals to eventually commit 13m acres of 'abandoned and degraded agricultural areas' to palm oil cultivation.¹⁹⁹

The final – and perhaps most significant – challenge comes from the emergence of the 'mega-farms', discussed in the section above on the financialization of agricultural production. These are primarily emerging in South America, especially in Brazil, Argentina, and Uruguay. These operations are devoted to the production of a number of commodities, including soybeans and palm oil, using land that was already under cultivation and virgin land. These mega-farms, sometimes extending over millions of acres, are created by large financial institutions – for example, European hedge funds and private equity consortia – operating without the scrutiny and the accountability required of public companies. Under these conditions, the production of biofuels feedstock is part of a system that raises significant issues in terms of global food security.

The exact nature of the relationship between the development of such mega-farms and the ABCD companies is as yet unclear. ADM and Louis Dreyfus are currently acquiring land for their own operations, but not on the scale of the 'mega-farmers' such as El Tejar, the world's largest farm operator. Despite this, opportunities may exist in the future for ABCD involvement, especially given that El Tejar, for example, is planning to offer shares through an initial public offering (IPO) in 2013. It will be interesting to see who purchases a shareholding should this IPO occur; it is possible that any one – or more – of the ABCD companies would see this as an opportunity to maintain their dominance in soybean production in Latin America.²⁰⁰

TRADERS AND DEVELOPING COUNTRY AGRICULTURE

Somehow the very term 'financialization', hard to understand and hard to explain, captures something of how remote the world of high commodity finance is from the reality of the vast majority of those who earn their living from agriculture, particularly those in the developing world. For smallholder producers, who make up some 70 per cent of the agricultural world, worries include how to protect and increase soil fertility; how to ensure reliable seeds; where to get credit for the season's planting; whether the rains will come; where to store the harvest so as to avoid the low prices at harvest time. Guessing at the political mood in Russia or what changes the Dodd-Frank legislation might bring, let alone which way the rouble or the yuan will move against the dollar, are not factors.

Yet both the increased presence of financial investors as owners and operators of farms (the financialization of production) in a number of developing countries and the significantly increased activity of speculators and investors in commodity exchange markets (the financialization of price formation and risk management) affect the context in which smallholders operate. First, the financialization of production has brought new competitors for land, and to

date the summary of the evidence is quite negative, particularly from the perspective of smallholders and rural labourers (which are overlapping categories). The reviews of foreign investment in land continue to be overwhelmingly negative, summed up at recent academic conferences²⁰¹ and in the press.²⁰² There is some potential for positive outcomes, but little seems to be realized.

Historically, the ABCD companies have avoided owning land and production, though they do contract with producers and, as demand patterns change, so does the cost/benefit assessment of owning production. For example, biofuels production creates a predictable demand for feedstock that can make owning sources of production more interesting. In addition, the public stocks that dominated so much of the post-war period in crops such as wheat and maize have now been eliminated, creating new interest in private stock-holding, although for different reasons from the public stocks, and governed by different assumptions and needs.

Financialization also affects the possibilities for smallholders to organize and benefit from new commercial opportunities, whether in their domestic markets (particularly if they live in an emerging economy, such as Russia or China) or in international trade. Whether or not the ABCDs are present in a country, their actions, their interactions with other firms, their influence on government decision making (at the national and multilateral levels), and their decisions on what, when, and how much to sell all affect the markets in which a growing number of smallholders operate, and in which a growing number of smallholders must compete.

Building a picture of how the relationship works takes time. The ABCDs' presence in most developing countries is not well documented and often not particularly obvious, because the firms work with local counterparts or use a business with a different name. It is very difficult to move from the specific instances and examples to more generalized conclusions because of the variety of experiences and contexts from which to draw.

John Wilkinson, associate professor at the Rural Federal University, Rio de Janeiro, has tracked multinationals in the food system for a long time, and has written up some of the history of their role in Brazil.²⁰³ His analysis suggests an approach that might inform case studies in other countries, describing an evolution of the role of foreign agri-business in Brazil's food and agriculture economy that surely has echoes elsewhere. Brazil is of course atypical, in that it is a very large, relatively rich developing country unusually well endowed with arable land. It is an agricultural powerhouse – one of only a half-dozen or so around the world, in either the North or the South. On the other hand, Dr. Wilkinson points to trends and raises concerns that could fruitfully be explored in other contexts. Note that this is not about the ABCDs in particular. Rather, it is about the context in which the ABCDs are working. In Brazil, each of the big four is a dominant presence; elsewhere, only one or two of the four may be present or, in the smallest countries, none. An overview of Mozambique is integrated into his narrative, to offer a counterpoint that provides some insight into the differences and similarities that can be expected among countries.

For much of the post-World War II period²⁰⁴ until the 1980s, agriculture was dominated by state-owned or state-mandated agri-business operations. The state played a significant role in agriculture, through commodity boards (often with monopoly powers), government-run stores, programmes to provide (or sell) inputs, extension services, and more. The law largely kept foreign investors out, although in some countries the former colonial powers kept an important stake in the export sector. If the ABCDs or other multinational agri-business was present, it is in what Wilkinson characterizes as enclaves – a plantation, for example, growing tea or fruit or rubber. In an enclave, production is entirely for export and the impact on the local food economy is limited.

The 1980s saw a wave of political and policy change that limited the state's role, privatized state companies, ended state monopolies, increased trade, and loosened investment rules. Increased private sector activity was encouraged, and where circumstances allowed (and were financially attractive), foreign companies increased their presence in the global South.

Independent, voluntary farmers' organizations emerged (in the case of Mozambique, the União Nacional de Camponeses, or UNAC), reflecting greater political openness in some countries. Many of the previous regimes had discouraged or banned organization by independent citizens, including independent trade unions or peasant organizations.

UNCTAD's generalized assessment of the economic changes in this period records that a flurry of private sector activity, much of it by domestic firms, tended to settle out over a few years leaving a dominant firm in place, usually foreign, with varying levels of domestic private sector firm activity in the margins.²⁰⁵

*'Among other things, it is found that in response to declining margins in international trade, international commodity trading houses, which account for a major part of international trade, have become fewer, bigger and more diversified across the range of commodities, and more vertically integrated upstream to the farmers' level and downstream in transport and processing. Although ultimately this makes local markets more efficient, local farmers and traders are often poorly equipped to deal on an equal footing with these large trading houses, particularly after the abolition of state marketing boards in many countries. Stimulating at a national level the same developments which have reduced margins in international trade (namely widening access to information and growing efficiency of markets, including for credit provision) would partly allow this imbalance to be redressed.'*²⁰⁶

At the multilateral level, this trend towards increased private sector activity and away from state control was encouraged and reinforced by the Uruguay Round Agreements. TRIPS, for example, transformed multinational capital's interest – and possible profits – in the seed sector, while the abolition of variable levies and quantitative import restrictions made the exporters' business more predictable. The conditionalities imposed by structural adjustment policies and successor World Bank and IMF lending policies, as well as donor conditions on official development assistance (ODA), also underlay the policy shift. The international donor community encouraged developing countries to focus on exports, which for many meant agricultural commodity exports. Less discussed, but a necessary corollary of this policy under the Uruguay Round framework, was increased reliance on imports as well. The Uruguay Round agreement bound all but least developed countries (LDCs) to reduce their tariffs, and even LDCs were required to bind their tariffs to prevent any increase in the future. The growth in trade, both in imports and exports, created new opportunities for the ABCDs to expand.

