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Gambling with grains?

- A critical case study of the U.S. Commodity Futures Modernization
Act and its implications for global food insecurity

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Abstract

In 2000, the Clinton Administration in the U.S. adopted the Commodity Futures Modernization Act, which deregulated the U.S. trade with financial instruments on commodity markets. With respect to this adoption, it has been regarded as one catalyst for the Global food crisis 2008, where millions of individuals lacked provision and access to agricultural products and nutrition. From the perspective of the global food crisis 2008, this thesis conducts a case study of the Commodity Futures Modernization Act and its implications for global food insecurity. For this research, we construct a theoretical framework where we link processes of financialization, commodification and capitalist economy to the appearance of global food insecurity. Additionally, this framework accounts for a historical materialist critique of global development. The findings in this text suggests that the CFMA was characterized by a financialization process, and furthermore enabled a commodification of agricultural products. However, our analysis also suggests that these processes came with unequal effects on global distribution of agricultural commodities as a consequence of unequal development within the capitalist economy. These findings are found when analyzing material from the U.S. Congress, NGO reports and academic literature.

Keywords: *Commodity Futures Modernization Act, Food Insecurity, Agricultural Commodities, International Political Economy, Historical Materialism*

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1. Introduction

1.1 Background

The access to healthy and nutritious food is a crucial part of human needs. But despite food being a necessity for human life, the problem of hunger remains an issue globally (FAO et al. 2021, p. 8). In order to understand the appearance of global hunger, the concept of *food security* has been defined accordingly by the World Food Summit (1996): “*Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs [...]*” (World Food Summit, 1996). In essence, this term encapsulates the state in which people have sufficient access to food and essential nutrition, both at present and in the future. Nevertheless, some parts of humanity are still fighting the same struggle against hunger and starvation, that has been an ever present issue since the beginning of mankind.

According to Sundaram (2010) there was enough food to feed everyone on the planet in 2008. The question is therefore not whether food existed or not. Instead, the problem is related to the conditions and structures that determine the pricing of food, and who gets physical access to it (Sundaram, 2010, p 35). This became particularly evident in the global food crisis 2008, in which 40 million more individuals globally were stated as facing hunger (therefore reaching a total amount of 963 million individuals) (FAO 2008 referred in Mittal 2009a, p. 1). This event particularly affected relatively poor countries, in terms of provision of and accessibility to food (Sundaram 2010, p. 35).

To illustrate the appearance of hunger during the food crisis 2008, Roser & Ritchie (2019) from the project *Our World in Data* has compiled a map where most of the world’s states are divided into different categories based on the percentage of the population living in undernourishment (see figure 1 below). From this map we note some groups of states had a disproportionate number of higher percentages of undernourished people, making hunger more prominent in these areas. This may suggest that the problem of hunger is characterized by an unequal global development, and referring to structural injustices of economic and social conditions between regions (Sundaram & Rawal 2014, p. 47).

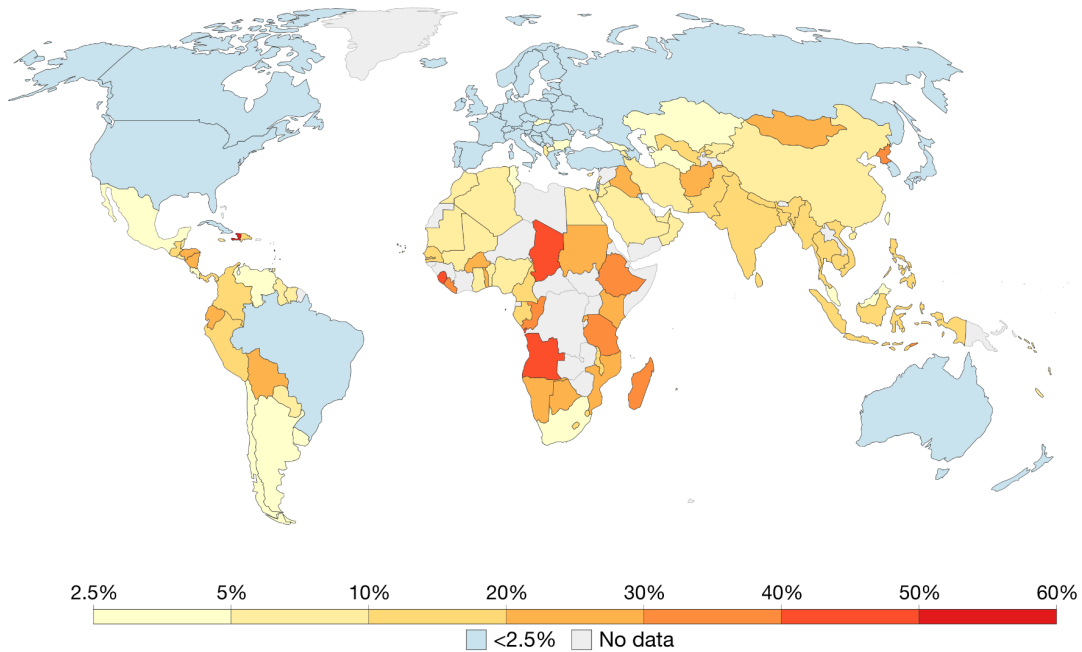


Figure 1. Note: The colors in the map refer to the share of the total population that are undernourished (in 2008). Here, the indicator for undernourishment is defined as having less nutritional intake than what is required with respect to the individual physical needs (Roser & Ritchie, 2019). Source: (Roser & Ritchie, 2019).

Previously we introduced the problem of hunger and food insecurity during the food crisis 2008. However, the concept of food insecurity is complex and may in turn be determined by a set of explanatory factors (FAO et al. 2021). One determinant of food insecurity that we aim to focus on, refers to the structure of the financial system and fluctuations in agricultural commodity prices. In turn, this may affect individuals’ access to food (FAO et al. 2019 p. 62). This could be the reason why scholars have called for analyzing structural preconditions and agricultural commodity prices as crucial for understanding the appearance of global food insecurity (Kalkuhl et al. 2016, p. 6–7; Ghosh 2010; Hickel 2016, p. 758). Indeed as noted by Hickel (2016), one way of decreasing food insecurity is to target speculative economic activities on commodity markets (Hickel 2016, p. 762). To understand such functions and practices any further, we are also required to note the historical development of economic policies and global financial markets.

The structures of the global economy can be understood by acknowledging the era of liberalization that occurred primarily from 1980 (Frieden 2006, p. 398). Characterized by liberalization of financial markets, this period identified accumulation of capital as the driving force for technological change and political power (Burchill 2013, p. 75). Under what was noted as the ‘Washington Consensus’, both liberal scholars and politicians called developing countries to liberalize and privatize domestic markets, as it would come with

economic growth and increased standard of living (Frieden 2006, p. 398–399; Burchill 2013, p. 75, 79). Throughout this period, the U.S. has been one of the most influential actors at the global scene for these policies to be carried out (Montgomerie 2008, p. 239, 241).

