Challenges and Resiliency of a Rural Food System: A Case Study of Food (In)security in Carbondale, Illinois

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Disclaimer:

This document represents part of the author's study programme while at the Institute of Social Studies. The views stated therein are those of the author and not necessarily those of the Institute.

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List of Abbreviations

FAO	Food and Agricultural Organization of the United Nations
USDA	United States Department of Agriculture
SNAP	Supplemental Nutrition Assistance Program
WIC	Women, Infants and Children

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I want to acknowledge all the individuals that I spoke with on the topic, undoubtedly every conversation was valuable and gave me much more insight and wisdom on the subject and so much more.

Abstract

This qualitative case study assesses the reasons for high levels of food insecurity in Carbondale, Illinois. The research takes on secondary-data analysis to understand power relations and behaviors in the agro-food complex, government, and wider socio-political and economic structures that influence Carbondale's food insecurity. This information then builds the basis for semi-structured interviews with key actors in Carbondale's food system to see which aspects of these macro-structures are *most* influencing the town's food system, food insecure individuals, and their other inter-related capabilities. The study seeks to understand more about; *first*, retail concentration; *second,* income poverty and competing basic needs; *third* racial, class, and spatial inequalities; *fourth* institutions' ability to empower the food insecure population.

Keywords

food insecurity, agro-food complex, power, capability deprivation, spatial inequality, retail concentration, trade-offs, local food system, charitable food system

Chapter 1
Introduction

"We are confronted with the striking dilemma of want and hunger in the midst of plenty." (Waugh 1943)

Overview of Research Study

This study seeks to understand why healthy and affordable food is not being accessed by some groups in Carbondale, Illinois. This inaccessibility of nutritious food is part of what makes a food insecure environment that can have negative health consequences on a population. Furthermore, the central problem lies in the fact that according to Feeding America (2015), Jackson county[1] is estimated as the 3rd most food insecure county in Illinois (19% of population) and in Carbondale local food pantries are seeing a rise in usage over recent years (Galvay 2017, personal interview[2]). The main research question is: *Why does food insecurity exist in Carbondale, Illinois?*

This qualitative case study takes on secondary data analysis and semi-structured interviews to approximate as to why there are high levels of food insecurity in Carbondale. The secondary data analysis comes from a variety of academics and organizations on the reasons it exists, with a particular focus on the supply-side of food (i.e. U.S. agro-food complex and government) and the challenges this creates for the demand-side of food access and availability among low-income and diverse populations in Carbondale. This will then shed light on the structural problems of the U.S. food system that could be creating barriers for citizens not just accessing food, but nutritious and affordable food, and other necessities of life that constitute a decent well-being. This will be empirically tested through semi-structured interviews with people who interact in a variety of niches in the food system to see how this structure affects people's ability to remain food secure and create a resilient food system where people can access healthy and affordable food in Carbondale.

Theoretical Framework

Food (in)security research is quite broad and complex, usually it falls under the disciplinary fields of economics, nutrition, biology, and geography and for

[1] Carbondale is the largest city in Jackson county with 26,179 people (U.S. Census Bureau 2016).

[2] Personal interview with K. Galvay on food pantry system, at the Good Samaritan Food Pantry, Carbondale, on 21 August 2017.

the most part tends to be very atheoretical, descriptive in nature, and can sometimes be very compartmentalized within each disciplinary tradition (Strickhouser 2016). This in and of itself is quite problematic and reveals the crisis the concept is currently in. It is probably no coincidence that I have come across 25+ definitions of food (in)security, and now there is a debate within grassroots' organization like *La Via Campesina* and even the FAO (Food and Agriculture Organization of the United Nations) if *food sovereignty*[3] is a better alternative to food security (Gordillo and Jeronimo 2013). The biggest challenge, as I see it, is teasing out the exogenous causes and endogenous determinants of food (in)security. One example of this, is asking if food insecurity is an outcome of poverty or does food insecurity cause poverty? But, before we cannot answer questions like these until we must first disentangle the means and ends of the concept. This problem will undoubtedly become apparent in this research when we look at how policy has responded to the crisis of food insecurity. However, the most fruitful understanding I have come across is how Carolan (2013) and Sen (1991, 2000) conceptualize the means and ends very well and argue that food security is not an end itself but a process to achieve better well-being and health. This understanding of the concept gives the researcher flexibility to study the wider range of causes and determinants of food (in)security.

This research takes two theoretical approaches to understand why food insecurity exists in places like Carbondale. One, is through the lens of power, where uneven power relations are a major cause for food insecurity to exist. Power here is defined as "the ability of one actor to alter the decisions made and/or welfare experienced by another actor relative to the choices that would have been made and/or welfare that would have been experienced had the first actor not existed or acted" (Bartlett 1989: 42). He states that "this definition implies at least three essential elements of a power based interaction: the 'exerciser,' who is able to use the power to affect an outcome, the 'subject,' whose behavior or welfare is being changed, and the specific set of choices or events that are affected. Thus, the definition focuses on a relationship between persons who in turn are making maximizing choices, but it is a relationship restricted to particular situational subsets of individual choices and social interactions" (Bartlett 1989: 42). This theoretical framework assists in understanding how the agro-food complex and government are "exercisers" of power that influence "subjects", or citizens' choice over how and which types of food get to them. Furthermore, this theoretical framework takes into account how this process compromises citizens' health and well-being. One sub-question from the theoretical lens of power asks: How do the "exercisers" of power influence citizens' choice on what food is available to them?