For smallholders, the shift away from state control was often welcome, for the gains in both political and economic freedom that it implied. Yet the change came at a price: competition with imports in local markets. Too often, these imports were dumped, their price affected by subsidies, or the economic power of the largest traders, or by the simple logic that rich consumers paid enough for one part of the product to underwrite the cost of the whole (such as the unwanted dark chicken meat once all the white meat was sold).²⁰⁷ Foreign multinationals found a place on both the import and the export side, obviously favourably positioned to play a dominant role in this trade,²⁰⁸ with the ABCDs – and their rivals – particularly active in the cereals sector. For example, when Zimbabwe proposed to privatize its maize marketing board in 1998, Glencore put in a bid to buy it. At the time, the local press claimed that Glencore controlled 90 per cent of the maize trade that crossed a border in southern Africa (though it would seem that Cargill and Dreyfus, among others, are now significant players, if they were not at that time).²⁰⁹

One outcome was rising food import bills. In 2000, developing countries shifted as a group from being net food exporters to net food importers. LDC dependence on food imports was especially marked. In a 2011 policy brief, UNCTAD noted that the LDCs' food import bill rose from \$9bn in 2002 to \$24bn in 2008. Higher prices, a weaker dollar, and growing demand are all part of that shift, but the 2.5-fold increase over just six years is nonetheless enormous. The LDCs are not importing processed food for an urban middle class, by and large. They are buying staple foods, in international markets that are heavily dominated by the ABCDs.²¹⁰

Trade policies are strongly linked to the question of market opportunities. Where they pronounce an opinion (and they have been more vocal on proposed recent financial regulations than they have been on the trade negotiations since the Uruguay Round Agreement on Agriculture (AoA) was signed), the ABCDs are ardent 'free traders'. The Uruguay Round Agreement on Agriculture (and the domestic agricultural reforms that were linked to it, including the 1996 Farm Bill in the USA and the 1992 McSharry reforms of the Common Agricultural Policy (CAP) in the EU) reflected a strong promotion of the idea that what was good for the ABCDs was good for world agriculture. The ABCDs' interests might be summarized as the elimination or curtailment of public programmes that gave governments control of borders. There was no concomitant constraint in the AoA rules on *de facto* private monopolies or oligopolies created by the market power of the biggest traders.

Trade was not the only driver of change. Towards the end of the 1990s and into the 2000s, as restrictions on how much foreign money could be invested, and in which sectors, were relaxed in most countries around the world, foreign direct investment came to play an important part as well. The ABCDs were active on this front – buying and building grain terminals, for example, as Brazilian exports began their tremendous expansion, or investing in processing sectors, to make feed, or run livestock operations, or to manufacture biofuels (see section on the ABCDs and biofuels, above).

The companies that attracted the most attention at this point (in the early 2000s) were the retailers – Wal-Mart, Carrefour, Ahold, and Tesco. The dramatic expansion and consolidation in the retailing of food was at the forefront of a transformation not just in where consumers bought food, but also what kind of food they bought. The shift brought globalized food systems into many developing countries, where, until then, global commodity markets and local food markets had co-existed, albeit uneasily, in largely separate realms.

The emergence of a food distribution system dominated by supermarkets created demand for standardized production of a kind that works well for the ABCDs. With their scale of operations and global reach, the ABCD companies are well placed to service a food industry built on centralized distribution centres, large-volume turnover, and standardized offerings. While the food on the supermarket shelf is unlikely to come from the ABCD traders themselves (as discussed in Part 1, they have very few brand-name products on the market), they are essential suppliers to the companies whose products are there (Unilever, Nestlé, Kraft, and others).

The concentration of market power among retailers and their expansion into developing countries brought three big changes, with implications both for the ABCDs and for smallholders.²¹¹ One change was a move from public to private standards, the most prominent of which is probably the standards managed by GlobalGAP,²¹² but there are countless other examples, including those created by the Fair Trade movement, such as FLO (the Fairtrade Labelling Organizations). Without a brand name in the public eye, and arguably with their dominance of many of the sectors where they operate, the need of the ABCDs for the recognition that a label might confer is limited. Although agriculture is one of the sectors explored in the work of John Ruggie, Special Representative of the Secretary-General on the issue of human rights and transnational corporations and other business enterprises, the ABCDs did not engage in that process.²¹³

A second change is the move away from spot prices at different stages of the value chain to vertical integration with contracted producers. This plays directly into the interests of larger consolidated firms such as the ABCDs because it makes competition difficult for any smaller firm that specializes in one part of the value chain. It also reduces price discovery (see Part 1) and makes it harder to control the potential abuse of practices such as transfer pricing (see section below on transfer pricing). Open price discovery is a fundamental pre-condition for open markets.

The third change is a move away from local sourcing to using national, regional, and global networks.²¹⁴ Some smallholders get into these larger networks and find new markets. Most do

not.²¹⁵ Among the UN agencies, UNEP, UNCTAD, FAO, IFAD, IFPRI, and others have looked at the problems, as did the 2008 *World Development Report* (WDR) on agriculture. There are important success stories, but they are outnumbered by stories of exclusion and marginalization. The experience in Mozambique is not atypical: farmers in contract arrangements are better off than farmers who have no contract, but the farmers who are contracted have very little bargaining power and must more or less take the terms offered by the buyers.²¹⁶

A gender-disaggregated approach is also important, since women and men experience changes differently. As happened with the globalization of manufacturing jobs,²¹⁷ the FDI linked to agriculture has created new opportunities for women farmers and women workers that traditional practice excluded.²¹⁸ However, this does not mean that legal, economic, and cultural discrimination are not still huge hurdles to realizing women's economic empowerment. The systematic discrimination against girls and women in education, access to credit, access to extension services, and access to employment (especially at equal wages) all work against women's ability to take advantage of new opportunities.

There are sometimes unexpected (but overlooked) dynamic effects, including the benefits of higher prices for non-traditional crops decreasing supplies of staples, and thereby raising prices to the benefit of smaller growers (who are less likely to have the capital to move to a non-traditional crop), and raising wages for agricultural work, which is an important income stream for many smallholder producers (not to mention the landless rural poor). The ABCD firms' role in this merits a closer look. Clearly some of the big traders, for example Olam in Mozambique's cotton sector, are playing a significant role that must have spill-over effects in the wider rural economy.