Previous paragraph introduced the idea of privatization as a practice for development. This has also affected the structure of global food systems (Thow 2009, p. 2151–2152). While looking at a particular case of market deregulation, this can be noted in the *Commodity Futures Modernization Act* (CFMA) which was adopted in the U.S. in 2000. This act enabled more speculative investment in agricultural commodity markets, such as trading and investing with certain financial instruments (Russi 2013 referred in Clapp & Isakson 2018, p. 40–41). Additionally, it has been argued that this act led to excessive price volatility on global financial markets, where dramatic price spikes extensively elevated prices beyond the actual global demand for agricultural commodities in 2008 (Tadasse et al. 2016, p. 70). However, as noted by Clapp & Helleiner (2012), this deregulation from the U.S. might be explained by economic and political interests. The U.S. holds a considerable importance for the financial system, and is home to the world's largest open financial market for trade with agricultural commodities (Clapp & Helleiner 2012, p. 201). This may also confirm the note from Fine (2004), who argues that the practices of U.S. financial power and influence globally can be observed by examining the function of capitalist interests (2004, p. 229).

Following this description, we argue that the domestic policies of the U.S. regarding financial market regulation therefore are associated with the function of the global economy, which in turn holds for the observation of both food distribution and food insecurity globally.

This section has introduced a relationship between food insecurity and the global economic system. Since food is a requirement for basic human needs, we claim the provision of food is not a discussion of constructions, nor a phenomena of certain ideas. Instead, the absence of food is a question of material deprivation. Additionally, this approach covers the normative perspective of for whom these goods are provided. That is, *how* and *why* structures continue to deprive people of essential material means for survival and well-being, despite the presence of adequate amounts of food and the availability of modern infrastructure that enables the physical distribution (Hickel, 2016). In order to accurately cover and examine aspects of the global hunger and food insecurity, we argue it is of relevance to study the structures of distribution and provision of goods. Thus we argue it is necessary to apply a materialistic approach to the issue.

1.2 Purpose and research question

The purpose of our thesis is to examine the relationship between financial deregulation, the global economy and food insecurity. In accordance with this purpose, this text aims to answer the following research question:

- *How does globalization and regulation surrounding the global agricultural commodity markets affect global food insecurity?*

To examine this relationship, we will observe a specific case of financial market deregulation (the *Commodity Futures Modernization Act*) and consider its implications for the global food crisis in 2008. For this examination, we will apply a framework of historical materialism, which allows us to critically investigate how structures of political and economic power may determine the global level of food insecurity. Furthermore, we will examine the structures of the global economy and global discrepancies in degrees of food security through a perspective of power dynamics, division of goods and capitalist interests. As such investigation would cover aspects of global development, this would constitute an important area to examine from the field International Political Economy (IPE).

1.3 Scope of the study

In our thesis, we will be observing U.S. financial market deregulation, the structure of the international trade of agricultural commodities, and the global provision of food. As the focus of this text is to observe global structures, we are not considering the domestic conditions for food insecurity (for example the domestic possibilities of food production, or food reserves). Instead, our focus refers to the relationship between different countries and regions, and how they relate to the international financial economy and to the global distribution of food. As this text focuses on financial market deregulations, our aim is to cover the deregulation and liberalisation of the U.S. financial market dealing with agricultural commodities. Therefore, this text does not observe other food-related economic subfields, such as trade tariffs or privatization of domestic agricultural production as result of 'neoliberal' development practices.

1.4 Disposition

The first section of this text has introduced the relationship between the global economy and food insecurity. Likewise, we have presented the purpose, aim and research question that this thesis will be founded upon. The next sections will be presented in accordance with the following structure. In section 2, we present relevant previous research on the fields of financial markets, globalization and food insecurity. Eventually, this section presents the gap in previous research that this study aims to fill. In section 3, we describe the theoretical framework for this study. This section also presents definitions and operationalizations that will be used in our analysis. In turn, section 4 accounts for the methodological approach of this thesis and describes the material that is gathered for the empirics in this study. Next in section 5 we present our analysis. This section therefore constitutes a theoretical discussion on the empirical material of CFMA, global economy and food insecurity. Finally, section 6 will summarize the purpose, aim and findings of this text. In this section we also present suggestions for future research.

2. Previous research

This section will present previous literature on the areas of financial markets, global economy and food insecurity. Previous literature on these areas of research can eventually be found in two distinct fields, where the first refers to the study of the financial markets and agricultural systems. Here, literature has built upon the concept of *financialization* to link global trade with agricultural commodities to financial market operations. For example, Isakson (2014) investigates how expanding financial markets have impacted the function of global food systems. One conclusion from his study is that interests in making profit have made industries of food and agricultural products more associated with financial activities, such as the increased usage of financial instruments (Isakson 2014, p. 756–757). This is also elaborated by Clapp & Isakson (2018), who claim the financialization process of the agricultural markets have been enabled by deregulatory policies. In turn, this has led food systems, and agricultural production, to be exploited for investment strategies by actors on financial markets (Clapp & Isakson 2018, p. 10–11).

Clapp (2009) has in many regards extended previously mentioned subjects by focusing on what global economic structures mean for the level of food insecurity in ‘the Global South’. Clapp (2009) therefore considers development critique in the analysis of financial markets and global economy, and identifies the linkage between global economy and food insecurity as related to global justice. This is also confirmed by Montgomerie (2008), who in her review of the financialization literature adds that the increased role of financial markets has come with negative effects for poorer countries (2008, p. 237). Implications from these results would suggest that global financial markets and food insecurity thus should be studied from the perspective of development. Therefore, this text will apply such a perspective into the analysis of market deregulation and food insecurity.

Another area of literature has focused on factors associated with food insecurity. To start with, focus has been to examine the process of expanding financial market forces and its policy implications for global food security (Clapp, 2014; Gilbert & Pfuderer, 2014). With respect to the global food crisis 2007–2008, Clapp & Helleiner (2012) have investigated the role of financial markets for agricultural commodities, and the process of deregulation in this area. From the scope of their study, Clapp & Helleiner (2012) argues it is of relevance for the field of political science to cover the subject of financial regulation and its implications for global food insecurity (2012, p. 182).

A major contribution to the field of financial markets, global economy and food insecurity is also provided by Anna Chadwick (2019). Building on concepts as institutionalism and marxist theory, the author provides a thorough description of

regulation practices of financial markets and the global food trade. In turn, the author discusses these objectives from a perspective of global hunger and food insecurity. In this sense, the contribution of Chadwick (2019) is also slightly similar to the perspectives and motives that are presented in this text. However, by studying the certain case of CFMA in the U.S., we strive to provide a more specific case-study analysis of market deregulation, and in turn see how this is applicable to the level of food insecurity globally.

