FOOD SPECULATION AND THE FINANCIALIZATION OF THE
COMMODITY MARKET

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Birgit Oppenheimer
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The Undersigned Faculty Committee Approves the
Thesis of Birgit Oppenheimer:

Food Speculation and the Financialization of the Commodity Market

[Signatures]

David Carruthers, Chair
Department of Political Science

Latha Varadarajan
Department of Political Science

Jung Min Choi
Department of Sociology

12/12/13
Approval Date
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DEDICATION

This enterprise would not have been possible without the support of deeply loving and carrying people. A special thanks to my mom and my best friend Daniela, who always supported me unconditionally. I could not have made it without you! And special thanks to my dear friend Laurie, who made this venture worthwhile. Lastly, I dedicate this thesis to my beloved brother, who once taught me how to push through in life and to go after the things you aspire to do and to my beloved friend Babsi, who I know would be so proud of me right now. I am grateful for everything and particularly for this amazing journey!
ABSTRACT OF THE THESIS

Food Speculation and the Financialization of the Commodity Market
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This thesis surveys the impact of financial speculation on food prices, based on analysis of the available economic data from two recent, significant global food price spikes, between 2007-2008, and between 2010-2011. Most scholarly research and official policy recommendations focus on the market fundamentals of supply and demand. However, this thesis presents evidence that the financialization of the commodity market in general has opened up new ways for financial institutions to penetrate speculative markets, from which they continue to reap financial benefits today. The financialization of the commodity market was made possible when powerful private interests entered the political realm and utilized existing institutions to lobby for policies that would provide high returns to their shareholders. The result of these policy changes has been high and volatile global food prices, as well as negative pass-through effects. Thus, the major burden of recent food price increases has been on the already vulnerable people in developing countries. Additionally, this study of the development of the agricultural commodity market provides deeper insight into the transformation of the broader global food system and the concentration of power within that system. Unfortunately, corrective countermeasures are, at this point, limited.
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CHAPTER 1

INTRODUCTION

Over the past seven years the food commodity markets have experienced two unusually sharp food price spikes. Although global food prices as well as commodity prices in general are subject to volatility, the recent price development has been the worst since the 1970s food crisis. In the immediate aftermath of the 2007-2008 food crisis some economists and policy experts addressed the main reason for such a drastic food price increase. The head of the International Food Policy Research Institute, Joachim von Braun, stated in an interview with The Guardian (2007) that the global demand for staple foods had finally outstripped world supply. Looking at the issue at hand from a basic economic understanding, food prices are mainly driven by supply and demand, the so-called market fundamentals. Thus, rising demand seems to be a reasonable explanation, taking into consideration population growth. However, with regard to the commodity markets and the complex global food system this argument would be an oversimplification of the matter at hand. In fact, there are numerous variables that can have an impact on the development of global food prices – among others are policy-induced supply and demand changes, crop failures, or macroeconomic factors such as the US dollar exchange rate. Figure 1 shows the development of the Food and Agriculture Organization’s (FAO 2013a) Food Price Index in nominal and real terms from 1990 up until the year 2013 to demonstrate the out of the ordinary price trend.

This excessive and unusual food price volatility beginning in 2006-2007 gave rise to an ongoing debate about whether financial speculation in the commodity markets through a broader deregulation of the financial sector might have been an additional driving force behind those price spikes. An article released by the Institute for Food and Development Policy (IFDP 2008) links the global financial crisis and the food crisis, and serves as an example for that debate. IFDP analysts argue that once the mortgage crisis hit the world economy in 2007 many financial investors were looking for safe investment places, hence driving increased activity in the commodity futures market. This evasive maneuver, in turn,
had been made possible by the previous deregulation of the financial sector, which had caused the global financial crisis in the first place. After the first price spike, prices dropped significantly over the course of 2008, but eventually picked up again, drastically from 2009 onward, eventually surpassing the 2006 price spike. These observations have strengthened the argument that excessive financial speculation exists and has contributed to bubbles in the food commodity market.

This thesis explores several dimensions of the global food crisis debate with a strong emphasis on the macroeconomic factor of investments in the commodity markets and on so-called food speculation. The aim is not only to deconstruct the complexity of the global food and financial system but also to explain the destructive connections between the financialization of commodity markets and the drastic rise in food prices. Chapter Two provides insight into the broader implications of high global food prices and into the complex process of the global food price formation. Moreover, it reviews the debate in the scholarly literature about whether the financialization of commodity markets has actually contributed to the high and volatile food prices, and if so, what are the basic assumptions behind those relationships. In this regard it will contrast two different statistical analyses that come to opposite conclusions, but will also provide evidence for the assumption that money managers play a decisive role when it comes to the global food price formation. Chapter Three focuses on the dynamics of the commodity market itself. This analysis reveals the gradual process of
financial deregulation of the commodity market and provides insight into the excessive speculative behavior of financial actors as well as the structural changes of the market. A discussion of the Dodd-Frank Bill allows for an assessment of the current situation. Chapter Four presents the links between the market dynamics and the global food price volatility as well as its consequences. This elaboration also includes the transmission of global food prices to domestic markets. In the last chapter I will conduct a general assessment of the concentration of power in the global food system. This is of significance for the analysis since the US is a dominant and influential power in regard to the global food market. For example, the US produces about 35 percent of the global supply of corn and soybeans (Council on Foreign Relations [CFR] 2012, para. 1). In this thesis I argue that excessive speculation in the commodities futures markets has contributed to rising global food prices. The bigger picture behind this development is the deregulation of the financial sector and concentration of power within the global food system. The gradual financialization of the commodity market, in particular from the 2000s on, allowed for rampant speculation through newly created investment tools like index funds.
CHAPTER 2

GLOBAL FOOD PRICES

The purpose of this study is to illuminate and deconstruct not only the implications of high food prices but also the process of the price formation itself. This is an integral part of this work as both the implications and the price formation are not always transparent or explicit. Thus, this analysis helps to better understand the importance and range of recent food price developments and also demonstrates the urgency to restrict any unnecessary, artificially created and controllable driving force behind food price rises. The review of the scholarly literature allows insight into different perspectives on the issue and also allows for an evaluation of the predominant studies on the subject matter.

THE IMPLICATIONS OF HIGH FOOD PRICES

The intake of food determines to a large extent whether people are able to live an active and healthy life. A healthy diet is a basic physical need, like air, water, and sleep. Today millions of the world’s poorest people are faced with the struggle for survival due to sky rocketing food prices for agricultural commodities such as corn, wheat, rice and soy. The drastic increase in global food prices in 2008 pushed 100 million people more into poverty, and by 2009 the number of people hungry passed one billion (FAO 2009, para. 3). The World Bank (2011, para. 1) estimates that 44 million more people fell below the poverty line in the last half of 2010 as prices sprung back to levels close to the 2008 peak. In particular, agricultural-based and food import-dependent countries are among those most vulnerable to drastic price movements in global food prices. Maros and Martin (2008, 19) point out that people in low-income countries are more vulnerable to price shocks than people in the Western world. In some cases rising food prices can have a positive effect on income for some poor farmers, however, this impact is offset by negative impacts for poor households that are net food buyers (Maros and Martin 2008, 19). They also show that even a slight increase of about 10 percent in consumer prices could already translate into more poverty (Maros and Martin 2008, 27). At the moment, the FAO (2013b) lists 62 countries as Low-
Income Food-Deficit Countries (LIFDCs), compared to 82 countries in 2008 when the crisis was at its height. There are not only direct effects like hunger and malnutrition, but also indirect effects. For Instance, Green and Hossain find that the lack of food in poor households often results in an increasing risk to women of becoming victims of domestic violence, and a higher risk to children of decelerated development (Institute of Development Studies and Oxfam GB 2011, 4).

As an immediate result of the urgency of the 2008 food crisis the United Nations News Center (2008, para. 1) reported that the United Nations World Food Programme would provide an additional 1.2 billion dollars in food aid for the 62 countries hit hardest. This means that the WFP had to triple the number of people who received food in Haiti, double those who received food in Afghanistan, and to make available more food aid to people in Somalia, Ethiopia and Kenya due to high food prices. Although the global community seemed to be responsive to the urgency of the situation, there were several downsides to the international response. Clapp (2009) points out that it often was the interference of institutions like the World Trade Organization (WTO) or the World Bank that had put countries into dependent relationships in the first place. A variety of former food exporting countries had been turned into LIFDCs, which now makes them heavily dependent on food aid or other support from those or similar institutions. Then, instead of contributing to viable long-term solutions for underlying deep-rooted issues, those stop-gap solutions had been widely used over the past 30 years. In some cases food aid could even undermine existing agricultural structures by generating disincentives for local producers or by further distorting local markets. Even though in times of crisis it might be necessary to support vulnerable countries for humanitarian reasons, this does not mean accepting those dependency structures without a critical evaluation. In fact, studies have shown that aid dependency is potentially compounded with a negative institutional performance in the countries concerned. Knack (1999) identifies several destructive components of aid dependency, such as rent seeking, corruption, inciting conflict over control of aid funds, and alleviating pressures to reform inefficient policies and institutions.

Food insecurity and high global food prices not only go hand in hand with social and political problems, but can also create broader economic disruptions, such as core inflation. Even though LIFDCs might suffer from domestic food inflation or consumer price inflation,
wages do usually not go up as well. The expectation of persistently high food prices can then additionally accelerate core inflation, which is also known as a second-round effect. Helbling and Roache (2011) point out that the threat of core inflation is most often attributed to and imminent for emerging and developing countries. Traditionally, the solution and advice to avoid those second-round effects would have to be addressed by measures that expand social safety nets and intercept rising food prices. However, it is doubtable that the countries most affected, such as LIFDCs, would have the necessary means to implement such policy recommendations. Rather, they are left with additional threats to their already vulnerable economies.

In summary, the direct and indirect impacts of high and volatile food prices on social, political, and economic conditions are extensive and often unpredictable. It can be assumed, however, that these conditions generate a breeding ground for civil unrest and social upheaval. A recent study conducted by Lage, Bertrand, and Bar-Yam (2011) links high food prices to a myriad of riots not only in North Africa and the Middle East, but also all over the globe. The plotted food price index of the FAO and the dates of the riots show clusters of occurrence in times of peaking food prices. Interestingly enough, this study also addresses two highly controversial underlying factors for high and volatile global food prices - food speculation and biofuel policies. This brings me to the question of what are the driving forces behind global food prices.