Another dynamic effect is to change diets, a process that is termed 'the nutrition transition' in much of the literature. As countries industrialize, a significant share of the population moves away from traditional diets to eat more meat, more fats and sugars, and more processed foods, in general. Again, the ABCDs and other emerging traders are well placed to take advantage of these changes, sitting upstream from the processing companies and supplying their needs. In some cases, as the discussion of China's unwillingness to be so dependent on the ABCDs for feed for their expanding livestock industry shows, the new business may bring its own complications for the dominant traders, generating new competitors along with new demand.

In this transition, the role of enclave agriculture in the South does persist. In Mozambique, for example, FDI is growing in the fresh produce sector, but the growth is taking place in special tax-exempt zones, with a significant number of foreign employees, imported equipment, and foreign banking services.²¹⁹ Production on some of the foreign-owned and operated farms can also be considered as enclaves, for instance in the production of food in eastern Africa for the Gulf States.

The literature that documents the changes in food systems allows some tentative conclusions to be drawn on the role and implications for the ABCD companies, but little deals explicitly, or even extensively, with the ABCDs. These firms do not have their own distinct form of relationships with smallholders apart from other companies in the sector – they adapt to local contexts, work within the law (mostly) but do not improve on it, and usually operate with local subsidiaries or in joint ventures. In many developing countries, the institutional failures (lack of regulations and laws, failure to implement existing regulations and law, unaccountable officials) affect not only the traders but also local firms. The question of how to think about the ABCDs with a view to improving existing outcomes is revisited in the final section of this report.

One clear need for national-level work for NGOs such as Oxfam and their partners is for more information. There is a series of areas that can be studied at the national or sub-national level that may offer some insight into how to understand and approach the ABCDs in a national context. Some of the issues that should be considered include:

Land issues: The move towards globalization has meant changes to domestic law, which had, in many cases, limited foreign ownership. When such laws have been relaxed or abandoned, smallholders have found themselves facing new competition for the land. Systems of communal land holdings have often been eroded or abolished by the push to establish property rights, with sometimes negative consequences for those who are relatively powerless. The whole question of 'waste land' or empty land provides a window on these issues: biofuels producers argue that there is plenty of fertile land that goes to waste in the South, but they do not see, for instance, the importance of uncultivated foods in many rural people's diets, or the need for pastoralists to have access to land to graze livestock. The ABCD companies are involved in the big push for foreign investors to own or lease land in the South, although they are not among the big players.

Employment: Historically, the ABCDs have not generally been involved in contracting smallholders. However, this might be changing – with the emergence of biofuels, for example, and where value chains such as cotton and coffee are moving in that direction. Mozambique offers the example of cotton producers contracted by Olam. In February 2012, Cargill announced a four-year commitment to train cocoa growers in Ghana.²²⁰ ADM sources cocoa in Asia, and both Cargill and ADM source palm oil from smallholders in Malaysia and Indonesia.²²¹ Typically, the production of bulk commodities did not require contracts because the buyer did not need to distinguish among producers, except to ensure that some basic quality standards were met. As coffee, chocolate, and some other products have become more specialized, the pressure on buyers to contract with growers, and to invest in their quality management, has grown.

Market opportunities: The emergence of a large, industrialized agricultural sector sometimes creates opportunities for smallholders who would not survive otherwise. For example, up to 40 per cent of Indonesia's palm oil is supplied by smallholder producers, but the capital investment in processing and export arises from the 60 per cent of the crop produced on large plantations. The ABCDs are big investors in the palm oil sector, shaping the market in which smallholders operate. There are costs and benefits of this model that need case-by-case consideration. Private standards shape the potential opportunities, and again there is a significant literature on the problems (and in some circumstances, the opportunities) that such standards create for smallholders.

It might seem distant from the world of smallholders in much of the global South, but it is also worth thinking about the experience of voluntary farmer co-operatives, and farmer-driven state trading enterprises, such as the Australian and Canadian Wheat Boards. The USA has a number of farmer co-operatives that grew to a significant scale, but most of the biggest grain co-operatives moved into alliances with ADM during the 1990s, as the industry underwent significant consolidation, and vertical integration became an operational necessity. Other co-operatives, such as the Land O'Lakes dairy co-operative, went a different route: Land O'Lakes turned into a global company in its own right, creating shareholders out of its farmer-owners, but no longer focused on selling its farmer members' milk. Meanwhile, the wheat boards have drawn significant political fire from the ABCDs, and to some effect. Australia completed the privatization of its wheat board in 2001, instituting a process of gradual change. In December 2010, Cargill Australia announced that it had bought the AWB Ltd commodity business that had emerged from the privatization. In May 2011, the Australian government gave final approval for the deal. In Canada, the federal government has brought in legislation to revoke the Canadian Wheat Board's single desk monopoly. In March 2012, Glencore announced its bid to buy Viterra, formerly the Saskatchewan Wheat Pool and today one of Canada's largest agriculture firms, though this still needs to be passed by a Viterra shareholder meeting and by the government.²²² Glencore, which has announced that its North American headquarters will move to Regina, Canada, has thereby positioned itself for a piece of the CWB's sizeable grain export business. The experience suggests that while some farmer co-operatives may succeed in creating and protecting market share for their members, it is very difficult for a business that focuses on one part of the value chain, and which seeks to answer to a membership of

producers, to compete with the ABCD traders under the rules of globalized trade and investment.

Input dependence: From the changing food system emerges demand for different crops and different production systems. One of the big pressures (financed by private and public investment) is to industrialize production, which implies significant demands on fresh water, often the use of imported seeds and fertilizers and pesticides, higher energy use, greater need for credit, etc. This kind of dependence needs careful evaluation, from the perspectives of political voice and smallholder agency, the financial viability of the intervention, and ecological sustainability. Many of the technologies and inputs involved in industrial production systems, as well as the terms on which crops are bought, are controlled by a small number of multinational TNCs – sometimes the ABCDs, sometimes others. Resistance to the use of biotechnology rests in part with the private monopoly on knowledge that TRIPS has granted to the few companies that dominate the sector (Monsanto, DuPont, and Syngenta) and the conditions that these companies impose on the farmers who buy their seeds. The ABCDs have not directly engaged in selling genetically engineered (GE) technologies, but Cargill sold its US seed business to Monsanto some ten years ago, and this was widely seen as being a move to integrate GE production into Cargill's vertically integrated supply chain. The ABCDs have lobbied hard, and quite openly, against any attempt to segregate GE from non-GE crops, insisting that they cannot afford the special handling required.