The literature review above has presented research from two different domains. As noted from this literature review, there is an apparent interest in the two fields, which in turn would indicate there is a value of the research covering these areas (Esaiasson et al. 2017, p. 32). However, we suggest that previous literature to a large extent has overlooked the theoretical explanation on how the two fields eventually can be understood together. As this thesis applies a historic materialistic perspective it aims to provide a theoretical understanding on how market deregulation comes with political implications on food insecurity. Also with background in the certain case of CFMA, we hope to provide a more specific and distinct contribution compared to previous research on the subject.

3. Theory

The purpose of this section is to establish our theoretical perspective. This section therefore elaborates on the framework from which we are able to analyze both the deregulation of financial markets by the CFMA, and the presence of global food insecurity. Following paragraphs will therefore introduce marxist theory from relevant areas of study.

3.1 Capitalist interests and global development

To start with, we will account for a historical materialistic view on capitalist interests and global development. Extending the ideas of Marx and Engels, Rosa Luxemburg has examined the imperialistic behaviour of capitalism and its continued expansion serving capital accumulation (Luxemburg, 2003). As noted by Le Blanc (2010), Luxemburg's theory assumes that individuals are not able to consume all the goods and services that are manufactured within the capitalist economy (Luxemburg 1951 referred in Le Blanc 2010, p. 163–164). Therefore, it would lay in the function of capitalism “[...] *to establish the exclusive and universal domination of capitalist production [...] for all branches of industry*” (Luxemburg 2003, p. 397). Here, Luxemburg provides a theoretical understanding of the function and practice of capitalism. For this study we would therefore understand market deregulation as means for the capitalist economy to expand and broaden its processes of capital accumulation.

Additionally, the scholar Wallerstein (1979) has presented a framework in order to study the global structures of development. In his theory of the world system, Wallerstein (1979) discusses states in an order of peripheries; *core, semiperiphery and periphery*. Via the linkage of semi-periphery states, core (capitalist) states exploit resources from periphery states in order to remain the rule and function of the global capitalist economy (Wallerstein 1979, p. 21–22). Furthermore, Wallerstein argues this system would be maintained by the capitalist usage of political and technological advantage (Wallerstein 1979, p. 69–71). Instead of being bound to individual states, capitalist interests would rather operate on a structural level in accordance with the periphery-system. As noted by Wallerstein, this world system creates a state of *dependence* between states. By this dependence, states do

not benefit mutually, but rather have a relationship of asymmetric development (Wallerstein 1979, p. 73). In this text, we will therefore observe different levels of development (developed and developing countries) as a result of countries' order in the global economy.

3.2 The processes of financialization and commodification

One crucial aspect of the CFMA in 2000 was the ability for financial actors to trade more freely with agricultural commodities. But how did the same logic of trade used for other non-agricultural commodities also expand into the domain of agriculture and food? Here, the theoretical concept of *financialization* becomes useful to include, as it explains the logic of expansion of financial markets.

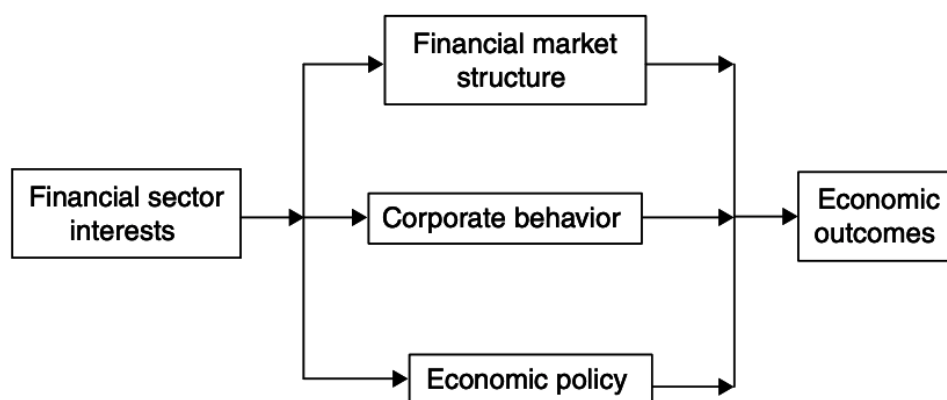


Figure 2. Note: Financialization process illustrated. Source: (Palley 2013, p. 30).

Financialization has been described as “[...] *the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies*” (Epstein 2005, p. 3). From such definition would therefore financialization processes play one more important role in the objectives of economics. However, Palley (2013) discusses financialization from another perspective and introduces the financial sector as the group which stages the financialization process (2013, p. 29–30). This is also noted in figure 2 above, which illustrates the three areas where the financial sector can implement their interests (via markets, corporates and policy implementations) (Palley 2013, p. 30). This inclusionary perspective of the growth of financial markets is useful since this study does not understand financial structures and markets as isolated. Furthermore, we would acknowledge this process as means for the

capitalist class to uphold and further develop its economic interests (Lapavitsas 2013, p. 798–799, 802).

Previous sections on financialization discussed capitalist interest in expanding the scope and logic of financial markets. In addition to such description, scholars have observed the other process of *commodification*. According to Hermann (2021), commodification can be observed by determining the value of commodities that fulfill individuals' needs (use value), compared to the value that is determined by market forces such as supply, demand and speculative operations (market value) (Hermann 2021, p. 23, 26). Therefore, real commodification refers to the process when market value is higher than use value (Hermann 2021, p. 30).

What are the consequences of such processes? Hermann (2021) notes commodification is associated with deregulations of markets. In turn, this has advanced the financialization of financial markets and their practices (Hermann 2021, p. 47–48, 61). According to the author, trends of commodification also enables market speculation with financial instruments tied to commodities (Hermann 2021, p. 86–87). The processes of financialization and commodification can therefore not only be used to understand how financial markets expand, but also to analyze how the market value of food is influenced by financial pricing mechanisms.

3.3 Theorizing the linkage between the global economy and food insecurity

Previously we introduced structural factors of the global economy. This following section will further elaborate on the linkage between the global economy and food insecurity. Increasing food prices have in previous empirical literature been observed as one determinant of food insecurity. Here, Tadasse et al. (2016) holds that it is especially important to observe sharp rises in food prices, since “[...] *a food crisis is more closely related to extreme price spikes [...]*” (Tadasse et al. 2016, p. 61). Furthermore, papers have introduced the transmission channel for where such effects would be linked, where the unequal purchasing power of food globally results in an apparent trade-off for the poor (FAO et al. 2011, p. 13; Dawe 2014, p. 115). More specifically, increases in agricultural commodity prices may be observed in especially those products that are of most nutritional value (Dizon & Herforth, 2018). When food prices increase, individuals are required to shift their diet towards less expensive alternatives of food which tend to be of less nutritional value in turn. Additionally, when prices on agricultural commodities are

increasing, households need to spend an even bigger portion of their income on food. These expenditures may in turn hinder households purchasing other health-related necessities, which in turn may have an indirect effect on food insecurity (FAO et al. 2019, s. 75; von Braun 2008, p. 5). When prices of agricultural commodities rise due to speculative investment, this ultimately affects populations with already small economic margins (Lustig 2008, p. 29–30). Furthermore, rising prices on agricultural products may also come with negative effects on net importing countries, since these states import larger quantities of food than exporting. Eventually, this group of states are more dependent on global price levels (Mittal 2009b, p. 19).