**WHAT IS DRIVING FOOD PRICES?**

The world food system is a highly complex and interconnected set of various forces that determine the price of food. In particular, since the last food crisis in the 1970s the perception of scarcity within the realm of the international food order has been dominant. During that crisis the high grain prices and very low world reserves were addressed by a set of different national policies. The analysis of the global food system after World War II shows that historically the approach of the US, mainly through food aid to self-sufficient agrarian societies, had both controversial political and economic effects. According to Friedman, the postwar approach by the US had lead to a “reorganization of aid and trade […] and a possible shift of grain specialization within the international division of labor” (Friedmann 1982, S248). This newly created food order was significant due to its
contribution to low prices as well as “agricultural underdevelopment” and “urban concentrations of dispossessed people in the Third World” already in the early 1950s and 1960s (Friedmann 1982, S248). Now, due to the unprecedented and rapid changes in food prices over the past seven years, many scholars, economists and policy makers have focused on explaining and identifying the driving factors behind those price spikes again. The most important factors that have to be taken into consideration in doing any analysis of food prices are higher demand patterns, low stock levels, policy-induced demand changes, exogenous shocks, and macroeconomic factors such as the US Dollar exchange rate and higher production expenditures (Farm Foundation 2011; Westhoff 2010).

Looking at the development of food commodity prices from a supply and demand perspective it is obvious that prices will have to go up as population grows. According to estimates, the world’s population will have reached 9 billion people by 2050 and the demand for food will have increased between 70 and 100 percent (G20 Report 2011, 10). Thus, a growing population and income in emerging and developing countries could put significant pressure on food supply. China and India are prominent examples of changing supply and demand patterns in world trade. According to Farm Foundation (2011), the importance and impacts of changing demand patterns in both countries were often exaggerated for several reasons. In the case of grain, China was among the most isolated and self-sufficient countries. Although it accounted for 19 percent of world grain production and 32 percent of ending stocks, it only accounted for 1.6 percent of imports and 0.6 percent of exports. However, it had given up its self-sufficiency on soybeans and now accounted for only 6 percent of production, 57 percent of world imports and 23 percent of world ending stocks1 (Farm Foundation 2011, 13). This exemplifies that rigorous distinctions are necessary before any general conclusions can be drawn, or blame pointed towards specific countries. Moreover, another point being made here is that the prevalent argumentation that a decrease in world stocks from 2000 on had supposedly led to a tight grain market, which in turn had a negative impact on the 2007/08 price spikes, is no longer entirely supportable. In fact, the Farm Foundation report (2011, 13) states that the reduction in world stocks during the first

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1 World ending stocks data exist for staple foods like corn, wheat, soybeans or rice. World ending stock can be defined as the world agricultural supply and demand estimates.
half of the last decade can be mainly accredited to the release of the enormous stockpile of grain in China due to its self-sufficiency policies.

As mentioned above, weather-related crop losses can also have a significant impact on food prices especially by taking into consideration low stock levels as well as potential policy reactions such as export bans because they create an even tighter supply-demand balance. Going back to the 2007-2008 crisis it is widely acknowledged that unfavorable weather in the EU, Ukraine, and Australia disrupted the main wheat crop and thus, spurred rising global wheat prices (Westhoff 2010). But how do crop failures affect food importing and food exporting countries? It can be assumed that when large crop failures occur in combination with already low stock levels, countries tend to implement trade policies such as export bans in order to shut themselves off from the world market and to saturate their domestic markets first. The Farm Foundation report (2011) confirms these assumptions and also provides evidence of the opposite reaction coming from food importing countries. They argue that during the crisis importers took actions that surely had an impact on the inelasticity of those markets and additionally contributed to rising prices. In order to avoid paying high global prices, importing countries tried to stabilize their domestic markets and prices by drawing from their stocks or by cutting down tariffs and taxes.

Those reactions indicate that both the measures of food importing and exporting countries have contributed to the global commodity market disruption. In this context, the Farm Foundation report (2011, 9) raise an important question that remains unanswered: “A dilemma yet to be explained is why some prices seem high when stocks appear to be adequate?” Similar comments can be found in Westhoff (2010), who states that irregularities in the balance of stocks-to-use ratios and the market price were an indicator that something unusual was happening and that the market price in 2007-2008 seemed to be not adequate in comparison to the stock levels. This does not allow for any final conclusions; however, it does suggest that further investigation is needed. A legitimate question to ask is why prices soared again in 2010-2011 and even passed the 2007-2008 prices after they had crashed in late 2008 and early 2009. This development is far from clear, particularly in view of the fact that stocks had been rebuilt in 2009-2010, allowing for adjustment to production shocks in 2010-2011. Also, according to the G20 Report (2011) harvests in 2010 in many food importing countries were above average or very good. One last thing that has to be
mentioned in this context is that for the time of the second price spike in 2010-2011 policy implementations were less strict and world trade remained constant even though prices were rising. The Farm Foundation report (2011) concluded that for 2010-2011 the policy responses of different countries were of less importance compared to the 2007-2008 crisis.

Although the scope of exchange rate volatility is beyond the scope of this analysis, I do note some important key aspects. According to Westhoff (2010), the currency exchange rate was the best demonstration of why a global food price was illusionary and all indicators were to some extent imperfect. It is true that the depreciation of the US dollar had contributed to price changes observed before mid-2008 as the G20 Report (2011) suggests, especially because the trade in most agricultural commodities is denominated in US dollars. However, the question is whether the exchange rate was a factor behind the price development in 2008 and if so, what role the exchange rate plays when it comes to agricultural trade and prices formation (Farm Foundation 2011; G20 Report 2011; Piesse and Thirtle 2009; Westhoff 2010).

At least three of the experts lean toward the same answer. Yes, the exchange rate plays an important role. However, it can only explain a fraction of the price changes between 2005-2009. Piesse and Thirtle (2009, 124) admit that the interplay between commodity prices, in particular oil, the value of the dollar, and food prices are not very well understood, but that the behavior of food prices suggest that “at least half of the price spike was the result of short term forces; a speculative bubble in the case of wheat, maize, and soybeans and a panic in the case of rice.” On the other hand, Westhoff (2010) and Farm Foundation (2011) provide a more specific explanation as they assume that the exchange rate may even capture impacts of broader macroeconomic forces: Firstly, the impact of a weak dollar on rising oil prices, which in turn can have a major impact on food commodity prices and secondly, expectations in inflation, which in turn could even provide evidence for speculation as a factor behind commodity price spikes.

In summary, there are a lot of unanswered question and irregularities that cannot simply be put aside. On the contrary, they generate room for the argument that food speculations and investments in the commodity markets have played a role not only in the 2007-2008 crisis but also in the second price spike 2011-2012.
SPECULATION AND THE FINANCIALIZATION OF COMMODITY MARKETS

Looking at food commodity price developments from a historical perspective, Piesse and Thirtle (2009) conclude that food commodity prices had been fairly stable from the mid-to-late 1980s on, and that in real terms food nowadays is much cheaper than it was a generation ago. Thus, the rise in food prices starting in late 2006 was a shift from stable to increasing prices rather than a sudden reversal from falling to rising prices. Moreover, the authors assumed that after the first spike prices would settle and then gradually follow the long-term trend again. Although the recent price development has proven them wrong retrospectively, their assumption of a burst in a speculative bubble seems to be even more plausible now. How such a bubble might have been created becomes clearer in the context of macroeconomic variables and potential higher demand patterns. Westhoff (2010, 124) explains the relationships in a comprehensible way:

Investors and speculators concerned about inflation can create another linkage between exchange rates and food prices. Because a weaker dollar drives up the cost of imported goods, investors worry about inflation when the value of the dollar is falling. When investors fear inflation, they try to identify investment vehicles that will increase in value when prices are rising. Prices of commodities like oil, steel, grains, and oilseeds are more volatile than the average price of all goods and services in the economy. So investors and traders bet that commodity prices will rise faster than other prices in the general economy when inflation increases. If enough investors buy commodities futures at the same time, a rise in commodity prices becomes a self-fulfilling prophecy.

However, again the problem is not so simple. In the immediate aftermath of the 2007-2008 food crisis several reports and research papers were released investigating the causes and potential factors that had led to the drastic increase in food prices and the overall unusual market behavior. The reports from the FAO (2008), the World Bank (2008), and the International Food Policy Research Institute (IFPRI 2008) pointed in the direction that the price spike might be best explained by changes in demand and supply patterns. They all portrayed other factors as rather insignificant and concluded that market fundamentals were driving prices in the long run. However, economists who have utilized statistical analysis to further investigate the role of speculations and investment activity have come to opposite results.
An official report from the OECD claims that there is no statistical evidence that commodity speculation has had an impact on generating commodity market volatility during 2008. In this report, Irwin and Sanders (2010, 18) claim the opposite, that “[l]arger long positions by index traders and swap dealers lead to lower market volatility in a Granger sense.” According to their expertise, it was only logical to view the inflow of money into the commodity futures market as a zero-sum game; i.e. for every position that goes for increasing prices (long position) there is a position that goes for dropping prices (short position). Thus, this implies that the inflow of money into the market does not have an effect on prices. This assumption, however, raises the question: What else has caused the overall unusual market behavior? However, they do not provide an answer to that, but rather merely rely on their empirical evidence. In addition, they criticize the generalization of speculators, particularly the categorization of index funds as bad guys and hedgers as victims referring to the complexity of the actual market. In this context, they also admit that further investigation is necessary, as they do not want to rule out any structural changes in futures markets and the price formation itself. Thus, this study is clearly sending mixed signals, which might have been the reason why it has been criticized as inappropriate in methodology and data (Frenk 2010).

On the other hand, Gilbert (2010, 420) concludes that “index futures investment was the principal channel through which monetary and financial activity have affected food prices over recent years.” The study also suggests that “the correlation between the oil price and food prices, both in terms of levels and changes, is the result of common causation and not of a direct causal link” (Gilbert 2010, 420). These assumptions make it very hard to draw any bulletproof conclusions, limiting the analytical value of this study. This study is too narrow in scope to resolve the major methodological disputes among economists on how to measure the effects of speculative activities on commodity market volatility. However, this dispute provides insight into where the actual problem lies. Both the OECD and Gilbert studies refer to Masters’ testimony before a US Senate committee in 2008, during which he distinguished between traditional speculators and a new form of investors who regarded the entire range of commodity futures as a profitable asset class. Whereas Gilbert (2010) stresses the importance of the emergence of this new form of investors, Irwin and Sanders (2010, 6) disregard that
testimony as “limited to anecdotes and the temporal correlation between money flows and prices.”