A NOTE ON THE ABCDS AND TRANSFER PRICING

Transfer pricing is one of the ways that multinational companies can sometimes avoid paying their tax liabilities in the countries where they operate. There are many definitions of transfer pricing. The simplest is 'the price at which one unit of a firm sells goods or services to another unit of the same firm'.²²³ There are two reasons for transfer pricing. Firstly, it may be used to evaluate the financial performance of different 'profit centres' within a corporation that operate across geographical boundaries or economic sectors. Secondly, transfer pricing can be used to shift earnings from a high-tax jurisdiction to a low-tax one, to reduce the company's tax bill. The first instance of transfer pricing is usually accepted by tax authorities and governments as legitimate, while the second is seen as dubious at best, and in many countries is illegal.

Member states of the OECD first engaged on transfer pricing in the 1970s, as multinational corporations began to exercise the powers that came with the organization of production and consumption at the global level. Work by Vaitos²²⁴ and others revealed that multinational firms were able to extract large sums from less developed countries through overpricing or underpricing on invoices for inputs supplied by a parent company to a subsidiary. Since the 1970s, transfer pricing has been continually monitored by the OECD, and there are now guidelines regulating the practice.²²⁵ The guiding principle for the OECD is the 'arm's length' principle, which uses an understanding of the (market-based) relationships that might exist between two entities that are not part of the same larger entity as a point of comparison to assess intra-firm behaviour. Article 9 of the OECD Model Tax Convention states:

*[Where] conditions are made or imposed between the two [associated] enterprises in their commercial or financial relations which differ from those which would be made between independent enterprises, then any profits which would, but for those conditions, have accrued to one of the enterprises, but, by reason of those conditions, have not so accrued, may be included in the profits of that enterprise and taxed accordingly.*²²⁶

Transfer pricing is not necessarily illegal, and is considered by many business organizations to be a necessary component in their operations. Transfer pricing between units is important as a market signal to inform managers where to expand, what risks are likely, and how they can best

be managed.²²⁷ However, transfer pricing is easily abused. Nowhere does the law allow outright deception. In such cases there is a clear intent to avoid tax, which is illegal.²²⁸

In recent years, there has been renewed interest on the part of national governments in the regulation of transfer pricing,²²⁹ resulting in a proliferation of court cases as multinational companies have sought to test the legality of new laws. Of course, trying to track instances of transfer pricing is difficult, for the obvious reasons that intra-company transactions are not usually transparent. Issues of transfer pricing, therefore, tend to move into the public arena only when governments move against corporations, usually through the legal system or by gaining access to a company's records. The ABCD companies have been the object of both approaches on a number of occasions. In 2009, for example, the Indian division of Bunge was ordered to pay additional taxes as a consequence of 'a transfer pricing-related indiscretion'.²³⁰ The Indian tax authorities claimed that the company had doctored figures in its financial statements while preparing its transfer pricing report, which is designed to ascertain the related-party income of a company.²³¹

Bunge was also involved in a more recent case initiated by the Argentine tax authorities, who in 2011 raided the premises of a number of large corporations, including Bunge and Cargill, on suspicion of illegal transfer pricing activities. According to newspaper reports, the Argentine authorities accused all four ABCD companies of tax evasion in 2011. In May 2011, the government expelled Bunge from the export register. One report quoted Ricardo Echegaray, head of the Argentinean revenue service (Afip), as saying:

"Until 2007 ... Bunge paid about \$100m in corporate income tax in Argentina a year. Then it decided to set up an office in the tax-free zone of Uruguay's [capital] Montevideo. From that date, it suddenly declared no gains in Argentina. We cross-checked with Uruguay and we found they had not exported anything from Montevideo and had almost no staff there." [...] Echegaray ... said he had evidence that all four companies had submitted false declarations of sales and routed profits through tax havens or their headquarters in contravention of Argentinean tax law. In addition, he said, they had declared excessive costs in Argentina to reduce taxable profits there. He also accused them of using phantom companies, on occasion, to buy grain'.²³²

All four companies have denied the charges, and presumably these issues will be further considered at a later stage. For now, it is not possible to confirm the reports regarding the suspension of the commodity traders. But this cannot help an already troubling situation for the ABCDs, confronted as they are by new competition from emerging traders and the creation of 'mega-farms'. The situation for the commodity traders in the burgeoning Latin American market could be problematical, and may well be a situation from which some of the new commodity traders, including Olam, Wilmar, Sinar Mas, COFCO, and others, can benefit.

WHERE TO FROM HERE?

It may be redundant to note that companies whose profits are in the billions of dollars are powerful. Nothing lasts forever, but it is hardly surprising that the big traders are well positioned to take advantage of the changes, and indeed to shape the changes as they happen. It is not just luck that has allowed a small handful of grain traders (Cargill, Bunge, and Dreyfus) to thrive and survive for well over 100 years. The economic changes outlined above, reflecting an ethos that has emphasised the privatization of public sector activities, liberalization of trade, and deregulation of finance have served the global traders well. Tariffs have come down; import quotas have been abolished, and grain reserves too; restrictions on foreign investment have been relaxed; and import dependency has increased. In each of these areas, the ABCD traders have been positioned to take advantage of the changes. In the last ten years, as this report has documented, the breakdown of regulations that had separated commercial firms from

speculators, and domestic from foreign investors, has also contributed to a context in which the dominant traders have thrived.

Yet a lot has changed in the past four years. The world of food and agriculture is in a new moment. Global trade talks are at a standstill, and the model bequeathed by the Uruguay Round agreements, signed in 1994, is done. There is no certainty on what will come next for the WTO, but the negotiations on the Doha Agenda look likely to come to nothing. In the decade since the 2001 Doha Ministerial Conference, the dominant role played by the USA and EU in trade talks, so obvious in the 1980s and 1990s, has waned. The emerging economies, particularly Brazil, China, and India, will be central in determining the agenda for multilateral trade that emerges in the next phase, as they have been decisive in shaping the negotiations since 2003. The United States is still the world's richest economy, but it is no longer the largest trader. A profound change is under way, changing the balance of power irrevocably: developing countries today account for 47 per cent of all imports and more than half of all exports.²³³ The ABCDs have positioned themselves already for this change and are important players in Brazil, China, India, and other emerging economies. But the change is bringing new competitors (the emerging Asian traders, for example) and new political tensions. The US and EU governments have largely supported several decades of policies promoting trade liberalization and capital deregulation. The emerging powers have different views on these policies, and tend to favour a larger role for the state.