For the purpose of this thesis, we account capitalist accumulation, disparities in global development and processes of financialization and commodification as determinants of increasing price volatility of agricultural commodities. With background in previous findings regarding food price volatility (Gosh, 2010; Clapp, 2014; Tadasse et al., 2016; FAO et al., 2019), we suggest that increased food prices in turn increases the level of food insecurity. Therefore the theoretical concepts in section 3.1 to 3.2 should be understood as explanatory variables for the level of global food insecurity. We therefore claim that the U.S. financial deregulation, as the case of CFMA studied in this text, is attributable to the presence of global food insecurity during the food crisis 2008.

3.4 Definitions and operationalizations

We observe that this thesis is guided by our theoretical framework. But for the research to study what is actually theorized, we are required to operationalize the theoretical terms that were discussed in section 3.1 to 3.3 (Esaiasson et al. 2017, p. 22). This will also increase the validity of our analytic discussion (Esaiasson et al. 2017, p. 58–59). The following text will present operationalizations of our theoretical concepts.

- By *derivatives*, we hold the definition used by Nicholas Boston (2013), which defines it as a financial instrument or contract which *derives* its ‘real’ value from an underlying asset and that constitutes a type of risk transfer between actors (Boston 2013, p. 286). For *Over-the-counter (OTC) derivatives*, we refer to financial instruments that are traded outside platforms with regulatory authorities, directly between individual actors (Christiansen 2017, p. 485). *Futures* are understood as various types of agreements that stipulate conditions for future trade, often at a fixed price, with the purpose of reducing economic risks and uncertainty. However, these agreements can also carry advantageous

characteristics for speculation (Boston 2013, p. 287–288). *Speculation* is defined as an investment strategy where a speculator purchases contracts, providing them with rights to a commodity, before any commodity has been produced or obtained with the purpose of generating profit from anticipating future variation in price (Boston 2013, p. 289). Finally, *deregulation* refers to a process in which rules governing economic activities are modified or totally removed, in favor of self-regulation and market principles such as self-interest (Boston 2013, p. 304).

In this text, these definitions will also be used as operationalizations of *financialization* and *commodification* in turn. More specifically, we will accordingly understand these definitions as means for the theoretical processes of financialization and commodification that were presented in section 3.2. Furthermore, we adopt these operationalizations in order to analyze the adoption and consequences of CFMA with respect to food insecurity.

- By referring to *agricultural commodities*, we use the *Commodity Futures Trading Commission's* (CFTC) definition, which encompasses products such as wheat, livestock or corn (CFTC 2011, p. 1–2). Moreover, this concerns any contract that is based in a commodity-index, consisting of at least 50 percent wheat, corn, etc. (CFTC 2011, p. 2). However, in our study, we are only concerned with products that directly (or indirectly) provides nutrition for individuals. Our definition of *agricultural commodity markets* are the different economic activities and trading platforms that surround trade and finance tied to agricultural commodities (Boston 2013, p. 291).

Since this category of products and financial market area is our primary field of interest, this will be our operationalizations of the global economy and its connections to food provision. Furthermore, these concepts are also utilized in order to understand the *global (capitalist) economy*, which also was theoretically discussed in section 3.1 and 3.2.

- *Food insecurity* will in this thesis be understood as a state in which an individual or population is, or at the risk to be, without sufficient nutrition and food. Furthermore, we understand it as the short-termed state of insecure provision of food, but still coming with negative implications for individuals' health (European Commission & EuropeAid 2009, p. 8–9; McDonald 2013, p. 236–237).

Accordingly, this definition will also be used as operationalization of the theoretical concept of *food insecurity* which was elaborated in section 3.3. One could argue, though, that the concept of food insecurity is not a theoretical concept as such, but rather an empirical measure for covering the appearance of hunger. However, we have chosen to define and operationalize the term since food insecurity is one of the major subjects this thesis aims to investigate. Furthermore, by defining and operationalizing the term we strive to decrease the level of measurement error in our analysis, and thereby also increase the validity of our research (Esaiasson et al. 2017, p. 58–59).

- Lastly, by *development* we refer to the following definition: “*Development means creating the conditions for the realization of human personality*” (Seers 2012, p. 73). As further noted by the author, development could therefore be described as a process in which a country increases the economic conditions for the population (Seers 2012, p. 76–77). By developing countries we refer to *low* and *low-middle* income countries. Here, low income is defined as individual income of 1 005\$ or less per year, and middle-low as 1 006–3 975\$ per year (World Bank 2011 referred in Valdés & Foster 2012, p. 7).

These operationalizations, we argue, are appropriate to adopt since it considers the distribution of material goods. Furthermore it also acknowledges the possibility of access to these goods, which would be important to consider from a historical materialistic perspective (see section 4.2).

3.5 Critique

We notice that our theoretical framework may come with potential limitations. The following text will therefore discuss limitations in our theory, accompanied with explanations on how we manage these matters accordingly.

First, futures contracts regarding agricultural commodities may not be observed as harmful per se. Rather these financial instruments can function as stabilizers of global food prices, since all parties are provided with decreased economic uncertainty regarding future harvest (FAO et al. 2011, p. 12; Boston 2013, p. 287). Because agricultural production naturally follows the seasonal changes, future contracts therefore can avoid fluctuation in price due to the annual vary in yield of production. We therefore acknowledge that operations with this form of financial operations can come with positive effects, and in turn be means for theoretically reducing global food insecurity. However, it is financial speculation with these contracts (derivatives) that we consider as determinant for food insecurity and therefore is the issue of concern for this study (Clapp & Isakson, 2018).

Secondly, on an individual level, rising food prices could be positive for human welfare and food security. As suggested by Dawe (2014), smaller actors of farming, production and export may benefit when food prices increase on global markets. This would therefore suggest that rising food prices may not always increase the level of food insecurity (Dawe 2014, p. 115). However, as suggested in section 3.3, we account for short-term volatility in food prices. In turn, this would come with larger negative effects than with increased welfare for the poor (Lustig 2008, p. 32). Therefore, we would understand rising food prices as a determinant of rising food insecurity in accordance with the transmission channels in section 3.3.

Lastly, we have actively chosen to focus on structural-level explanations for global food insecurity. However, we acknowledge that food security is a complex issue, which may have its roots elsewhere. For example, recommendations have also highlighted the importance of state level measures in order to decrease the level of food insecurity. Such measures may in turn refer to the adoption of social policies to cover those most vulnerable to increased prices in agricultural commodities (UN 2008, p. 35–36). This may therefore criticize the explanatory variables presented in section 3.1 and 3.2, as these would narrow the level of analysis to only structural level explanations. In the light of this, however, domestic conditions related to hunger and food insecurity might also originate in, or get exacerbated by, structural conditions such as financialization and unpredictable prices (Hickel 2016, p. 762; FAO et al. 2019, p. 62). Therefore, we argue, it is still of relevance to present an analysis with respect to explanatory variables on the structural level.