Yes, correlation and causation must not be mistaken, but as Irwin and Sanders (2010) pointed out themselves there might have been structural changes in the futures market and the price formation itself. By now, there is growing support for the assumption that those investors played an important role in both the 2007-2008 crisis and recent price developments in commodity markets. A recent study conducted by the secretariat of the United Nations Conference for Trade and Development (UNCTAD) in co-operation with the Arbeiterkammer Wien (2011) acknowledges that financial speculation was a major driving force behind high and volatile commodity prices. Moreover, this study addresses the structural changes on the commodities futures market as well as the transformation of price formation itself. This helps clarify the issues about the functioning of these markets and strengthens the argument I make in this thesis. First, they found that from 2004 on there was a significant increase in the volume of financial investment in the commodity derivatives markets on both organized exchanges as well as in so-called over-the-counters (OTCs). This increase, in turn, was highly correlated with rising prices on the commodities markets, which leads them to conclude that prices head in directions that cannot be justified by market fundamentals alone. Second, the study challenges the notion that market participants necessarily follow fundamental market information. Quite the contrary, in order to avoid huge losses, market participants based their decisions and actions on behavior of other market participants: the so-called “intentional herding” and “algorithmic trading” rather than reliance on fundamental indicators (UNCTAD and Arbeiterkammer Wien 2011, 21). This behavior led to a new kind of price formation, skewing prices in a direction that had little to do with changes in market fundamentals anymore but rather reflected investment strategies. Thirdly, the report concludes that index investors in particular had contributed to price spikes prior to the financial crisis due to such herding behavior. In addition, they demonstrate that a shift in such investment strategies had happened. The authors argue that especially from 2009 on there was growing influence of so-called money managers (e.g. hedge funds), which was made possible due to their flexible market strategies and investment tools. This development is exemplified by the high correlation of 0.8 between price changes and position changes of money managers since 2009 (UNCTAD and Arbeiterkammer Wien 2011, viii). Lastly, the
study reveals a highly unusual cross-market correlation between currency and commodity markets. Those markets are not supposed to react in a similar way, but now they do. The authors’ observation of the highly digitalized markets shows that commodity prices reacted in a similar way across different commodity markets within a matter of the same time span, which is an indicator of structural changes that had been taking place on the commodity markets.

Tang and Xiong (2009) have come to similar conclusions. Their point is that as index investment activities in commodities were growing, prices of non-energy commodities increasingly correlated with oil prices. They conclude that this form of financialization has fundamentally changed the relationship between the commodity and financial markets. It can lead to a drastic increase in volatility, since those structural changes allow for the spread of volatility from outside as well as across the different markets. These findings are completely opposite to what Irwin and Sanders (2010) concluded, but are in fact consistent with the actual price development we have observed on the commodity markets in recent years.

One of the most recent studies on financialization was conducted by Basak and Pavlova (2013) at the London School of Economics earlier this year. They conclude that between 11 to 17 percent of commodity futures prices can be attributed to the financialization of the market itself and the rest can be explained by fundamentals (Basak and Pavlova 2013, 31). In their study they explicitly distinguished between non-index fund and index-fund investment activity.

Speculations on commodity markets are not a new phenomenon, but rather serve as a means that allows farmers or other players in the agriculture business to hedge their future risks in respect to price fluctuations on the market. According to Angel and McCabe (2009), speculation as such is generally not a harmful activity, but rather helps agricultural producers to outsource certain risks, which will be taken on by the speculators. Its function, in turn, is to incorporate price information into markets and to provide liquidity. However, there is a fine line between taking on a risk to profit from price changes and pushing prices away from their actual appropriate level through excessive speculation.

The US has traditionally held the biggest volume and turnover of both spot and future commodity trading. Before the deregulation of the futures market in 2000 by the Commodity Futures Modernization Act (CFMA), trading was restricted and controlled by the Commodity
Futures Trading Commission (CFTC). Before the CFMA, regulations required traders to reveal their holdings of each commodity and also restricted position limits in order to prevent the kinds of market manipulation described above. After the CFMA opened the commodity futures market to non-commercial traders such as hedge funds, pension funds, investment banks, and other institutional investors, several new financial instruments were invented, such as commodity index funds, which could be traded without any position limits, disclosure requirements or regulatory oversight from the CFTC.

According to Masters’ testimony to the US Congress in from 2003 to 2008 alone, speculation in those index funds exploded from $13 billion to $260 billion (Masters 2008, 3). Those numbers do not even include the so-called “over-the-counter” (OTC) transactions, which are traded outside of the organized exchanges and which, of course, also attracted large-scale investors. The OTC derivatives market is rather obscure with respect to the exact positions being held as well as the price formation, since those are not subject to a regulatory framework of any oversight institution. The Bank for International Settlements (BIS 2009), however, provides statistics such as the value of outstanding amounts of OTC derivatives and thus, provides an overview of the magnitude of this market. The value of outstanding amounts of OTCs minus gold and precious metals had swollen from $5.85 trillion in June 2006 to $12.39 trillion in June 2008.

The UNCTAD report also states that “the share of the notional amount of outstanding amount of OTC commodity derivatives in global gross domestic product (GDP) increased from 2-3 percent in the early 2000s to more than 20 percent in 2008, and, in spite of its subsequent rapid decline, this share has remained at about 5-6 percent” (UNCTAD and Arbeiterkammer Wien 2011, 16). These numbers not only show that the share of commodity derivatives has doubled within a decade, but they also show the significant increase of OTCs in the run-up to the 2007-2008 food crisis, which supports the assumption of a potential price bubble. Another important aspect to note is that all the statistical analyses of the relationship between investments in the commodity market and the price development do not include OTC trading, but merely rely on the data of trading on the organized exchanges, even though the share of OTCs exceeds the trading on organized exchanges by far. Last but not least, it was exactly the financial instruments traded on the OTC market that contributed significantly to the 2007-2008 US mortgage crisis and the subsequent global economic meltdown.
The financialization of the commodity markets and its impact on global food prices is still a controversial subject. Prior to the first crisis in 2007-2008, it did not seem to be of major concern. One reason for that is that the commodity futures market was mainly restricted to so-called “physical traders” or “commercial speculators.” However, the market has grown exponentially over the past decade with the emergence of large-scale investors who were in fact not interested in trading physical commodities but were instead only interested in short-term profit (Clapp 2009; Ghosh 2010). Although there is consensus among experts that global commodity prices cannot be influenced substantially over the long run, it is important to realize that it can have tremendous influence in the short run, particularly taking into consideration the extensive volume of trade and the growing short-term correlation between the commodity derivatives market and other financial markets. The food commodity market seems to be especially vulnerable to high volatility and price distortions as the relative volume of trade to the overall market is so disproportional (UNCTAD and Arbeiterkammer Wien 2011).

Unlike the concepts of globalization and neoliberalism that have been widely discussed and critically asserted in both the public and academic sphere in recent decades, the concept of financialization is a comparatively new topic of academic and public interest. The recent global economic crisis and the financial meltdown have focused more attention on the concept. Even though there is not a common denominator on what financialization actually means, Epstein (2005, 3) provides the following definition: “financialization means the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies.” It is legitimate to argue that the concept of financialization like the concepts of globalization or neoliberalism are merely features of global capitalism as a whole. In that sense, the financialization of the food market is just another terrain in an attempt to expand the space of profit-making. The derivatives market is only one aspect of the ongoing financialization of markets, but it plays a decisive role when it comes to the distortion of the commodity market and its negative consequences on the global food prices. In particular, the growing complexity and the lack of transparency of those markets makes it even harder to do a rigorous analysis of the issues at hand.
In his analysis of the US derivatives market, Dodd (2005, 152) states that “derivatives unleash a virtual Pandora’s Box of troubles upon financial markets and the world at large.” What makes the derivatives market so attractive is that it allows investors or speculators to take a large price position in the market while investing only a fraction of capital. Thus, the possibility to leverage the assets provides even an incentive for excessive activities on the commodity market. Even Keynes (1936, Part VI) was aware of the potential threat that can stem from excessive speculative activities:

Speculators may do no harm as bubbles on a steady stream of enterprise. But the position is serious when enterprise becomes the bubble on a whirlpool of speculation. […] The measure of success attained by Wall Street, regarded as an institution of which the proper social purpose is it to direct new investment into the most profitable channels in terms of future yield, cannot be claimed as one of the outstanding triumphs of laissez-faire capitalism – which is not surprising, if I am right in thinking that the best brains of Wall Street have been in fact directed towards a different objective.

**CONCLUSION**

The issue of high global food prices, the price formation process itself and the speculative behavior on the commodity market is a highly complex construction. The exploration of the literature, however, provides the necessary background information to gain insight into the matter at hand and also reveals the competing perspectives of the literature itself. In the next two chapters, I will conduct an analysis of the material available in order to provide convincing arguments why food speculation do matter since the empirical economic analyses are not entirely conclusive.
CHAPTER 3

FINANCIAL MARKET AND POLITICAL DYNAMICS

This chapter examines the deregulation of financial markets, which gave way to excessive speculative activity in the first place. In particular, the passage of the Futures Commodity Modernization Act of 2000 marked the beginning of a new area in the financial markets. For the purposes of this project, the next logical step is to analyze the dynamics of the financial market and the behavior of the key financial players, especially during the height of the food price crises, in order to illustrate the development of the independent variable. I then turn to the Dodd-Frank Act, to demonstrate how the controversial subject of financial speculation eventually became a matter of public interest and led to tighter regulations. Finally, I examine limits on the implementation of the Dodd-Frank Act.

FINANCIAL DEREGULATION

After the previous chapter’s review of the literature on recent developments in commodity and food prices, it is reasonable to assert that global food prices are driven by both market fundamentals and speculative investment. However, this work focuses on speculative investment activity in the commodity market as a distorting force on global food prices. In particular, this section needs to address the question of how was it possible to have such a push on the commodity market in the first place.

In the aftermath of the stock market crash of 1929 and during the Great Depression, the Roosevelt government promoted and enacted legislation to prevent another economic crisis, attempting to regulate financial markets more tightly. As far as the commodity market is concerned, key federal regulations include the Securities Act of 1933, the Securities Exchange Act of 1934, and most importantly the Commodity Exchange Act (CEA) of 1936 (CFTC 2009). The latter replaced the Grain Futures Act of 1922 and introduced federal regulation of all commodities and futures trading activities. It specifically addressed the need for position limits to avoid excessive speculation, and called for trading only on regulated
exchanges, not permitting trading outside of them. This measure was to ensure that farmers would still be able to hedge their risks through future contracts as initially intended, but at the same time limit the positions they are able to hold to prevent unreasonable speculation. The CEA is significant since it laid the foundation for the creation of the oversight institution Commodities Futures Trading Commission (CFTC) in 1974. The creation of this independent regulatory body replaced the US Department of Agriculture’s commodity exchange authority. Congress enacted the Commodities Futures Trading Commission Act of 1974 due to concerns that federal authorities could not prevent abusive trading practices, and to safeguard the competitiveness and efficiency of the commodities futures market. In his signing statement President Ford (1974, para. 4) pointed out that increased trading has attracted more speculators and vastly increased the potential for unethical and illegal practices. This has resulted in failures of financial firms and losses by innocent investors. Consumers also have suffered, since the gyrations of the futures markets have, in some cases, driven up prices to consumers. It is important that futures trading take place under conditions in which traders and the public have full confidence in the system. This new law is an important step in this direction.