Another sea change came with the food price crisis of 2007–08 and the subsequent, and continuing, high and volatile prices on international commodity markets. The commentary sparked by the crisis raised questions and concerns that continue to dominate food and agriculture policy debates: are we running out of the natural resources we need to grow enough food? Is industrial agriculture too wasteful and too polluting, or is it the only way to ensure an adequate food supply? Can global markets ensure food security, or must local food production dominate? Smallholders grow most of the world's food – how can they be given more political voice in deciding food-related policies? And, reappearing for the first time since the 1970s in a more mainstream way: do global grain traders (and the multinationals they work with, from Monsanto and Syngenta to Wal-Mart and Carrefour) have too much power? Of course, Oxfam has chosen to tackle this debate in its recently launched GROW campaign. GROW is a sign of the times: in many cases, governments and inter-governmental officials have rediscovered their appetite for food and agriculture issues after several decades of neglect.

While volatile prices come with good profits for the traders, they have also brought governments' attention back to agriculture, in some cases dramatically, as higher prices have led to riots in the streets of more than 30 countries. The traders are threatened with new, tougher regulations, as well as an end to some of the subsidies they had enjoyed (for instance, cheap feed supplied courtesy of US government support to maize and soy; or food aid caught up in regulations that made it more or less impossible for anyone but a US-based multinational to supply the contracts). While biofuels production is expected to continue to grow, it raises serious policy concerns that make limits and tighter regulations probable. Similarly, the Dodd-Frank measures are already law, if not yet implemented, and the EU is also under pressure to regulate better its commodity markets. The ABCDs cannot take the conditions under which they sell their many products and services so profitably for granted, especially as food security concerns climb up the political agenda.

The price spikes have resulted in significant increases in foreign land leases and purchases. China, South Korea, and the UAE are among those states that have created companies to secure food from foreign land-holdings. Some governments are also increasing the stocks they hold. Saudi Arabia, for example, bought twice its normal level of annual wheat imports in January 2011 alone, following a decision to phase out domestic production. The country intends to stock a year's supply over the next three years, and total storage capacity for wheat is expected to reach over 3m tonnes.²³⁴ With countries such as Saudi Arabia stocking food rather than relying on the world market for supplies as and when they need them, poorer countries understandably feel pressured to build reserves of their own too. Indeed, their experience

during the 2008 price crisis highlighted the importance of national reserves because international markets proved volatile and unreliable. Exporting countries limited their exports, leaving importers acutely aware of how vulnerable they are in a crisis.

If recent events are encouraging governments to consider re-establishing some regulations and creating new ones, the traders are resisting the trend, as the preceding discussion of lobbying around implementation of the Dodd-Frank legislation shows. The firms are lobbying against tougher financial regulation and for trade deals based on the strongly pro-business model epitomized by NAFTA. They are resistant to any discussion of price floors, grain reserves, or other mechanisms that might curtail their operations and potential profits.

As the ABCDs (and many government officials) are quick to point out, agricultural commodity prices have always been volatile and politically sensitive. That is why the sector has attracted such strong regulation at different points in history, most recently for North America, in the years following the Great Depression which ended in 1941. Yet, even if current levels of food price volatility are not unprecedented, the effects of such volatility are new, because so much has changed in domestic and international economic regulations. Developing countries as a group moved from being net food exporters to net food importers in 1990. According to the recent report of the High Level Panel of Experts (HLPE) on price volatility:

*'There appears to be a consensus that price volatility in the last five years has been higher than in the previous two decades, but lower than it was in the 1970s. Because of the liberalization of markets over the past 20 years, however, domestic prices in many countries are more connected to international prices than they were in the 1970s. For some developing countries, liberalization has also meant a significant increase in the level of imports in the total food supply, making international food price volatility even more a concern than it would have been in the 1970s.'*²³⁵

As a consequence of food price volatility, the question of who provides the imports, and whether private commerce is adequate in meeting food import needs in poor and vulnerable countries, has risen in importance.

In 2008, countries such as Liberia reportedly put out tenders to buy grain on commercial markets but no company took up the contract. The G20 Agriculture Ministers gave a somewhat grudging mandate to the World Food Programme (WFP) to lead a feasibility study and pilot programme for a new international emergency reserve in their June 2011 Communiqué. This decision, hard fought though it was given US, Brazilian, and some other countries' objections, reflects the new political reality: even if governments are buying more food than supply conditions warrant, it is clear that the 2007–08 crisis severely tested governments' confidence in world markets. This was particularly true among the most vulnerable countries, but also among some of the middle-income and rich importers, who seem to have decided that they cannot rely on commercial sales when need arises, and instead are banking food (and future food through land lease deals). In this situation, pushing vulnerable countries to rely on international markets just does not make sense. Paying for a food emergency, let alone coping with a political revolution, implies costs that make the possible economic inefficiencies of grain storage seem trivial.

A recent news article quoted Cargill CEO, Greg Page, blaming governments for recent price spikes, suggesting that they are hoarding too much grain and imposing export bans unnecessarily.²³⁶ Carl Hausmann, managing director, Global Government and Corporate Affairs at Bunge and a member of the International Food and Agricultural Trade Policy Council (IPC), has also been vocal on this point.²³⁷

Beyond the trade and finance concerns, the current volatility and high prices also point to resource scarcity and the pollution and/or degradation of the natural resources on which agriculture depends. These issues, too, have risen up the policy agenda, moving past some of the narrower debates on the hazards and potential of genetic engineering to a wider discussion

on the role of technology and the costs already being paid for biodiversity loss and climate change, and the importance of recognizing and working with local and indigenous knowledge systems (see, for example, the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) report and its political aftermath, and the 2011 High Level Panel of Experts (HLPE) report on price volatility). The ABCDs have firmly allied, to date, with the industrial production systems that deliver large amounts of relatively uniform production, easily absorbed in industrial processing and distribution systems.

Traders are also directly challenged by the suggestion that, in order to ensure equity (or, to use different language, in order to realize the universal human right to food), there is a need to manage demand given the planet's finite resource base. The notion of managing demand is alien to free-market economics – price should be left to manage demand, rising when supply falls short so as to cut off demand. But there are obvious limits to this logic in relation to food: governments have an obligation to ensure access to food based on need, not demand. Nor are safety-nets alone sufficient, although they are necessary as part of a food security strategy. Levels of dependence on imports are too great, and the numbers of vulnerable people are too, for governments to rely solely on a strategy of increasing market efficiency and openness to trade.

For concerned governments and NGOs, it may be that in thinking how best to tackle the many issues, the approach to take is to challenge some of the assumptions implicit in the traders' own lobbying (e.g. that governments should rely wholly on international markets and financial instruments for their food supply) and to advocate for stricter regulations that would affect the traders, but not only them: for example, to force increased transparency and to prohibit insider trading, especially as a service sold to external, non-commercial, clients. The logic of trader thinking and argument is too seldom challenged, but food security is too precious to be left to the private sector. In making this argument, NGOs can help reclaim a larger place for the public interest in the complex world of financialized commodity production and trade.