4. Method

4.1 Case study methodology

Our aim with this thesis is to show how a set of certain structural factors facilitate a global system in which hunger remains a problem, despite an abundance of food. To fulfill this aim we conduct a case study of the Commodity Futures Modernization Act (CFMA) which was adopted in the U.S. in 2000. In order to limit our investigation, we focus on the deregulatory act of the CFMA with respect to its implementation, and the impacts it had on global food insecurity during the food crisis in 2008.

Furthermore, in order to understand the CFMA's case of market deregulation with the help of historical materialism, our research is constituted as a theory-consuming case study. This means we use the theoretical framework to describe the empirics we are analyzing (Esaiasson et al. 2017, p. 42). This, we suggest, enables a closer scrutiny of the economic and political interests of CFMA, as well as its implications for food insecurity, compared to a research-design founded upon a quantitative approach. However, for illustrative purposes we also present quantitative elements (graphs and figures) into the analysis.

Additionally, the usage of historical materialism as both method and theory leads our analysis to have a constitutive perspective on reality (Burchill & Linklater 2013, p. 18). More specifically, since our aspiration is to unveil a certain set of global power asymmetries and their ideological foundations, this would constitute our thesis to conduct a critical analysis of our empirical material (Esaiasson et al. 2017, p. 214-215). Furthermore, in order to answer our research question we adopt theoretical perspectives from both the fields of politics and economics. Thus, this text adopts an interdisciplinary research design and strengthens the cumulative ambitions of this study (Esaiasson et al. 2017, p. 20–21). Additionally, we acknowledge that the decision on conducting a case study lowers the generalizability of our research (Esaiasson et al. 2017, p. 154–155). Considering this matter, we still argue our study contributes to the theoretical understanding of the relationship between financial regulation and food security and thus extends the existing literature on the subject. As held by Esaiasson et al. (2017), such cumulative ambition with research is also desirable when constructing the research design (2017, p. 33).

4.2 Historical materialism

Access to food is, by nature, fundamentally a question of material distribution. Therefore, because of its primary interest in explaining how economics, production, and states interact, historical materialism constitutes a useful analytical tool from marxist theory, according to Andrew Linklater (2013). It allows for deeper analysis concerning how material structures are causing the spread of capitalism, and the underlying factors behind recurring economic crises. Furthermore, it concerns how some groups are extensively and unequally affected by these structures and crises (Linklater, 2013, p. 114). Embedded in the concept of historical materialism lies the fundamental assumption that history is ultimately shaped by power struggles and power asymmetries generally, and the structure of the labor process in particular. This derives from Marx's account of Hegel's view on history, that group conflicts are the driving force of societal development (Linklater 2013, p. 119). This perspective on how socio-economic crises emerge also leads this research to adopt a most-likely case study (Esaiasson et al. 2017, p. 162–163). That is, according to the historical materialistic view, the food crisis of 2008 would be assumed as a likely event under the market deregulation of CFMA and the function of the global capitalist economy.

With respect to our research design, we are required to acknowledge that the critical analysis in itself bears underlying assumptions regarding political and economic interests in international relations. That is, in accordance with our critical view of the economic structures, or material deprivation, we may be led to certain biased standpoint according to our theoretical perspective (Burchill & Linklater 2013, p. 18). In order to meet this matter, we have accounted for potential critique towards the theoretical framework in section 3.5. Thereby we have strived to increase the transparency in this study (Esaiasson et al. 2017, p. 25–26).

4.3 Choice of case

In this thesis, we conduct a case study of a certain deregulation of financial markets, which corresponds to the Commodity Futures Modernization Act (CFMA). We would like to notice, however, that eventually other cases of U.S. market deregulations could have been studied for this purpose. The primary argument for studying the CFMA is its linkage to the food crisis 2008. The CFMA has been presented as an event of market deregulation which links the trade of agricultural commodities to the food crisis 2008 (Ghosh 2010, p. 78; Tadasse et al. 2016, p. 70; Clapp & Helleiner, 2012).

Finally, we also claim that the study of CFMA is not only a case study of market deregulation as such, but also an investigation of the global economy in general. More specifically, with background in the financial power of the U.S., we suggest that the economic and political decisions of the U.S. comes with global implications. Therefore we identify this study not as merely a case study of CFMA itself, but also a case study of the international economic system. Identifying these characteristics of the case would also be appropriate for the research design in this thesis (Esaiasson et al. 2017, p. 38).

4.4 Material

A broad field of theoretical literature has been selected in order to describe and discuss the theoretical framework that is applied in this study. This literature has been selected from various scholars elaborating and presenting different forms of theoretical (marxist) explanations to the fields of globalization, market deregulation (financialization), development and food insecurity. In the selection of both literature regarding marxist theory and historical materialism, we have used material from both primary and secondary sources (Esaiasson et al. 2017, p. 292–293).

Regarding the empirical analysis in this study, material has been selected from three distinct fields of sources; official documents from the U.S. Congress, reports from NGOs or foundations, and previous academic literature. Thus, also our empirical literature has been selected from both primary and secondary sources (Esaiasson et al. 2017, p. 292–293). Again, we acknowledge that marxist accounts of IPE and the use of historical materialism as a research method carries an inherent normative ambition. This might direct us to empirical sources and scientific observations that present our research problem in a favorable light (Esaiasson et al. 2017, p. 25–26). Eventually, this is similar to the point made in section 4.2. To account for this specific matter, we have aimed to rely our analysis on both research, reports and findings originating in different academic fields, and from organizations and prominent institutions.

5. Analysis

This section will present our analysis on the global economic structures determining food provision, and how deregulation such as the CFMA in 2000 affected this system. Furthermore, the section will analyze the CFMA's implications for global food insecurity. Thus, the structure of this section will contain both empirical findings of the material that has been utilized, as well as a discussion based on our theoretical framework.

The analysis section will be structured accordingly. First, the text will analyze the purposes and interests of the CFMA, and how this relates to certain political and financial goals. Second, the text will account for the implications of CFMA on the trade with financial instruments, and present a more detailed description on how financial market activity can be associated with global food insecurity. Lastly, the analysis will focus on how fluctuations in agricultural commodity prices are related to unequal development and food insecurity in developing countries. Following the three areas in this section, our aim is to provide a theoretical explanation to the field of market deregulation, food price volatility and food insecurity.