As a result, Congress equipped the CFTC with very broad oversight and regulatory powers, including the power to approve position limits and other specifications of all futures contracts traded on the exchanges.

From the 1990s on, a broader trend in the liberalization of the commodity exchange market could be observed all around the globe (Berg 2011). For example, the CFTC approved a request from the Chicago Mercantile Exchange (CME) for an exemption from the position limits on trading in 1991-1992. Thus, “position accountability” was introduced compared to the strict position limits as a result of hard lobbying of the financial industry (Berg 2011; CFTC 2009). In addition, several financial players applied for and also received so-called hedge exemptions to risk management activities. The CFTC (2009, para. 12) stated that it adopted this broader view of the hedge exemption so that any futures or option positions involved in such risk reducing strategies currently would be eligible for exemption from exchange speculative limits pursuant to exchange rules. The CFTC specified that such exemptions be granted on a case-by-case basis, subject to a demonstrated request and showing by the applicant of the need for the exemption.
It might not come as a surprise that the same year the CFTC exempted those limitations, financial players such as Goldman Sachs introduced new investment tools like commodity index funds, which would become the primary tools for speculative investment in food commodity markets (World Development Movement [WDM] 2010). In general, the deregulatory mindset of the early 1990s spread among the different exchanges. The Chicago Board of Trade (CBT) - with the approval of the CFCT - had consistently loosened the regulations on position limits. According to Berg (2011, 256), the CFTC originally allowed for 600 contracts per commodity to be traded on the exchanges; however, by 2005 the CBT had raised the limits to 22,000 contracts for maize, 10,000 contracts for soybeans, and 6,500 contracts for wheat. At the height of the 2006-2008 food crisis, the contracts had doubled for each commodity (Berg 2011, 256).

The height of the deregulatory movement of the financial industry had been reached with the Commodity Futures Modernization Act of 2000 (CFMA) and counts as the most significant transformation. Up until that point it is fair to argue that mainly commercial investors dominated the market, but non-commercial actors were steadily gaining ground (Ghosh 2010). At that point index fund activity was intensifying, and the so-called “over-the-counter” transactions (OTCs) with agricultural commodities had become a growing market too (Berg 2011). The CFMA targeted exactly that OTC market. Three members of the President's Working Group on Financial Markets (Secretary of the Treasury, Robert Rubin, Chairperson of the Board of Governors of the Federal Reserve System, Alan Greenspan, and Chairperson of the Securities and Exchange Commission, Arthur Levitt), promoted and supported the deregulation. However, the Chairperson of the Commodity Futures Trading Commission, Brooksley Born, demanded the opposite, calling for stronger regulation of the exchanges as well as the authority for oversight over the almost completely unregulated OTC market, particularly due to the significant changes and developments on those markets (CFTC 1998a). Due to complaints that the CFTC would act unilaterally, Born argued that the CFTC was the responsible federal regulatory body with the necessary expertise in the derivatives market. She also suggested that the frivolous push for reform of the other members of the PWG was unacceptable to her (CFTC 1998b). Borne resigned in protest in June 1999, and was succeeded by William Rainer when the PWG Report was issued in November 1999. The CFMA was signed into law on December 21, 2000 by President Bill
Clinton and contained most parts of the PWG Report. Basically the CFMA rejected the demand for functional regulation of the OTC market and thus, opened the gates for unregulated commodity trading outside of the existing exchanges. In summary, it allowed for all investors, commercial and non-commercial, including pension funds, hedge funds or investment banks, to trade commodities without any position limits or other regulatory requirements, despite high-level opposition to the reforms (Ghosh 2010). Today we know that the deregulated OTC market caused the global financial meltdown and spurred commodity trading; the signal was clearly “anything goes.”

**EXCESSIVE SPECULATION AND STRUCTURAL CHANGES IN THE COMMODITY MARKET**

The next step in this analysis is to elaborate on the exact financial activities on the commodity market and to illustrate that development. This will help illuminate the factors that caused global food prices to rise. One main argument for food price increases is the increase in the overall amount in commodities trading. This is exemplified by data from the UNCTAD Report (2009a, 53); for example, between 2002 and mid-2008, the number of derivative contracts in commodities increased more than five-fold. As I pointed out in Chapter Two, there was a significant increase in the volume of financial investment on both organized exchanges and the OTC market from 2004 on. The findings of the UNCTAD and Arbeiterkammer Wien (2011) report also suggest that this trend was highly correlated with rising prices on the commodities market. Besides those arguments, other data indicate that in the run-up to the 2007-2008 financial crisis, speculators on the commodity market dominated the long-positions in food commodities, e.g. 65 percent of maize contracts, 68 percent of soybeans and 80 percent of wheat (WDM 2010, 9). In addition, Masters and White (2008, 34) show that index fund trading from 2003-2007 already topped the amount of futures market contracts of physical hedgers and traditional speculators together. In the 1990s, financial investors or non-commercial speculators accounted for less than 25 percent; by 2008 they dominated about 85 percent the market, and in some extreme cases even more than that (Masters and White 2008, 6). In addition, investment doubled in the first six months of 2008 (Masters and White 2008, 6).

Meanwhile, the prices for the 25 commodities that are covered under those index funds had all -without exception- increased by an average of 183%, which was a rather
unlikely development if market fundamentals truly were at work (Masters and White 2008, 3). According to data in the Masters and White (2008, 14) study, prices per commodity increased as follows from 2003-2007: corn by 214 percent, soybeans by 160 percent, wheat by 177 percent, as well as commodities in the energy market like Brent crude oil by 397 percent, WTI crude oil 364 percent, and gasoil by 448 percent. All these different data support the main argument of the volume of trading.

Two additional and significant trends in the financial market have to be taken into consideration for this analysis. Firstly, in order to illustrate the correlation between commodity index fund positions and the actual development of the global food price, I present the following graph from the WDM (2010, 11) report. Figure 2 shows the index of estimated net long positions of index traders and the IMF food price index from January 2006 to May 2009.

Secondly, another important aspect to better understand the development between growing investment in the commodities market and spiking global food prices is the idea that index investment creates extra demand on top of the fundamental supply and demand relations. Masters and White (2008, 14) put into perspective the actual futures holdings from index funds at 01/01/2003 and listed all the purchases over five and a half years, until 07/01/2008, to demonstrate the magnitude of the impact that extra demand created. A closer examination of corn, soybeans, wheat, and oil provides more insight into the matter (see Table 1). As of 07/01/2008, the Index Speculators’ Futures Stockpile of Bushels of corn was 2,313,370,000, which equals 9.5 times the Stockpile of corn on 01/01/2003 (Masters and White 2008, 14). This corn futures stockpile would be enough to fuel the American ethanol
Table 1. Index Speculators’ Futures Purchases

<table>
<thead>
<tr>
<th>Product</th>
<th>Index Speculators’ Futures Stockpile as of 1/01/03</th>
<th>Index Speculators’ PURCHASES Last 5½ Years</th>
<th>Index Speculators’ Futures Stockpile as of 7/01/08</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cocoa</td>
<td>18,828 pounds</td>
<td>257,592 pounds</td>
<td>310,420 pounds</td>
</tr>
<tr>
<td>Coffee</td>
<td>196,716,049 pounds</td>
<td>2,192,733,059 pounds</td>
<td>2,388,450,000 pounds</td>
</tr>
<tr>
<td>Corn</td>
<td>242,581,708 bushels</td>
<td>2,070,808,292 bushels</td>
<td>2,313,370,000 bushels</td>
</tr>
<tr>
<td>Cotton</td>
<td>544,934,995 pounds</td>
<td>5,067,015,001 pounds</td>
<td>5,311,550,000 pounds</td>
</tr>
<tr>
<td>Soybean Oil</td>
<td>163,136,768 pounds</td>
<td>4,364,164,322 pounds</td>
<td>4,509,300,000 pounds</td>
</tr>
<tr>
<td>Soybeans</td>
<td>81,028,272 bushels</td>
<td>829,371,728 bushels</td>
<td>910,400,000 bushels</td>
</tr>
<tr>
<td>Sugar</td>
<td>2,201,356,716 pounds</td>
<td>44,900,357,264 pounds</td>
<td>47,281,685,000 pounds</td>
</tr>
<tr>
<td>Wheat</td>
<td>166,738,225 bushels</td>
<td>893,321,775 bushels</td>
<td>1,060,660,000 bushels</td>
</tr>
<tr>
<td>Wheat KC</td>
<td>54,746,014 bushels</td>
<td>89,153,985 bushels</td>
<td>143,940,000 bushels</td>
</tr>
<tr>
<td>Feed Cattle</td>
<td>101,441,612 pounds</td>
<td>475,803,398 pounds</td>
<td>580,250,000 pounds</td>
</tr>
<tr>
<td>Lean Hogs</td>
<td>511,414,747 pounds</td>
<td>4,536,865,253 pounds</td>
<td>5,054,280,000 pounds</td>
</tr>
<tr>
<td>Live Cattle</td>
<td>669,756,732 pounds</td>
<td>6,202,713,268 pounds</td>
<td>6,872,480,000 pounds</td>
</tr>
<tr>
<td>Brent Crude Oil</td>
<td>47,075,357 barrels</td>
<td>161,236,643 barrels</td>
<td>206,312,000 barrels</td>
</tr>
<tr>
<td>WTI Crude Oil</td>
<td>99,880,741 barrels</td>
<td>580,433,259 barrels</td>
<td>660,314,000 barrels</td>
</tr>
<tr>
<td>Gas Oil</td>
<td>1,692,062 M Tons</td>
<td>6,700,238 M Tons</td>
<td>6,822,990 M Tons</td>
</tr>
<tr>
<td>Heating Oil</td>
<td>1,067,859,668 gallons</td>
<td>2,798,650,392 gallons</td>
<td>3,367,810,000 gallons</td>
</tr>
<tr>
<td>Unleaded Gas</td>
<td>1,102,194,401 gallons</td>
<td>2,666,035,599 gallons</td>
<td>3,748,088,000 gallons</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>330,652,415 MM Btu</td>
<td>1,975,417,565 MM Btu</td>
<td>2,306,070,000 MM Btu</td>
</tr>
<tr>
<td>Aluminum</td>
<td>344,246 M Tons</td>
<td>3,252,704 M Tons</td>
<td>3,506,050 M Tons</td>
</tr>
<tr>
<td>Lead</td>
<td>82,019 M Tons</td>
<td>179,731 M Tons</td>
<td>261,750 M Tons</td>
</tr>
<tr>
<td>Nickel</td>
<td>20,147 M Tons</td>
<td>102,715 M Tons</td>
<td>122,862 M Tons</td>
</tr>
<tr>
<td>Zine</td>
<td>133,381 M Tons</td>
<td>1,175,419 M Tons</td>
<td>1,308,800 M Tons</td>
</tr>
<tr>
<td>Copper</td>
<td>220,096,25 M Tons</td>
<td>1,160,192 M Tons</td>
<td>1,390,238 M Tons</td>
</tr>
<tr>
<td>Gold</td>
<td>979,853 ounces</td>
<td>8,737,697 ounces</td>
<td>9,717,700 ounces</td>
</tr>
<tr>
<td>Silver</td>
<td>11,126,852 ounces</td>
<td>149,353,198 ounces</td>
<td>160,480,000 ounces</td>
</tr>
</tbody>
</table>