APPENDICES

APPENDIX 1: GLOSSARY OF TERMS FOR AGRICULTURAL FINANCIAL DERIVATIVES

Commodity index funds (CIF): Financial investment products that track prices of a bundle of commodities. Typically 15–30 per cent of CIFs are made up of agricultural commodities (the rest is comprised of minerals, oil, etc). The Goldman Sachs Commodity Index (GSCI), the AIG Commodity Index, and Dow Jones USB Index are perhaps the best-known products. Other companies besides banks, including firms such as Cargill, also sell products based on these popular indexes. Most CIFs are sold over-the-counter.

Derivative: A financial instrument that derives its value from the price of an underlying asset, for example commodities. The most common derivative instruments are forward contracts, futures contracts, options, and swaps.

Exchange trade funds/products (ETF/ETP): Products traded on a stock exchange, such as stocks. These can include assets like commodities that track an index and can be backed by physical assets or (more commonly) by derivatives. ETFs are usually marketed by investment banks and purchased by institutional investors.

Forward contract: An agreement between two parties to deliver a commodity on a future date at a price that is set today. Forward contracts are usually used by farmers and grain elevator operators.

Futures contract: Standardized contract to buy or sell an asset on or before a future date at a specified price that is set today. In the USA, standardized futures are cleared through an exchange or clearing house.

Options: Contract giving the right, but not the obligation, to buy or sell an asset.

Over-the-counter (OTC): Products traded and negotiated privately between two parties without being cleared through an exchange.

Swaps: Contract to exchange cash on or before a specified date based on the underlying value of the commodity. Swaps are used for tailored futures products that are not standardized. Swaps are usually arranged over-the-counter.

APPENDIX 2: ABCD TRADERS' FINANCIAL, EMPLOYMENT, AND GEOGRAPHIC PROFILES

Table 2

Indicator/firm	ADM	Bunge	Cargill	Louis Dreyfus (commodities division)
Sales (2011) \$ billions ²³⁸	80.7	58.7	119.5	59.6 ²³⁹
Sales (2010) \$ billions	61.7	45.7	101.3	46.1
Profits (2011) \$ billions	2.04	0.94	4.2	n/a
Profits (2010) \$ billions	1.9	2.5	2.6	n/a
Employees	30,000	32,000	142,000	34,000
Number of countries active	75	40	66	55

Sources: Corporate web pages of ADM, Bunge, Cargill, and Louis Dreyfus; financial press

APPENDIX 3: MAJOR ACTIVITIES OF THE ABCD TRADER FIRMS

Table 3

Activity/firm	ADM	Bunge	Cargill	Louis Dreyfus
Commodities				
Soybeans/oilseeds	x	x	x	x
Palm oil	x	x	x	x
Maize	x	x	x	x
Wheat	x	x	x	x
Juice (citrus)			x	x
Cocoa	x		x	
Coffee				x
Sugar	x	x	x	x
Cotton	x (cottonseed)		x	x
Rice		x ²⁴⁰		x
Processing				
Milling grains	x	x	x	x
Oil crushing	x	x	x	x
Processed foods	x	x	x	
Animal feed	x	x	x	x
Biofuels production	x	x	x	x
Industrial products derived from agricultural products	x	x	x	
Meat, poultry, eggs			x	
Farm products/services				
Fertilizer	x	x	x	x
Seed sales			x	x
Contract farming	x	x	x	x
Farmer advice services		x	x	x
Insurance	x		x	
Livestock farmer contracting			x	
Storage and transportation				
Elevator/storage	x	x	x	x
Transportation	x	x	x	x
Investment and risk management				
Financial services	x	x	x	x
Farmland acquisition	x	x	x	x

Sources: Corporate web pages of ADM, Bunge, Cargill, and Louis Dreyfus; financial press

APPENDIX 4: AN OVERVIEW OF THE FINANCIAL SERVICES DIVISIONS OF THE ABCD FIRMS

Financial activities have long been a regular part of the ABCD firms' operations. These firms have used financial markets and commodities futures markets to hedge their risks in both physical grain markets and in currencies. For this reason, they have established separate financial services divisions to help with these activities. But increasingly, especially in the past decade or two, they have also established specific investor services that sell investment products to third party investors. The overview presented here covers the entire range of the ABCD firms' financial activities as carried out by their financial services divisions, in order to demonstrate the complex ways in which financial markets interface with commodity markets. Although not all of these divisions sell investment products to third party investors, they do all engage in financial markets in various ways, including hedging risks on commodity markets.

Cargill

Cargill has a number of financial subsidiaries, ranging from traditional risk management investment in commodity markets and derivatives to dealing in financial products aimed at external investors, both individually and through management of large investment funds. Cargill was one of the first of the grain trading firms to begin to manage money for external clients in 2003 with Black River Asset Management and in 2006 with CarVal Investors. From its own website, it is clear that, of the ABCD firms, Cargill is most engaged in this kind of financial activity. While full details of the contribution of these subsidiaries to its overall profits can be difficult to discern, Cargill announces the performance of its financial and risk management segment of which Black River and CarVal are a part in its annual earnings statements. Its main financial subsidiaries that deal in agricultural and other commodity derivatives and other kinds of financial services, both for its own use and for external customers, are outlined below.

Cargill Risk Management

Cargill Risk Management (CRM) was founded in 1994 as a business unit of Cargill, Incorporated. It engages in risk management, specializing in structuring individualized OTC products for both commodity price risk management for the firm's core activities, as well as for external customers. It breaks down its key external customers as: 1) the food industry, which needs hedging against food ingredient price risks; 2) producers, who need hedging against changes in prices; and 3) investors, who want exposure to commodities.

For external investors, CRM provides products for long-term passive investors, including commodity index funds (including the S&P Goldman Sachs Commodity Index and the Dow Jones-USB Commodity Index, which Cargill replicates under licence from these firms for its own customers) as well as swaps, including custom index swaps. It also provides products for more active commodity investors, including commodity swaps such as price differential swaps and 'swaptions'.²⁴¹

Black River Asset Management

Black River Asset Management was established as an independently managed subsidiary of Cargill in 2003 and prior to that was known as the Global Capital Markets Division, whose main function was to engage in proprietary trading for Cargill from 1984 to 2003. Black River began to manage funds for third party investors in 2003, in addition to its asset management activities for the parent firm. Black River operates 13 offices in 12 countries around the globe, and currently manages \$4.5bn in assets of external clients.²⁴²

Black River's external customers include institutional investors, including foundations, pension funds, and endowments. It offers management of hedge funds, private equity, and index

products. Black River started raising money in 2010 for separate private equity funds that ‘take advantage of the dynamic landscape of global equity investing and generate attractive, long-term risk-adjusted returns through investments’ in four key areas: food, agriculture, clean energy, and metals/mining.²⁴³ In September 2010 Black River launched its Commodity Equity Long/Short Opportunity Fund, as a product geared toward institutional investors on a global scale. This fund is now closed.