5.1 Purposes and underlying interests of the CFMA

The economic interests of the U.S. has been argued as one main objective of the adoption of CFMA, where the financial sector aimed to raise both its competitiveness and advantageous position with respect to other international financial markets (Christiansen 2017, 472–473; Jickling 2003, CRS-1). The desire to safeguard national economic interests is for example evident in the political process behind the CFMA. In 1999, the working group appointed by the U.S. President Bill Clinton, published their report with the title *Over-the-Counter Derivatives Markets and the Commodity Exchange Act*.¹ As described by Jickling (2003), specialist in Public Finance at the *Government and Finance Division* in the *Congressional Research Service*, the working group and the following report would

¹ The President's working group consisted of Lawrence H. Summers (Secretary of the Treasury), Alan Greenspan (Chairman of the Board of Governors of the Federal Reserve System), Arthur Levitt (Chairman of the Securities and Exchange Commission), and William J. Rainer (Chairman of the Commodity Futures Trading Commission)

come with influence on the adoption of CFMA the year after (2003, CRS-7–CRS-8, CRS-13). In the working group’s final text, they stated:

“A cloud of legal uncertainty has hung over the OTC derivatives markets in the United States in recent years, which, if not addressed, could discourage innovation and growth of these important markets and damage U.S. leadership in these arenas by driving transactions off-shore.”

(Summers et al. 1999 , p. 1).

The results of the working group would eventually also be represented in the CFMA bill itself. The following paragraphs will look further into the CFMA’s document, which was passed by the U.S Congress in 2000. In the first few pages, a list consisting of eight points which summarized the main objectives with the CFMA was stipulated. These points can be viewed as a condensed rendition of the CFMA, made explicit by the legislators themselves. In this list, some objectives were more general in their description:

“[Purpose #8] [is] to enhance the competitive position of United States financial institutions and financial markets.”

(U.S. Congress 2000, p. 4)

Other purposes were more operational in their description. In general terms, they stipulated how a competitive edge for U.S. derivatives markets would be achieved:

“[Purpose #2] [is] to streamline and eliminate unnecessary regulation for the commodity futures exchanges and other entities regulated under the Commodity Exchange Act[...].”

(U.S Congress 2000, p. 3)

“[Purpose #7] [is] to reduce systemic risk and provide greater stability to markets during times of market disorder by allowing the clearing of transactions in over-the counter derivatives through appropriately regulated clearing organizations“

(U.S. Congress 2000, p. 4).

In essence, a need for deregulation was expressed in order to provide U.S markets with a competitive edge. In various ways, this would provide greater incentives for attracting large flows of capital, even from more speculative investors, as a response to the rising competition standards. This reasoning may also be confirmed by Luxemburg’s (2003) argumentation, that capital accumulation is dependent on the continual expansion of market dynamics with the help of wealthy states in the international system. Additionally, The U.S. would have an interest in maintaining this dominant position considering it held the world's largest market of this kind during the period (Clapp & Helleiner 2012, p. 201). Other purposes stipulated in the CFMA surrounded the jurisdiction of the Commodity

Futures Trading Commission (CFTC), the government agency responsible for overlooking and regulating the trade with commodity futures (Chadwick 2019, p. 110–111). They were to be exempted from previous areas of regulatory authority, and market forces would instead play a greater role in this regard. Furthermore, the CFTC would instead be responsible for *overlooking* the market (U.S. Congress, 2000, p. 3). These changes in regulation often meant amendments or repeal of previous legislation, in what was described as an answer to developments in the technologies used for trade (U.S. Congress, 2000, p. 3–4). These empirics would therefore confirm the reasoning of Wallerstein (1979, p. 69–71), who suggested the interaction between technological development and the advancement of market forces to enable pursuit of profit.

In a broader sense, this may also illustrate how underlying political and financial sector interests can be observed as *cooperating* in the promotion of CFMA's deregulation. For this text to properly understand all relevant underlying interests, we will in the upcoming paragraphs elaborate more on the interests of *financial stakeholders* and how these actors utilized financial instruments that were of concern for the CFMA's deregulation.

Christansen (2017) argues that the financial sector indeed was influential in advocating for deregulation, which ultimately affected the CFMA. This bill was signed in late 2000 by former U.S. president Bill Clinton, backed by considerable political support and the financial industry. The bill essentially freed actors within the financial sector from providing insight, and allowed for direct OTC-trade outside regulated bounds, such as the Chicago Board of Trade (Christiansen 2017, p. 484–485). Since the U.S. has the world's largest open agricultural derivatives market, (Clapp & Helleiner 2012, p. 201) this undoubtedly attracts large amounts of capital. It is therefore reasonable to assume that the financial sector had a clear interest in being able to generate profit from utilizing new trading technologies and instruments, such as OTC-trade and speculation (Lapavistas, 2013). It is in this light, that their influence over the CFMA, which Christiansen (2017) noted, can be viewed.

This process can be understood as a financialization of the global food economy, as emphasized by Clapp & Isakson (2018, p. 10–11) and as illustrated by Palley (2013) (see figure 2). According to financial actors, due to the growing scope of direct OTC-trade, old rules became obsolete. They argued that it hindered innovative market forces, and made foreign markets more competitive (Jickling 2003, p. 2). Thus, the rationality of markets was essential for enabling the approval of this act (Christiansen 2017, p. 472–473). These arguments were also echoed by influential actors involved in the regulation of financial markets. For instance, Alan Greenspan, defended his support for deregulating derivatives trade by referring to the need of safeguarding U.S. financial dominance (Christiansen 2017, p. 487–488).

Furthermore, the CFMA also facilitated a *real commodification* of food (Hermann 2021), since the pricing mechanisms of agricultural commodities were significantly altered

after the implementation of the CFMA. The attitude of both speculators and the agricultural industry towards food was being changed, as a result of deregulation. According to Algieri (2021), as the CFMA dispensed with limits on speculation tied to agricultural commodities, this resulted in significant discrepancies between the value of the actual physical commodities, and the financial instruments tied to them (Algieri 2021, p. 985–986). Agriculture was increasingly being viewed as a legitimate area for financial activity, rather than fulfilling its ‘use value’ for consumers in the real economy. Thus, the market value of food could deviate to a much greater degree from the value of actually providing nutrition. We therefore observe the developments of financial markets and the pricing mechanisms on agricultural commodities as a mutually reinforcing process, in which both commodification and financialization exacerbates the expansion of financial interests further into the realm of agriculture.

5.2 Financial markets and high prices on food

In a briefing note by the United Nations Special Rapporteur on the Right to Food, Oliver De Schutter, he describes how large investment institutions were responsible for utilizing market forces at the expense of global food security (De Schutter, 2010, p. 2). Although De Schutter notes that there are several factors contributing to global food insecurity, these are all significantly *amplified* by financial speculation conducted by big financial actors. These actor’s growing interest in the domain of agricultural commodities stemmed from the need to expand their financial activity to new areas, since previously exploited markets no longer were as profitable as before (De Schutter 2010, p. 3). Again, this illustrates an example of financialization of agriculture and food (Clapp & Isakson 2018, p. 1; Palley 2013; Lapavitsas 2013). Traces of such processes could for example be observed shortly after the CFMA was adopted in 2000. Algieri (2021) argues that the CFMA indeed facilitated fluctuations for agricultural commodity prices, as it was followed by increased insecurity around supply, demand and future prices. In turn, this resulted in instability on both financial markets, *and* the ‘real economy’ where agricultural commodities are exchanged (Algieri 2021, p. 981).