industry at full capacity for one year. As of 07/01/2008, the Index Speculators’ Futures Stockpile of Bushels of soybeans was 910,400,000, which equals more than 11 times the Stockpile on 01/01/2003. As of 07/01/2008, the Index Speculators’ Futures Stockpile of Bushels of wheat was 1,060,060,000, which equals almost 6.5 times the Stockpile wheat on 01/01/2003 (Masters and White 2008, 14). This wheat futures stockpile would be enough to feed every American Citizen with all the available wheat products such as pasta and bread for about two years. Lastly, as of 07/01/2008, the Index Speculators’ Futures Stockpile of Barrels of WTI crude oil was 680,314,000, which equals almost 7 times the amount of WTI crude oil on 01/01/2003 (Masters and White 2008, 14). The increase in stockpiles of petroleum in general over those five and a half years equaled the overall increase in Chinese demand in petroleum over the period. This is an interesting example, since experts and analysts often referred to China as an indirect price driver, since its demand was growing. However, taking into consideration the actual increase in demand and the increase in artificially created demand from futures contracts in petroleum, this development obviously influenced the price of petroleum as well (Masters and White 2008).
In this context, Tang and Xiong (2009) offer another important link to speculative behavior when it comes to oil and soft commodities that factor into price development. Obviously, the oil market itself is a highly speculative market. Tang and Xiong show that the price of oil and the price of non-energy commodities are increasingly correlated. Those structural changes on the financial market allow for the spread of volatility from outside as well as across the different markets. This again shows that price changes in soft commodities do not have to be driven necessarily by market fundamentals.

In addition to soaring investment activities on the commodity market, and the growing correlation among different commodity markets, it is insightful to take into consideration the investment side itself. According to the third-quarter report of the US Office of the Comptroller of the Currency (OCC 2011, Graph 5a), Administrator of National Banks on Bank Trading and Derivatives Activities, five US Banks (JP Morgan Chase, Citibank, Bank of America, Goldman Sachs, and Morgan Stanley) as well as their holding companies combined hold 95 percent of the overall US derivative market, which is about 80 percent of the global market. In fact, Goldman Sachs and Morgan Stanley are the two top financial entities in commodity markets, closely followed by Barclays Capital, JP Morgan and Deutsche Bank (Scott 2011). Most informative are several research papers and reports published by Goldman Sachs, which deal exactly with the trends and changes in the commodity markets. In “Food, Feed and Fuels: An outlook on the agriculture, livestock and biofuel markets,” Goldman Sachs (2007) analyst Jeffrey Currie reports that the recent increase in agriculture prices was mainly due to structural reasons as well as a boost in food, feed and fuel demand, which were likely to continue. Thus, investing in such commodities would be a good idea. On the other hand, the market analysis of Arjun N. Murti et al. for Goldman Sachs (2008a, 12) clearly states that “[w]ithout question increased fund flow into commodities has boosted prices.” However, their argument is that index funds are financial tools that pick up signals for an increase in demand earlier than other tools or traders. They were therefore able to send the message of tight markets earlier to those markets than for example real traders. In their opinion this would generate superior price formation.

The fact that tight oil supply/demand fundamentals are attracting large amounts of capital is a good thing. Higher oil prices signal to oil companies the need for greater investment. Higher oil prices also signal to consumers the need to demand less. This is basically the point of capitalism, which over the past hundred years
has proven to be the superior economic and geopolitical philosophy. (Goldman Sachs 2008a, 12)

Those statements are of particular concern, especially when applied to soft commodity markets. In this case, the efficient market theory is highly questionable for several reasons. First, consider the growing proportion of market share over the past 13 years and the fact that Goldman Sachs itself made around five billion dollars from financial investment in 2008 alone, while global food prices sky-rocketed under the pressure of the market itself (Goldman Sachs 2008b). Second, the fact that only a few financial players control the commodity market is disturbing insofar as the concentration of market power has boosted intentional herding and the distortion of the price formation process itself (UNCTAD and Arbeiterkammer Wien 2011). Third, the statement that high prices for agricultural products signal either the necessity for more investment or less demand is simply irresponsible, since demand for foods is highly inelastic. What are the people supposed to do if prices for oil, wheat, or corn shoot up within a relatively small period of time? In the category of commodities, high prices do not necessarily result in less demand, except when people can no longer afford the products and they go hungry.

Those structural changes seem to have also been of significance with regard to price development after the first market crash in 2008. From 2009 on, we could observe the growing influence from so-called money managers, e.g. hedge funds, which analysts attribute to the flexible market strategies of those investors. An analysis in the UNCTAD and Arbeiterkammer Wien (2011, viii) report shows a correlation of 0.8 between price changes and position changes of money managers since 2009. The fact that global food prices had been picking up again in 2009, and even surpassed the prices during the crisis of 2007-2008 might be best explained by the strategies of financial investors. Index traders in general attempt to go for long-only positions. In the face of sharp price declines they might start disinvesting. On the other hand, money managers are generally more flexible and hold large positions, which are not always based on fundamentals but are instead often skewed by herding behavior and snowball effects, as noted previously (UNCTAD 2009a, 63).

Another example for the growing financialization and dynamics of the commodity market is a study conducted by Silvennoinen and Thorp (2010, 6). It shows that the volume of exchange traded derivatives already exceed the physical production by 20-30 times and confirms the existing correlation between stock and commodity market developments
(Silvennoinen and Thorp 2010, 6). The results of that study are consistent with the findings of the UNCTAD and Arbeiterkammer Wien (2011) report, i.e., that the commodity market had begun to resemble the financial markets, which is clearly an indicator of the broader financialization. This is of significance in regard to the price formation process, demonstrating that changes in market fundamentals are not as decisive anymore. The last UNCTAD Policy Brief (UNCTAD 2012, 3) illustrates the correlation between the commodity futures market and the stock markets.

Figure 3 shows the price development of WTI crude oil, the EURO Stoxx 600, and the Standard & Poor’s Goldman Sachs Commodity Index (SPGSCI) between 2002 and 2012.

![Figure 3. Development of WTI, Stoxx EU, and SPGSCI between 2002 and 2012.](image)

Figure 3 clearly shows the development over the past decade and illustrates the dynamics of the markets. In 2002 the markets still had their own dynamics, whereas in 2012 the price for WTI crude oil and for SPGSCI followed the Euro Stoxx 600 price. The analysts’ conclusion is that “eurozone events” had driven prices and not changes in market fundamentals (UNCTAD 2012, 3).

**Dodd-Frank Wall Street Reform and Consumer Protection Act 2010**

The deregulatory zeitgeist of the 1990s and 2000s had come to an abrupt end when the US mortgage crisis hit the world economy and caused the global financial meltdown between 2007 and 2010. After the old investment strategies had become more fragile, and the US housing bubble had imploded, large investors such as hedge funds were looking for new and safe investment places, such as the commodity futures market. This evasive maneuver, in turn, had been made possible by the previous deregulation of the financial sector, which had
caused the global financial crisis in the first place (Ghosh 2010; IFDP 2008). In the early 2000s, the likelihood of creating an adequate system of financial regulation seemed to be infinitesimal because “powerful interests – in financial markets […] and in Congress – continue to control the political process,” but now the biggest financial reform since the Great Depression got pushed through (Crotty 2005, 89). The Dodd-Frank bill, which President Obama signed into law in July 2010, not only addressed the causes of the economic collapse, but also called for strong regulation of agricultural commodities markets. The idea was to engage the CFTC again to install more rigorous positions limits and to provide more transparency over the OTC businesses, more specifically by requiring OTCs to be cleared through exchanges or clearinghouses.

After the Dodd-Frank Act came into effect, more than 450 economists from 40 countries around the globe called on the G20 to take all the steps necessary in order to stop harmful speculative behavior on global commodity markets, confirming its negative effects on global food prices (WDM 2011). An additional reason for the petition might have been the fact that by the end of 2011 only 6.2 percent of the adopted regulations in the Dodd-Frank Act had been enacted (Washington Post 2013, para. 3). “Persistent industry lobbying has slowed down rule-making and, where rules were produced, made them more industry-friendly,” making Dodd-Frank Act much less successful in terms of implementation than it should have been (Washington Post 2013, para. 7). In this context, the G20 commissioned the International Organization of Securities Commissions (IOSCO 2011) to provide a regulatory framework to prevent further market manipulation, which the member governments eventually endorsed at the G20 Summit in November 2011. Just a couple of weeks after the G20 ministers endorsed position limits, the International Swaps and Derivatives Association and the Securities Industry and Financial Market Association sued the CFTC over the position limits regulations in the Dodd-Frank Act. A New York Times blog (Dealbook 2011) accused the CFTC of overreacting in terms of the implementation of position limits and of failing to take its necessity into account in the first place. Interestingly enough, these interest groups represent a number of financial institutions, including Goldman Sachs, JP Morgan, and Morgan Stanley. The blog concludes that “[t]he lawsuit is the latest indication that Wall Street is shifting fronts in the battle over Dodd-Frank, moving from backroom lobbying to the courtroom (Dealbook 2011, para. 7).” In September 2012, the
United States District Court for the District of Columbia ruled in International Swaps And Derivatives Association versus US CFTC that the CFTC had failed to provide convincing evidence that position limits were necessary and thus that the CFTC did not come into effect (Forbes 2012). The CFTC appealed the decision, but no final ruling has been made yet. How hard the financial institutions try to fight any restrictive piece of regulation is further exemplified by another court case in which the CME Group attempted to press charges against the CFCT over new rules on reporting requirements in the court case Chicago Mercantile Exchange Inc. versus US CFTC. However, the CME Group later dropped the charges after the CFTC lowered its requirements of data disclosure (Bloomberg 2012). The fight against the implementation of the Dodd-Frank Act is far from over.