Cargill Trade and Structured Finance

Established in 1993, Cargill Trade & Structured Finance is a business unit of Cargill, Incorporated and provides financial risk management and financing services to suppliers and customers (including for storage and equipment), in effect providing the funding for Cargill’s global operations by providing finance for international trade, as well as means by which to manage currency risks associated with it. The subsidiary states: ‘Our expertise in global financial markets aids in mitigating the documentary, cross-border and credit risks associated with structured trade finance.’²⁴⁴

CarVal Investors

CarVal Investors has been a financial arm of Cargill since 1987 and has operated as an independent wholly-owned subsidiary of the firm since 2006. CarVal Investors is an ‘alternative investment manager’, meaning that it manages investment funds that are not traditional stocks. CarVal specializes in what it calls ‘opportunistic value investments’ and it currently manages \$9bn in assets via 8 offices around the world.²⁴⁵ Its particular focus is on commercial credit and real estate investments, especially in distressed assets and markets.

Cargill Energy and Risk Management Solutions

Cargill manages its risk in energy markets through its Cargill Energy and Risk Management Solutions, one of Cargill’s energy business units, which has been operating since 1997. Because the firm is one of the world’s largest energy users, spending over \$1bn per year on energy for transportation and processing, it works to manage its energy supply chain through financial dealings, including the use of energy commodity derivatives trade. It also sells these services to external customers, managing some \$450m in third party funds.²⁴⁶

Archer Daniels Midland

ADM operates a wholly-owned financial services subsidiary, ADM Investor Services, which itself has several subsidiaries that deal in specific aspects of financial transactions related to the commodities trade. Even though ADM is a publicly traded firm, details on the operations of its financial subsidiary are difficult to come by, as it does not disclose details related to those transactions.²⁴⁷

ADM Investor Services

ADM Investor Services (ADMIS) has roots going back to the 1930s and a firm known as Tabor Grain and Feed Company. In the 1950s Tabor began to offer investment banking and stock trading services to third parties, and its name changed to Tabor Commodities in the 1960s. In 1975 the firm was acquired by ADM and in 1985 changed its name to ADMIS. The firm manages ADM’s own commodity risks and also continues to offer investment services to external customers. It has global operations and is headquartered in the Chicago Board of Trade Building. ADMIS is a clearing member of the Chicago Mercantile Exchange and it offers clearing services to commercial hedgers, traders, brokers, and risk managers. The 2010 Financial Statement for ADMIS notes that it engages in futures trading on exchanges, as well as OTC derivatives trade, ‘primarily to facilitate customer transactions’.²⁴⁸

Archer Financial Services

Archer Financial Services (AFS) is a wholly-owned subsidiary of ADMIS and is a brokerage firm providing investment and clearing services to the business partners of ADMIS.

Balarie Capital Management

Another financial investment firm under ADM is Balarie Capital Management (BCM), a division of Archer Financial Services. BCM provides commodity investment opportunities, including fund management, to both institutional and individual investors. It advertises that it specializes in 'Managed Futures, an alternative asset class that allows investors to simultaneously participate in multiple global market sectors such as currencies, energies, metals, short and long term interest rates, domestic and international stock indices and traditional commodities'.²⁴⁹

Louis Dreyfus

Louis Dreyfus has long played futures markets to hedge its own risk. Because it discloses even less information than the other ABCD traders, there is very little publicly available information on its financial activities. In 2008, it began to offer its financial services to third parties, using the slogan 'Monetize our expertise'.²⁵⁰

Louis Dreyfus Commodities Alpha Fund

In 2008 Louis Dreyfus Commodities set up a new agricultural commodity hedge fund, the Alpha Fund, focusing on agricultural products, specifically grains, oilseeds, sugar, coffee, and cocoa. The fund bets on the direction of prices and on the differences between future and spot prices for these commodities. This new fund was launched following the success of a Louis Dreyfus energy-based hedge fund in 2007. The Alpha Fund, which is based in the Cayman Islands, began with \$100m in assets and grew by a factor of 20 within two years. Its return in 2010 was a whopping 17.3 per cent and it managed some \$2bn in assets. The fund had become so large that in early 2011 it stopped accepting new investors.²⁵¹

Calyx Agro

In 2007 LD Commodities established a new subsidiary whose purpose is to identify, acquire, develop, convert, and sell farmland in Brazil, Argentina, Uruguay, and Paraguay, for large institutional investment funds such as AIG. According to the *New York Times*, Calyx Agro is 'buying tens of thousands of acres of cropland in Brazil with the backing of big institutional investors, including AIG Investments'.²⁵² The firm is seeking to expand its land portfolio and further develop its farming activities.²⁵³

Calyx Agro has been the source of controversy recently, however, with the revelation that it applied to the World Bank's private sector lending arm, the International Finance Corporation (IFC), for a loan of up to \$30m to finance the expansion of its activities. If the loan had been granted, the World Bank would in effect have been promoting land grabbing by a major private grain trading firm as a financial investment for large-scale investors. This prospect prompted civil society groups from Latin America and around the world to issue an open letter to the IFC asking it to reject the proposal.²⁵⁴

Bunge

Risk management through futures and derivatives trade is an important part of Bunge's risk management strategy. According to the Bunge North America website: 'Substantial management experience in the use of sophisticated trading strategies, financial instruments and forecasting methods enables us to anticipate market developments and optimize the timing and execution of purchases, sales and hedging – all of which maximize stakeholder returns'.²⁵⁵

Bunge Global Markets

Bunge Global Markets is the subsidiary of the firm that handles trade in commodities, including its financial activities to manage its risks in this area within its agribusiness segment. This subsidiary does not have any web presence, making it difficult to know how exactly it operates. According to Bunge's annual report, in addition to its traditional commodity trading activities, the firm's activities (presumably through Bunge Global Markets) include risk management such as derivatives trade to hedge commodity price risk, finance, strategic planning, and logistics, among others. The firm is very clear about its use of financial derivatives as a key risk management strategy, and that such activity can result in sharp fluctuations in earnings:

*'We use derivative instruments for the purpose of managing the exposure associated with commodity prices, transportation costs, foreign currency exchange rates, interest rates and energy costs and for positioning our overall portfolio relative to expected market movements in accordance with established policies and procedures. We enter into derivative instruments primarily with major financial institutions, commodity exchanges in the case of commodity futures and options or shipping companies in the case of ocean freight.'*²⁵⁶

Bunge uses both exchange traded futures and options contracts to hedge agricultural commodity price changes. It also enters into OTC commodity transactions, including swaps. The firm states clearly that it uses these tools as hedges, but does not include them as 'hedges' in its accounting, due to its system of accounts.²⁵⁷