As investment institutions started to operate within the agricultural commodity markets, an unprecedented financial bubble was being inflated. Consequently, the prices of agricultural commodities fluctuated far beyond what supply and demand could be responsible for, or what the market's real payment capacity could handle (De Schutter, 2010, p. 3). Most prominently, the responsible actors were pension funds, hedge funds and

investment banks (Clapp & Isakson 2018, p. 29). Between 2000 and 2008, the total sum of financial assets that were managed in commodities increased sharply. In 2000, it was US\$ 10 billion, and by 2008, this had increased to US\$ 150 billion. Furthermore, the total number of commodity futures contracts that were traded on commodity exchanges *doubled* in only 3 years, between 2004 and 2007 (Clapp & Isakson 2018, p. 42). One specific area of problematic financial activity that the CFMA enabled was the OTC-trade with derivatives directly between financial actors. OTC-trade would after the CFMA no longer be under the regulatory oversight of the CFTC (Clapp & Isakson 2018, p. 40).

According to Chadwick (2019), there are clear linkages between the utilization of OTC-trade and agricultural commodity speculation. This combination proved to be significantly damaging to food price stability, since speculative activity in the pursuit of creating profit skews prices (Chadwick, 2019, p. 136). In this manner, it became possible to combine the use of short- term strategies in OTC-trade with high-risk derivatives contracts (Chadwick 2019, p. 157). Furthermore, financial investments increased dramatically in OTC commodity derivatives after 2000 when the CFMA was implemented, which then contributed to the following food crisis in 2008 (Chadwick 2019, p. 137–138).

5.3 Food insecurity and asymmetrical global structures

Previous sections have described the adoption of CFMA from economic and political interests and as means for capital accumulation. Additionally, we have accounted for the consequences of this market deregulation on the usage of financial instruments as speculation on agricultural commodities. However, to understand these empirics and its implications for global food insecurity, we are required to account for a development perspective. This section will therefore extend previous analysis and instead discuss the disproportionate effects of rising prices in agricultural commodities when considering global development asymmetries.

5.3.1 Food prices and food insecurity

Globally, commodities such as maize, wheat and rice are part of the most important forms of commodities to be utilised as nutrition and part of diets (von Braun 2011, p. 3). This is especially the case in developing countries, where forms of staple products

represented 75 percent of food consumption in 2005–2007 (OECD & FAO 2018, p. 31–32). However, observing the period of 2008 (during the food crisis), international prices in such commodities increased drastically.

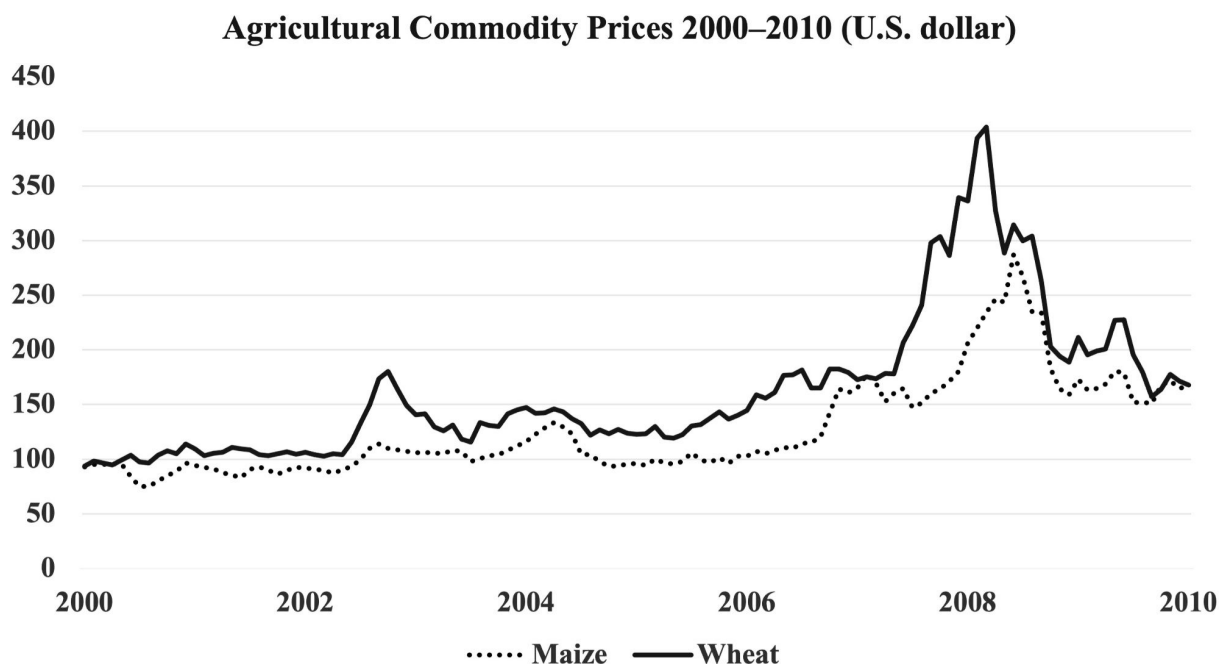


Figure 3. The commodities refer to Maize (Corn: U.S. No. 2, yellow) and Wheat (U.S. No. 1 Hard Red Winter). Both commodities are counted in per metric ton. Source: Data from IMF (2021).

To put this in context, we can observe the monthly price changes in the commodities of maize and wheat between 2000–2010 (see figure 3). With respect to the discussion held in Section 3.3, we would be especially interested in observing price fluctuations not as trends, but instead as sharp increases. Allowing us to contextualize the size of the increase in agricultural commodities during 2008, we can observe the following changes. Between June 2006 and June 2008, when global prices in the commodity of maize had increased the most, the increase was approximately 162 percent. For the commodity of wheat instead, the increase was almost 78 percent during the same time period (IMF, 2021).²

According to the theoretical discussion in section 3.3, we would understand these price spikes to come with implications for the domestic level of food insecurity. That is, as the prices of these commodities increase on the global market, we would expect individuals to re-prioritize their expenditures. For example, this could lead to a situation where the individuals are needed to eventually buy food with less degree of nutritional value (Dizon

² Based on own calculations given by: the *increase* divided by the *base value* (June 2006), then multiplied with 100.

& Herforth, 2018). This would be especially prominent for the short-term fluctuations, where unpredictable shocks leading to more unpredictable choices for households is already a state of food insecurity (Tadasse et al. 2016, p. 61; Lustig 2008, p. 29–30). The unequal effects of rising prices in agricultural commodities may in turn be determined by household expenditures on food. As reported by the *World Economic Forum* (WEF, 2016), when compared to developed countries, households in developing countries have significantly higher food expenditures in proportion to disposable income. This tendency was also confirmed by the OECD & FAO (2005), who in their *Agricultural Outlook 2005–2014* report stated that trends in food consumption are determined by a state's level of development (OECD & FAO 2005, p. 32). On the individual level, this may also confirm the reasoning of Kharas (2011), who suggests poorer households spend a significant share of their income on food (2011, p. 98). Eventually, these empirics would be important to consider when we observe the concept of food insecurity in this text.