CONCLUSION

The elaboration on the role of the financial markets and political dynamics leads to the conclusion that excessive speculative behavior on the commodity markets was only made possible through entering the realm of politics. It seems that hard lobbying has paid off for the financial industry. First, they opened up new markets that were not available beforehand. Second, they have succeeded in using the judiciary to keep them open. The evidence for excessive speculative behavior is persuasive, and supports the argument that the increasing investment in commodity markets “has [indeed] increased price volatility” (UNCTAD 2009a, 71).
CHAPTER 4

THE DOWNSIDE OF FINANCIALIZATION

This chapter elaborates on the volatility of global commodity prices and its consequences for the most vulnerable people on this planet. Moreover, it explores the pass-through effect of high global food prices to domestic markets. Although it can be difficult to isolate the effects of all the different variables at play when it comes to the transmission of global food prices to domestic markets, in this chapter I attempt to demonstrate the extent and variation of rising global food prices.

FOOD PRICE VOLATILITY AND CONSEQUENCES

Looking at the global food price development in Figure 1 in Chapter 1 again, it is obvious that there was an unprecedented spike in food prices during 2007-2008. After the prices had dropped sharply over the course of 2008, prices were picking up again steeply from June 2010 on. Global food prices peaked again in February 2011, going beyond the previous price spike if adjusted for inflation (IFPRI 2011, 21). Global food security was clearly at the center of attention during the first food crisis in 2007-2008 but then was pushed aside by the global financial crisis and economic meltdown that followed. Unfortunately, the food crisis was not over at this point but rather continued, albeit with much less attention. Interestingly, the IFPRI (International Food Policy Research Institute) has developed a method to statistically measure whether price changes have reached a point of excessive volatility. They conclude that the world is currently facing a period of excessive volatility (IFPRI 2011, 21).

In order to get an idea of how food prices have developed over time, Table 2 provides the price changes for key food commodities like wheat, maize/corn, and soybeans. The prices are export prices for the United States since it is the biggest exporter of those commodities (IFPRI 2011, 28). The international prices for wheat, maize, and soybeans have increased by 257 percent, 217 percent, and 224 percent respectively between October 2005 and the first peak in February 2008. Table 2 also provides data from October 2000 as well as October
Table 2. Price Development for Wheat, Maize and Soybeans

<table>
<thead>
<tr>
<th>DATE</th>
<th>MEASURE</th>
<th>WHEAT</th>
<th>MAIZE/CORN</th>
<th>SOYBEANS</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 2000</td>
<td>USD/tonne</td>
<td>131.20</td>
<td>85.19</td>
<td>202.00</td>
</tr>
<tr>
<td>October 2005</td>
<td>USD/tonne</td>
<td>174.50</td>
<td>101.30</td>
<td>258.25</td>
</tr>
<tr>
<td>February 2008</td>
<td>USD/tonne</td>
<td>449.25</td>
<td>219.77</td>
<td>578.50</td>
</tr>
<tr>
<td>February 2011</td>
<td>USD/tonne</td>
<td>362.00</td>
<td>287.14</td>
<td>569.25</td>
</tr>
<tr>
<td>October 2013</td>
<td>USD/tonne</td>
<td>332.60</td>
<td>200.73</td>
<td>554.00</td>
</tr>
</tbody>
</table>


2013 in order to get broader insight in terms of the actual price changes over a longer period of time. On the other hand, the development of the FAO food price index as shown in Figure 1 illustrates actual volatility over more than two decades. Moreover, to contrast the first price spike with the second peak in February 2011 the increase in prices for wheat, maize, and soybeans amounted to 207 percent, 284 percent, and 220 percent respectively. How those price spikes relate to the amount of investment can be derived from Table 3, which includes the total amount of outstanding futures contracts for wheat, maize, and soybeans on the CBOT (Chicago Board of Trade)\(^2\) alone. This is only one way to link rising food prices to the volume of investment but it clearly demonstrates and supports the argument made in this thesis. Table 3 shows that the amount of outstanding future contracts between October 2005 and February 2011 tripled for wheat, doubled for maize/corn, and more than tripled for soybeans. It has to be stressed again that the volume of future contracts in Table 3 refers only to the amount traded at the CBOT and not on other exchanges. As I pointed out in Chapter Two, the OTC (Over The Counter) market exceeds the exchange-traded market by far and is not covered in the data presented in Table 3.

Table 3. Total Number of Outstanding Futures Contracts on CBOT

<table>
<thead>
<tr>
<th>DATE</th>
<th>MEASURE</th>
<th>WHEAT</th>
<th>MAIZE/CORN</th>
<th>SOYBEANS</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 2005</td>
<td>millions</td>
<td>0.2</td>
<td>0.8</td>
<td>0.2</td>
</tr>
<tr>
<td>February 2008</td>
<td>millions</td>
<td>0.5</td>
<td>1.4</td>
<td>0.6</td>
</tr>
<tr>
<td>February 2011</td>
<td>millions</td>
<td>0.6</td>
<td>1.6</td>
<td>0.7</td>
</tr>
</tbody>
</table>


\(^2\) The Chicago Board of Trade (CBOT) is the world’s oldest futures and options exchange. In 2007 the CBOT merged with the Chicago Mercantile Exchange (CME) to form the CME Group, Inc. including NYMEX and COMEX. The CME Group, Inc. is now the world largest derivatives market.
Another significant matter to consider in regards to food price volatility is evidence that other factors might not play as big of a role in driving up prices as some experts and economists have claimed that they do. Last year the Council on Foreign Relations (CFR 2012) reported that “[t]he ongoing drought in the Midwest has affected approximately 80 percent of the U.S. corn crop and more than 11 percent of the soybean crop, triggering a rise in global food prices (RFE/RL) that CFR's Isobel Coleman says may fuel political instability in developing countries” (CFR 2012, para. 1). This was particularly due to the fact that the US produces about 35 percent of the global supply of corn and soybeans (CFR 2012, para. 1). According to the CFR, it is obvious that this drought will have a negative effect on global food prices. In this context, we might logically conclude that low stock levels might also play into this constellation and thus, strengthen the assumption of rising prices. In fact, a report from the World Bank (2011) stated that even though the overall supply of food had improved after the second price spike in early 2011 low global stock levels were still of big concern particularly in the case of maize. Moreover, it explicitly explains that “the low stock environment has created a situation in which even small shortfalls in yields can have amplified effects on prices” (World Bank 2011, 2). In Chapter Two I pointed out how some experts sometimes overestimate or misinterpret the effects of low stocks. In reality, as we can see from Table 2, the prices for maize/corn and soybeans for US exporters have actually decreased between February 2011 and last month. Although the decline is not substantial compared to the previous price spikes, for maize/corn it accounts for 86.41 US dollars/ton and for soybeans 15.25 US dollars/ton, but it demonstrates that the drought did not have the effect that experts assumed it would have. These circumstances allow for the preliminary conclusion that the both price spikes in 2007-2008 and 2010-2011 must have been beyond fundamental changes if the 2012 drought did not translate into higher prices, despite that prediction by experts.

It seems like the trend of higher and more volatile global food prices is here to stay nonetheless. For example, the FAO (2011) predicts that global commodity prices for wheat and maize in the five years from 2015-2016 to 2019-2020 will be higher in real terms by 27 and 48 percent, respectively, than in the five years from 1998-1999 to 2002-2003 just before the crisis (FAO 2011, 12). These irregularities and price swings have an impact on both food producers as well as food consumers. On one hand, food consumers in general will have to
spend more for their food if prices keep rising. However, for an analysis of the impact on developing countries we must make the distinction between net sellers and net buyers. The concept net buyers refers primarily to the urban poor, who spend most of their income on food. For them the effect of high food prices is direct and inevitable, and often leads to either a downgrade in their diet and/or less spending on other necessities, such as health care and education (FAO 2011, 13). For net sellers the situation is more complex. In general, we might assume that higher food prices would lead to a higher income for sellers. However, this is only the case if they grow the commodity for which the price is rising and if their production costs do not increase at the same time. The IFPRI (2011, 21) finds that in the 2010-2011 crisis this was not the case. In fact, the benefits of higher food prices often go to large scale producers, who are able to cultivate more farmland, produce more, and thus benefit more (FAO 2011, 13; IFPRI 2011). For rural food producers, the situation is often even more complicated in regard to long-term planning about what to grow, whether to apply fertilizers and so forth. In short, high and volatile food prices mean more insecurity in terms of their subsistence (FAO 2011). Additionally, research has shown that unstable food prices have decreased the possibility for small or medium sized farmers to hedge their risks on the market (Oxfam 2011, 8). This means that the commodities derivatives market does not perform its intended function anymore. The result for a small farmer is that “if prices are too unstable and the premium is too high, she may not have the cash up front, or it may be too expensive for it to be worthwhile to protect herself against the risk of falling prices” (Oxfam 2011, 8).

The world market price can have a direct and indirect impact on consumers and producers, but can also affect states on a national level, “such as the balance of payments, budget deficits and exchange rates” (FAO 2011, 13). In general, it is fair to say that exporting countries benefit from high prices, whereas importing countries suffer from high prices. However, the pressure on importing countries from high food prices might lead to more investment in the agricultural sector, which would benefit the country as a whole in the long run by reducing poverty and food insecurity (FAO 2011, IFPRI 2011). I discuss this argument in more depth in Chapter Five. Food importing countries tend to have high Global Hunger Index (GHI) scores. Countries with a large number of poor people, such as India, are heavily affected by high food prices (IFPRI 2011, 22). In terms of fiscal effects, food
importing countries that have to buffer price spikes through fiscal measures like subsidies will eventually confronted the fact that a reduced budget will translate into less investment in public goods such as infrastructure, health care, or education. In the long run, this decrease in investment can even lead to a slowdown in economic growth, as was the case in Latin America (IFPRI 2011, 14). I turn now to the question of how different domestic markets handle high global food prices.