Bunge Limited Finance Corporation

Bunge Limited Finance Corporation is a wholly-owned subsidiary of Bunge Limited. There is very little information available regarding its operations, other than its Securities and Exchange Commission submission when it priced a public offering of \$500m in March 2011. That statement notes that Bunge Limited Finance Corporation was formed for the sole purpose of issuing debt for Bunge, primarily in US markets, and that it invests the proceeds in a master trust structure where Bunge's financial operations are centralized (through its Bermuda headquarters).²⁵⁸

Other agricultural hedge funds with ties to grain traders

It is not just the ABCD trading firms that have capitalized on the growing interest in commodity investments. A number of agricultural and commodity-related hedge funds have emerged that are managed by former grain traders for the ABCDs and other grain trading firms. These funds offer 'discretionary' trading services using their own techniques based on their unique knowledge base. The Merchant Commodity Fund, for example, is a Singapore-based fund run by former Cargill senior traders, and has some \$1.5bn in assets.²⁵⁹ The Arlon Investment Group, founded in 2008, is another such fund, linked to the Continental Grain Company, parts of which were purchased by Cargill in 1999.²⁶⁰

APPENDIX 5: EXTERNAL MEETINGS OF THE CFTC WITH ABCDS RE THE DODD-FRANK LEGISLATION²⁶¹

Table 4: Source: CFTC website. <http://www.cftc.gov>

Bunge	Cargill	Louis Dreyfus	Commodity Markets Council (CMC)
15 June 2011: II. Definitions	15 June 2011: II. Definitions	15 June 2011: II. Definitions	6 July 2011: V. Capital and Margin
18 May 2011: II. Definitions and XXVI. Position Limits	3 June 2011: II. Definitions, V. Capital & Margin and VII. DCO Core Principles	3 December 2010: XXVI. Position Limits	15 June 2011: II. Definitions
18 May 2011: I. Registration and II. Definitions	1 April 2011: II. Definitions, V. Capital & Margin and XXI. Joint Rules w/ Sec	21 October 2010: XXVI. Position Limits	23 February 2011: XXI. Joint Rules w/ SEC and II. Definitions
23 February 2011: XXI. Joint Rules w/ SEC and II. Definitions	24 March 2011: V. Capital & Margin	21 October 2010: XIX. Agricultural Swaps	21 October 2010: XIX. Agricultural Swaps
	31 January 2011: V. Capital & Margin	30 September 2010: II. Definitions	30 September 2010: II. Definitions
	9 November 2010, Cargill Risk Management: I. Registration	14 September 2010: XXVI. Position Limits	
	9 November 2010, Cargill Risk Management: V. Capital & Margin, XI. End-user Exception, XIX. Agricultural Swaps and XXVI. Position Limits		
	9 November 2010, Cargill Risk Management: V. Capital & Margin, XI. End-user Exception and XXVI. Position Limits		
	9 November 2010, Cargill Risk Management: V. Capital & Margin, XI. End-user Exception and XXVI. Position Limits		
	12 October 2010, Cargill Risk Management and Cargill Inc: V. Capital & Margin		
	19 August 2010: XXVI. Position Limits		
	19 August 2010, Cargill Risk Management: XXVI. Position Limits		
	19 August 2010, Cargill Risk Management: XIX. Agricultural Swaps		

APPENDIX 6: WORLD BIOFUEL (ETHANOL AND BIODIESEL) PRODUCTION

Bioethanol is the dominant form of biofuel, although in some European countries – notably Germany, France, Spain, and Italy – and in Argentina, biodiesel represents nearly 100 per cent of biofuel production.

A number of countries that are major producers of feedstock for biofuel production do not process biofuels. Malaysia and Indonesia (the world's largest producers of palm oil) have yet to develop much of a domestic biofuels processing sector, for example, although it is anticipated that both of these countries will be leading producers of biodiesel in the near future. The exceptions are the USA and Brazil, where production of feedstock and fuel are significant.

Table 5: World production of biofuels, 2009

Country	Production (ktoe)*	% World share
USA	22,014	43%
Brazil	13,863	27%
Germany	2,647	5%
France	2,383	5%
China	1,309	3%
Argentina	1,080	2%
Spain	1,003	2%
Canada	833	2%
Italy	694	1%
Thailand	687	1%
Others	5,256	10%
Total	51,769	100%**

Source: Biofuels Platform, 'Production of Biofuels in the World 2009', at www.biofuels-platform.ch/en/infos/production.php?id=biofuels

*ktoe = kilo-tons oil equivalent; 1 ktoe is the amount of energy equivalent to that which is contained in 1,000 tons of oil.

** More than 100% due to rounding

Table 6 : Global fuel ethanol production, 2009 (million litres)

Country/region	Quantity	Primary feedstock
USA	39,700	Corn
Brazil	24,900	Sugar cane
EU	3,935	Beet/grain
China	2,050	Corn
Canada	1,100	Corn
Thailand	450	Sugar cane
Colombia	315	Sugar cane
Australia	215	Sugar/grain
India	150	Sugar cane
Others	936	Sugar cane
Total	73,751	

Source: (S&T) Consultants Inc. (2009) 'GHG Emission Reductions from World Biofuel Production and Use, Global Renewable Fuels Alliance', Toronto, and at www.ascension-publishing.com/BIZ/HD28.pdf

Table 7: World biodiesel production, 2009 (million litres)

Country/region	Quantity	Feedstocks
EU	9,848	Rapeseed (50%), soy oil (40%), palm (5%), tallow (5%)
USA	1,682	Soy (40%), tallow (20%), canola (20%), palm (20%)
Brazil	1,386	Soy (80%), tallow (10%), other vegetable oils (10%)
Argentina	1,250	Soy
Thailand	614	Palm
Malaysia	284	Palm
Colombia	205	Palm
China	191	Waste vegetable oils
South Korea	182	Palm (33%), soy (33%), waste vegetable oils (33%)
Indonesia	170	Palm
Singapore	124	Palm
Philippines	108	Coconut
Canada	102	Tallow
World	16,436	

Source: (S&T) Consultants Inc. (2009) 'GHG Emission Reductions from World Biofuel Production and Use, Global Renewable Fuels Alliance', Toronto, and at www.ascension-publishing.com/BIZ/HD28.pdf

NOTES

A note on sources

Unless indicated below, all data is from company websites and reliable databases such as the Dow Jones index of newspaper sources.

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- ⁸ In the early 1990s, ADM, together with four other companies, conspired to raise lysine prices, with prices increasing by as much as 70 per cent in the first nine months the cartel was in place. The companies were fined a then record \$105m. ADM was required to pay \$70m for its role in the conspiracy. ADM paid an additional \$30m fine for joining a cartel in the citric acid market.
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- ¹⁴ www.cargill.com. NB: ‘billion’ is used in the US sense = \$1,000,000,000.
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