As emphasised by Lustig (2008), FAO et. al. (2019) and von Braun (2008) in section 3.3, the level of vulnerability to food insecurity is highly determined by the average household's economic margins in a given country. Therefore, when food prices were increasing during the food crisis 2008, we would understand its effects to especially hit countries where household expenditures on food, as a share of total expenditure, were relatively high. More specifically, we would assume the consequences of rising food prices to negatively affect states where food constitutes a large proportion of households' economic priorities. One could, therefore, theoretically argue that increasing food prices affects already vulnerable states more compared to states where the stage in development (economic conditions) are more favorable. Such reasoning would additionally strengthen the claim that market deregulation, and the increased speculation of financial market activities in turn, would come with disproportionate effects on regions and states globally.

Theoretically, we would also be interested in observing these empirics from a development perspective. In section 3.1 we understood global development to be characterized as a zero-sum game, where one state would develop at the cost of another (Wallerstein 1979, p. 73). As the previous paragraph stated that household expenditures on food would depend on development level, we would therefore observe this uneven accessibility to food as not merely disproportionate statistics. Instead, we would consider it as *signs* of an unequal development process. In turn, this may be explained by the expansion of capital accumulation to non-capitalist industries (Luxemburg 2003, p. 397), and the exploitation of the domestic resources for upholding the global capitalist economy (Wallerstein, 1979).

We have so far accounted for the rising food prices in 2008, and its negative effect on food insecurity in developing countries. However, only considering the price volatility as such would not be a solid description of global food insecurity. Instead, we are required to

consider the patterns of import of agricultural commodities, and thereby account for how the rising food prices may affect groups of countries unequally.

5.3.2 Global trade balances of agricultural commodities

Between 2005–2009, 57 of 94 net importers of agricultural products were states with low or low-middle income levels (Valdés & Foster 2012, p. 7). Again, this means these states were importing larger volumes of agricultural commodities than exporting. These figures may also confirm the findings of Sundaram (2010), who suggests “*net food imports are [...] true for most developing countries*” (2010, p. 36). With respect to the food crisis 2008 the regions of, for example, Sub-Saharan Africa or the Middle East and North Africa, had negative trade balances. In opposition, the regions of the Americas or Oceania had positive trade balances the same year (OECD & FAO 2018, p. 45).

As the food prices in 2008 were increasing, we would assume the import of agricultural commodities to be more expensive. Reasonably this would negatively affect countries with net import, which to the majority is characterized by low or middle-low income countries in turn (Valdés & Forster, 2012). Furthermore, with the rising food prices in 2008 we would therefore expect the level of food insecurity to be negatively affected in these net importing countries (Dizon & Herforth, 2018; Mittal 2009b, p. 19).

Considering these empirics, it may seem paradoxical that relatively poorer countries are importing more of agricultural commodities than exporting. According to the theory of Wallerstein (1979), one could argue it would rather be states with high income levels who import the food products, which in turn would have been exploited from less developed countries in accordance with the global capitalist economy. But identifying the group of states that are net importers of food, we would rather understand these empirics from a critical development perspective. That is, we would consider profit seeking and capital accumulation to lead certain states and regions to be lacking improvements in socio-economic development (Luxemburg, 2003). Accordingly, we would observe the developing countries and their negative trade balances of agricultural products as a result of the function of the world system (Wallerstein, 1979). Eventually, this would lead us to understand the linkage of how the global economy affects the level of food insecurity. This would also extend our discussion on development critique and food insecurity that was presented in section 5.3.1.

6. Conclusion

The purpose of this thesis has been to examine the linkage between financial deregulation and the level of global food insecurity. From here, we have conducted a case study of the Commodity Futures Modernization Act (CFMA) and its implications for food insecurity and the food crisis 2008. Furthermore, we have utilized a theoretical and methodological framework of historical materialism. This, we have argued, has constituted a framework to better understand the function of capitalist interests, financial market operations and global hunger. Additionally, we have claimed that our theoretical framework enables us to appropriately meet the purpose of this text.

In accordance with the analysis in section 5, we would conclude that this study has been able to present two important perspectives. On the one hand, we have understood the CFMA as a market deregulation characterized by a financialization process. By considering the underlying interests of the financial markets, we understood this process to be explained by three distinct factors (Palley, 2013): the economic policies from deregulation, the increased favorable environment for operations on financial markets and, finally, changed corporate behavior of trade with agricultural commodities. In addition to this discussion, we also observed the CFMA as a process of commodification (Hermann, 2021). More specifically, with considering the aspects of *use value* and *market value*, we suggest the period of 2000–2008 to illustrate a process in which agricultural commodities (food) were increasingly considered a commodity as any other investment asset. On this note, we want to highlight the mutual relationship between the financialization and commodification made by Hermann (2021) in section 3.2. As analyzed in section 5, we observe the commodification of food also as part of the broader financialization process in the CFMA. However, central for our argumentation has also been to observe these subjects from a critical perspective on the global economy. Following the reasoning of both Luxemburg (2003) and Lapavitsas (2013), we would therefore understand these processes above to be direct means for capital accumulation and thus the realization of capitalist interests.

On the other hand, we have in this thesis understood the adoption of CFMA to be affecting global levels of food insecurity in an unequal manner, as analyzed in section 5.3. As we adopted Wallerstein's *world system* theory, we have understood unequal development to be a determinant for rising food insecurity during the food crisis 2008 (Wallerstein, 1979).

Following the analysis in this text, we conclude that both globalization and deregulation of global agricultural markets may come with negative effects on the state of food security.

This, we suggest, is associated with the global capitalist economy in its function (Lapavitsas, 2013), but also with regards to its effects on global development (Wallerstein, 1979; Luxemburg, 2003). As accounted for in this text, we would therefore conclude the consequences of market deregulation on food insecurity to be disproportionate when considering different regions and states in the world.

Nevertheless, we do acknowledge that this research question may be answered by also other factors. As emphasized in section 3.5, we do not consider this text to present a complete picture as there can be also domestic, local, and the individual determinants for food insecurity. Future research could therefore consider the domestic, local and individual levels when analyzing the linkage between market deregulation and food insecurity. Eventually, this form of research could present a more comprehensive description of connections between different levels of analysis. In addition, future research may also analyze food insecurity implications of the CFMA using other theoretical approaches within International Relations. These approaches could, for example, include perspectives of gender-related inequalities (feminism) or post-colonial determinants for development (post-colonialism). Lastly, our critical analysis has not attempted to suggest any policy recommendations in response to the identified problems, but rather to conceptualize the issue from a certain theoretical perspective. Therefore, future critical research could focus on how U.S. financial markets tied to agricultural commodities can be properly re-regulated to prevent global food insecurity.

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