**PASS-THROUGH EFFECTS**

As pointed out in Chapter Two, international food prices are not directly transmitted into domestic food markets. There are several factors that might have an influence. Besides food price drivers on a global level, domestic supply and demand play a decisive role too. We know that food import dependent countries are hit hardest by high global food prices (Clapp 2009; Ghosh 2010; United Nations Department of Economic and Social Affairs [UNDESA] 2011). The analysis in this section shows the broader patterns that are at work and reveals economic trends underlined by specific examples. Some countries have been more successful than others in dealing with high global food prices. The interventionist strategies in coping with the crisis have varied from reduction or suspension of import tariffs and taxes, to export restrictions, to more support for domestic production, to increased subsidies (Ghosh 2010). It is obvious that the effectiveness of such strategies depends on the fiscal resources of each country. Ghosh (2010, 84) argues that most developing countries simply do not have the necessary resources as most of them are being faced with larger fiscal deficits than they had planned for, which in turn was an inevitable result of the financial crisis. In addition, Ghosh points out that

many developing countries cannot engage in ‘ambitious countercyclical fiscal policies’, because they are themselves constrained by internal and external deficits. In particular, governments of developing countries increasingly find themselves crowded out of international credit markets because of the voracious demands of the US and other major developed economies, as they guarantee more and more private debt within their own countries and expand their own fiscal deficits. (Ghosh 2010, 84)

Another important factor that had a negative impact on developing countries was the surprising appreciation of the US dollar, at the same time that many developing countries had to face a depreciation of their currencies due to sharp disinvestment of private capital, mostly from developed countries (Ghosh 2010, 85). The main reason for those effects is the fact that
trade is still conducted in US dollars. For example, “in the period between June 2008 and January 2009, the Indian rupee depreciated by 23 per cent vis-à-vis the US dollar as portfolio capital moved back to the US” (Ghosh 2010, 85). In the case of Africa, a depreciation of several currencies has occurred since the beginning of 2011, including those of South Africa, Nigeria, Kenya, Ghana, Uganda, Rwanda and Burundi (African Development Bank Group 2011). The African Development Bank Group confirms the argument of capital outflow and also mentions additional structural factors, particularly for oil exporting countries like Nigeria. The depreciation of foreign currencies seems to be an ongoing trend. Spiegel Online International (2013) reports that the depreciation in currencies in Asia is mainly due to changes in investment strategies in the US, which had led investors to pull their money out of emerging markets. The situation in Indonesia was particularly concerning, since almost 240 million Indonesians live on less than two US dollars a day and have been forced to cut back even more on food due to the drop in the Rupiah (Spiegel Online International 2013, para. 20). In this context, it is legitimate to argue that the food crisis is not only partially caused by the activities of the financial sector, but is also exacerbated by a general financial liberalization as well as the behavior of financial investors. It goes without saying that national policy responses will have a short-term effect as well as an influence on long-term prospects for food security, and for economic development and poverty in general.

A study by the World Bank Development Research Group (WBDRG 2008, 7) found that among nine low-income countries - Bolivia, Cambodia, Madagascar, Malawi, Nicaragua, Pakistan, Peru, Vietnam and Zambia - the impact of high prices for staple foods on poverty fluctuates depending on commodity and country. However, the study also revealed that the short-term higher staple food prices increased national poverty rates by 4.5 percent and that the prices of wheat and maize played the most decisive role in the increase in poverty (WBDRG 2008, 17, 20). In the period between July 2010 and July 2011 the price of maize (yellow) changed by 84 percent and the price of wheat (US hard red wheat) changed by 55 percent (World Bank 2011, 2).

In general, global food prices have declined after peaking in February 2011, although prices remain high and volatile. However, even when prices are coming down on a global level, they do sometimes stay at a higher level in domestic markets or transmit to markets that are isolated, in which a price transmission is not expected. A recent study conducted by
the United Nations University – WIDER (2013, 25) showed interesting results in terms of global price transmission to domestic markets. Food importing countries like Bangladesh, Egypt, Kenya, Mozambique, and Senegal are consistently dependent on imports of staple foods, and experts expected them to show a high level of food price transmission due to their reduced ability to stabilize food price transmission to domestic markets (United Nations University – WIDER 2013, 25). Interestingly enough, the transmission itself has varied tremendously. For example, Bangladesh was able to keep price transmission at a relatively low level. On the other hand, domestic prices in Kenya, Mozambique, and Senegal skyrocketed during the crisis and prices even remained at a relatively high level even after global food prices went down again. For isolated countries like Ethiopia, Nigeria, Malawi, and Zambia, which are mainly self-sufficient in their staple foods, price transmission is expected to be relatively low due to their poor integration with the international market. Surprisingly, however, prices increased rapidly in all of the countries during the time of the food crisis. In Ethiopia and Nigeria the price of corn/maize was higher than international food prices, and Malawi and Zambia had to endure persistently high food prices (United Nations University – WIDER 2013, 25).

In order to gain a better understanding of how high global food prices passed through to domestic markets over the food crisis periods, I illustrate here the specific domestic price developments for Guatemala, Yemen, and Nigeria. Guatemala serves as an example for Latin America. Although the country was mainly self-sufficient in food about two decades ago, it is now highly dependent on US corn and soy and 100 percent dependent on US wheat (Oxfam 2012a, 7). Moreover, it is a significant example of price transmission, since the Guatemalan government has not adopted necessary policies that carry weight in terms of preventing food price transmission (Oxfam 2012a, 7). In addition, Guatemalans spend about 66 percent of their income on food. Yemen serves as an example for the Middle East and is particularly dependent on wheat imports. Economists consider it to be highly vulnerable in terms of food price transmission (Oxfam 2012a, 7). It is one of the most “alarming” countries when it comes to food security and hunger, according to the Global Hunger Index (IFPRI 2011, 15). The last example, Nigeria, represents an African country, as well as the countries that are least integrated into the international market. As far as the food security situation is concerned, Nigeria’s situation is “serious” according to the Global Hunger Index (IFPRI
Although people in rural areas are mainly self-sufficient, about 77 percent of subsistence farmers are among the poorest Nigerians, which is also true for about 70 percent of mixed or cash crop farmers (IFPRI 2013, para. 3).

In Guatemala, the price for white maize increased steadily from the early 2000s on and peaked at 137.69 Quetzal/Spanish quintal in July 2007. After the price had dropped significantly it had been picking up again from the early 2008 on and peaked again in July 2011 at 216.40 Quetzal/Spanish quintal. The price had come down slightly by July 2013 at 157.02 Quetzal/Spanish quintal. Thus, the price for white maize still remains higher today than during the first peak in July 2007 (FAO 2013a).

In Yemen, the price development for wheat is harder to assess since the data are not available at the FAO database and it varies highly among regions. However, the national average retail price for wheat slowly but steadily increased from 2005 on and jumped at the end of 2007 from around 70 Yemeni rial/kg to around 130 Yemeni rial/kg (World Food Programme [WFP] 2010, 20). Thus, the retail price for wheat almost doubled and had been decreasing only slightly from the beginning of 2008 on. In April 2013, the retail price for wheat varied around 100 Yemeni rial/kg (WFP 2013, 3).

In Nigeria, the wholesale price for maize started to pick up from July 2007 on from 2,375 Naira/100 kg and more than tripled within one year to 7,400 Naira/100 kg (FAO 2013a). Over the course of the following years the maize price remained high and unstable and was still above the 2008 level in May 2013 at 7,500 Naira/100 kg (FAO 2013a).

In summary, although the price transmission process is different for food importing countries in the developing world, these studies suggest that rising global food prices have passed through to domestic markets. Clearly, some countries do better than others in coping with food insecurity. Finally, it has to be pointed out that even though some of the most poor and vulnerable people might have benefited from higher global and domestic food prices due to higher earnings or other wage and transfer effects, they were unable to absorb the overall negative impact (World Bank 2011, 8).

**CONCLUSION**

The more in-depth analysis of the dependent variable is supposed to serve as evidence for the general underlying argument that the financialization of the commodity market and
investment activities by financial institutions have led to a rise in global food prices. Moreover, the elaboration of the pass-through effects demonstrates the extent and impact of high and volatile food prices not only for food consumers but also for the economy of a country as a whole. The last chapter of the thesis serves as another puzzle piece to the bigger picture on how the global food system is undermined not only by financial investors but also by big players within the commodity trading business itself.
CHAPTER 5

CONCENTRATION OF POWER IN THE GLOBAL FOOD SYSTEM

In this last chapter, I address the concentration of power within the global food system itself in order to raise awareness of other underlying factors that have an influence on food security in general. The global food system itself is a highly complex set of various forces. The interconnectedness between those forces is not always direct and obvious. In this chapter, I address and explore the challenges and problems that stem from those centers of power in more detail.

The most direct in influence on the global food system is the subject of this thesis, the financialization of the commodity market. As discussed in Chapter Three, the escalation of the financial sector was made possible by the interaction of political and financial forces and the resulting deregulation of the broader derivatives market itself. After the economic meltdown and the first food crisis in 2007-2008, policy recommendations included stronger reporting requirements for commodity exchange transactions, increased capital deposit requirements, or stricter position limits. The Dodd-Frank Act of 2010 addressed these recommendations, but they were not necessarily implemented over time (IFPRI 2011, UNCTAD 2009b). The biggest players like Goldman Sachs, JP Morgan Chase or Morgan Stanley lobbied hard to prevent the implementation of stricter rules; the New York Times called them a “secretive banking elite” that has the power to safeguard its profitable market (Story 2010). One of the goals of the Dodd-Frank Act was to set up clearinghouses through which trading is supposed to be done. According to the New York Times (Story, 2010), the big banks held influential position on clearinghouses, and were also involved in creating regulations and rules for such clearinghouses by holding positions in the committees that regulate the market. Moreover, the banks successfully prevented the installation of an electronic trading system that is cutting out the banks as middlemen. The Chicago Mercantile Exchange (CME) is known for trading contracts on commodities and has become one of the biggest players in the derivatives market by merging into the CME group with the CBOT in
2007. CME worked closely with Citadel, which promoted and supported the introduction of those electronic trading systems until it backed out of the deal in 2009. As a result, the banks joined the CME’s clearinghouse efforts and “set up a risk committee that, like ICE’s committee, was mainly populated by bankers” (Story 2010, 8). In this context, the most important question is whether those banks will make an effort to represent the broader market interest or whether they will pursue their own interests. Theo Lubke, a former regulator at the Federal Reserve Bank of New York, said that “the banks are not good at self-regulation” and that this was neither their “expertise” nor their “primary interest” (Story 2010, 10). This is just another example of how influential the main banks are when it comes to pushing their interests and agenda in the realm of politics and within the financial sector itself.

Another important aspect is the role of commodities traders. Earlier this year Bloomberg (2013) reported that Vitol, one of the world’s biggest oil traders, was beginning to trade in global grain markets, hiring a team from Viterra to be in charge of the grain-trading. Timothy Wise observes that “[t]his corporate deal may not change a thing, but it is a powerful symbol of what’s wrong with our broken food system” (Triple Crisis Blog 2013, para. 2). There is an obvious link between energy traders and the commodity market. In Chapter Three we saw how different markets react in a similar manner across the board and saw how oil prices can have spillover effects to the food commodity market, driving up global prices. Thus, it might be profitable for the large energy traders to invest in the food commodity market using their insider knowledge (Triple Crisis Blog 2013). The middlemen between those transactions are of course money managers or investment banks. Energy traders already benefit from the link between gasoline and diesel and the biofuel market, and now they also intend to profit from the high volatility on the agricultural market.

Many observers assume that current US and European biofuel policies are one of the main factors behind high global food prices alongside the financialization of commodity market through the futures market (IFPRI 2011, 24). In the previous chapter I showed that price movements on the global commodity market do not stay on those markets, but rather pass through to vulnerable or unstable markets. They thus pose an additional burden on the people who are most affected by those markets. Chris Mahoney, Glencore’s director of agricultural products, assesses the situation from a different angle. The food chief of yet another large multinational commodity trading company said in view of the 2012 US drought
that the outlook and business environment was indeed prosperous: “[h]igh prices, lots of volatility, a lot of dislocation, tightness, a lot of arbitrage opportunities [the purchase and sale of an asset in order to profit from price differences in different markets] (The Guardian 2012, para. 3).

Interestingly there is another controversial link between commodities traders and the financialization of both commodity trading and agricultural production. At the core of the modern agricultural food system, four multinational corporations dominate the global trade in agricultural commodities. Archer Daniels Midland (ADM), Bunge and Cargill, and the French company Louis Dreyfus (which observers collectively shorthand ABCD), dominate between 75 and 90 percent of the global grain trade, and also trade other commodities like palm oil and sugar (Oxfam 2012b, 3, 16). Those numbers are not absolute, as the companies do not have to disclose all their stock holdings or exact details of their financial businesses. Traditionally, these companies have used the commodities derivatives market as a means to hedge their risks, and as such “have an important and legitimate role in derivatives markets” (Oxfam 2011, 5). Some have asked whether these global commodity traders are engaging in hedging their risk or in speculative behavior to profit from volatile markets (Oxfam 2011). This is mainly due to the fact that the current regulations grant them exemptions to act as “commercial players” without position limits (Oxfam 2011, 5). Again, the controversy is whether those companies might benefit from the use their market information about the underlying physical market (Oxfam 2011, 5). The latest report from Oxfam (2012b) on the ABCD conglomerate provides data on their profits of (except for Dreyfus as the data are not available), concluding that the traders are “powerful” and “poorly understood” (Oxfam 2012b, 3). As in the case of Glencore, it seems like the period of high and volatile prices has served these companies very well. In particular, profits soared between 2007-2008 and again between 2010-2011. Cargill was leading in terms of record profits in 2008 and admitted openly that they benefit from their own market information (Oxfam 2012b, 25). The company was benefiting not only from rising prices, but also due to their ability to predict price changes earlier than others. In the case of wheat, Cargill was among the first to go for falling prices based on “harvest information” (Oxfam 2012b, 25).

In addition to those activities, the ABCD conglomerate has opened financial investment companies to move away from strictly trading in physical commodities. Apart
from hedging their risks and speculating on their own accounts, which they claim makes up only a small amount of their profits, they also engage in hedging risk in other parts of their businesses, and offering financial services to third parties (Oxfam 2012b, 28). They target those financial services toward all kinds of different businesses for example to those “who want access to complex hedging products, e.g. farmers to protect margins, large-scale investors [like] pension funds, hedge funds, endowments to earn returns on investments, food processing companies to manage price risks of ingredients” (Oxfam 2012b, 29). The strategy to diversify these financial services through their subsidiaries blurs the lines between commodity trading and financial business. Their role in the food system, however, is crucial. Even though they do not produce food themselves, these trading companies provide a platform for farmers to sell their goods. Moreover, even though they do not actually run the risk of producing food, they provide the necessary capital to run the grain trading business globally. The ABCD acts as a conglomerate within the food system, and at the same time assumes important and indispensable functions. Therefore it is obvious that tight regulations are more than appropriate and necessary. However, the ABCD, like the powerful financial sector itself, lobbied hard to prevent any tightening of the regulatory framework in which they operate (Oxfam 2012b). In contrast, economists such as James Meade and Keynes established in the postwar area the notion that, due to its high importance, agriculture should be tightly regulated and not left subject to the free-market (Josling 2010, 426). Moreover, so far we do not have any evidence that the broader deregulation has helped or benefited anybody except the global players (Oxfam 2012b, 36).

Quite the contrary, the repercussions of those financial activities are even more widely felt. It seems likes the 2007-2008 food crisis has triggered sentiments of scarcity, in particular when it comes to land that is available to be cultivated. There has not only been a push from the private sector to buy land but also “International Financial Institutions” (IFI) found themselves to be drawn to actively promote and facilitate foreign land acquisitions (The Oakland Institute [TOI] 2009). In particular form 2007 on it became obvious that investors were increasingly looking for the possibility to gain access to new markets through investment in land, farming and other related activities. The ABCD are also involved in those activities, either directly, or indirectly through their subsidiaries. For example, Bunge and Cargill, through one of their asset management companies, have significantly invested in
land acquisitions and production facilities in Latin America (Oxfam 2012b, 37). On the other hand, the ABCD also receive a significant amount of money from big globally active banks like the Deutsche Bank to invest not only in land acquisitions particularly in the least developed countries but also in agricultural production companies “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” (Oxfam 2012b, 38). These new forms of investment will probably have an impact on the relationship between the agricultural system as a whole within developing countries, especially on small farmers, and on the use and cultivation of land and available resources. This, in turn will have an influence on access to food, on national food security, and on the primary and secondary sectors of the economy in general. The Oxfam report summarizes and describes all the different aspects that have to be taken into consideration:

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 conferences and in the press. There is some potential for positive outcomes, but little seems to be realized. (2012b, 48-49)

The political economy of the agricultural sector has changed progressively over time. Recent developments, however, suggest that the international terms of trade have turned against the rural “periphery” by benefitting the “industrial center”; now even the broader financial sector has turned against it with their multi-faced financial activities (Josling et al. 2010, 428). Recall the optimistic argument I presented earlier in Chapter Three, that high global food prices might spur more agricultural investment, particularly in developing countries, which would then help the rural poor or net food producers through higher income. That argument is highly doubtable, especially in this broader context. Higher prices might benefit households that are dependent on wage labor, since they might find more job opportunities if those companies actually establish big farms or food production facilities. This development would also depend on the “importance of agriculture in the overall economy and how many years the adjustment in wages take” (FAO 2011, 15). The downside
to this trend is also obvious. It will lead to the eradication of the rural farmer in general and accelerate the process of monopolization and industrialization of agriculture. Looking at the historical trend, “corporate agribusiness has been known to establish itself in developing countries with the effect of driving independent farmers off their land or metabolizing farm operation so that farmers become a class of workers within the plantation” (TOI 2009, 11). In the broader context of this work, it now seems like there is an attack from all different angles, corporate, financial, and sometimes a mix of both, on the rural poor in the developing world and on the global food system as a whole. In the end, the large banks, investors, and agribusinesses are able to shape the conditions in which they operate, and from which they benefit as a result. The most vulnerable members of our societies bear the burdens of the resulting externalities of those activities.
CHAPTER 6

CONCLUSION

The analyses of the speculative behavior of financial institutions and the broader trend of the financialization of the commodity market have shown evidence that investment activities do indeed have a negative impact on global food prices. Although the formation of the global food price is a complex system of various forces and researchers have come to contradicting conclusions, it is legitimate to argue that speculative activities on the commodity market do matter and have led to an increase in global food prices. In particular, the financial deregulation under the framework of the Commodity Futures Modernization Act of 2000 has triggered an enormous increase in those speculative activities as well as in the general permeability of the global financial market. This increase in permeability, in turn, has led to a synchronization of currency markets, stock markets and commodity markets. This kind of synchronization indicates that the global food prices are no longer driven by changes in market fundamentals alone but rather react in form similar to other asset classes, which is not supposed to happen. After the global economic meltdown in 2008, the US Congress took measures to curb excessive speculative behavior on the financial markets. The Dodd-Frank Wall Street Reform and Consumer Protection Act 2010 was the main legislative piece to re-regulate activities on the commodity market. However, this thesis shows that the implementation of stricter regulations on financial institutions and their activities are lagging behind schedule or are being challenged through judicial procedures.

The major problem with those speculative activities is that what happens on the global commodity market does not stay on the global market but rather transmits to domestic and local markets, producers and consumers. On one hand, high global food prices have caused a severe food crisis in several developing countries not only in 2007-2008 but also in 2010-2011. This thesis shows the price transmission of some agricultural commodities to several developing countries at the height of the crisis. On the other hand, high global food prices can also have an effect on economies as a whole. States can be forced to buffer global price spikes and are thus confronted with a reduced fiscal budget, which can translate into
less investment in other sectors. Moreover, studies have shown that in some countries food prices remain high even though prices on a global level are coming down.

I come to the conclusion that the negative effects outweigh the positives. As pointed out in Chapter Two, some scholars argue that speculative activities on the commodity market would actually have a stabilizing effect on the market as a whole. Taking into consideration the unusually high volatility and negative impacts over the past years this argument seems to be implausible. Summarizing the findings in this thesis, it is fair to argue that the financial institutions and large food exporters are profiting from the market development but are not affected by the negative consequences. In turn, those most adversely affected by the situation are the people in developing countries, who are faced with a double burden.

This thesis also provides deeper insight into the broader structures and underlying conditions of the global food system that are not so obvious. This aspect is of particular significance because it provides a different perspective on financial institutions and their role in the food system and it also provides a different angle on the concentration of control within the food system. The evidence shown in this thesis allows for the conclusion that large global food traders have gained not only horizontal power by diversifying their businesses for example by opening up financial investment companies, but have also gained vertical power by expanding their economic power, for example through investments in land. This kind of concentration of control has to be carefully observed and regulated especially because food is the most fundamental good to be traded.

Experts and researchers in this field must take into account the essential role of food as a basic human need when doing an assessment of any kind on the topic. It is not morally defensible that financial institutions can reap large profits even as their investments can potentially cause global food prices to go up, increase hungry, and provoke civil unrest. The global food system is already under great pressure because of the globalization of agribusinesses and various other dynamics within the system. It does not need even more artificially created pressures on the commodity market caused by opaque speculative investment activities.
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