The second, a bit more complicated theoretical approach is understanding the wide range of other socio-political and economic dimensions that also

[3] Food sovereignty emphasizes food Isn't just a commodity, values food providers, localizes food systems and places control at local level, promotes knowledge and skills, and works with nature (Gordillo and Jeronimo 2013: 5).

impact food insecurity. In much of the research out there on the topic, income poverty is usually found to be the underlying cause, but this case study tries to go a step further to assess poverty not as merely "depleted wallets" but as "impoverished living" where poverty is a multidimensional phenomenon (Sen 2000: 3). Sen argues that money isn't the only necessity of a decent well-being but other "distinct capabilities and functionings that we have reason to value"[4] and the deprivation of any one of these capabilities can have serious consequences (Sen 2000: 10). This brings in the importance of seeing the relational features in capability deprivation, or food insecurity in this case. The experience of hunger may be due to the relational role of exchange of food (i.e. inadequate income) or because of high unemployment in certain racial groups, then the relational role of racial discrimination would be important to consider (Sen 2000: 16). Despite criticism, Sen defends that the analysis of capabilities is sympathetic to the social causes of deprivation (Sen 2000: 14) and argues that "persistence of hunger...is not merely a general lack of affluence, but also to substantial, often extreme inequalities within a society" (Dreze and Sen 1991: 3). Therefore, this study takes into account not just the relational economic causes of capability deprivation(s) but the socio-political spheres that relationally impact other capabilities important for being healthy and living well.

Some of the sub-questions probed from this theoretical framework are: 1) how have socio-political and economic structures impacted food (in)security? 2) how does food (in)security interact with politics of space, race, and class? 3) how is food (in)security linked to other deprivations? 4) how does income poverty impact food (in)security? 5) how are institutions helping the food insecure empower themselves to become food secure?

Research questions

Main Research Question:

1. Why does food insecurity exist in Carbondale, IL?

[4] Capabilities are those freedoms people attain to achieve functionings or "doings". Examples of capabilities are "the freedom to be well nourished, to live disease-free lives, to be able to move around, to be educated, to participate in public life, and so on" (Sen 2005: 158).

Sub-research Questions:

How do "excercisers" of power influence citizens' choice on what food is available to them?

2. How have socio-political and economic structures impact food insecurity?
3. How does food insecurity interact with politics of space, race, and class?
4. How is food insecurity linked with other deprivations?
5. How does income poverty impact food insecurity?
6. How are institutions helping the food insecure empower themselves to become food secure?

Commented [WP2]: I put your research questions in chapter 1 instead of in the beginning of chapter 1.

Overview of U.S. Food System

The food system is a system of provision, it connects production to consumption with various stages in between. This includes a broad array of activities and actors, who all participate in a food system that gets our food from the farm to our table. To present this in a way that is easy for the reader to understand, I use different *levels* or *streams* to adequately situate what each level entails and the actors involved. These levels or streams should not be thought of as static or isolated, but as a relationship. In very general terms, the upper stream represents the agricultural level (farming); mid-stream is the agro-industrial complex level that furnishes inputs and processes outputs; and the lower stream is the consumption level of citizens. This research uses food insecurity as a lens and a process that seeks to understand how power relations between primary actors at each level of the food system partake in creating a phenomenon like food insecurity in the midst of plenty. This research doesn't seek to analyze *all* influences, instead, the goal is to critically assess the main ones. These include U.S. farm subsidies, retail power and retail landscapes, charitable food initiatives, and alternative/local food systems which help in understanding not just the challenges of household's accessing food, but the challenges of healthy and affordable food accessing diverse citizens. Figure 1 below is a nice illustration of all these levels, and how other bio-physical and social/economic institutional contexts impact the food system.

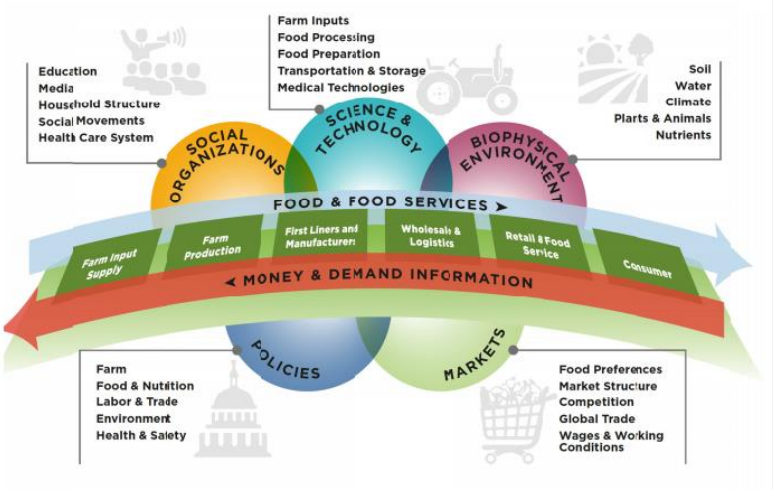


Figure **1.** Links between the Food Supply Chain, the Biophysical Environment, Economic/ Political Climate, and Society

Researcher's Commentary

My choice of being concerned of how individuals and communities struggle with food is based on my background as an educator and working directly with adolescents and their families. I observed as a teacher the types of foods my students were consuming and contemplated how much "choice" did they really have in consuming the food they were, and if some were able to eat at all. I started to run the school's food pantry and was constantly bothered by the food we were giving these students – salty chips, sugary preserved fruit and granola bars, instant noodles – basically junk food! I was left wondering why the neediest students were left with the worst options? And, honestly if anybody needed healthy food it was them! This situation with my students echoes a common story that is happening worldwide - social and economic inequalities are worsening due to power concentration by a few people, and food is a good lens to see this. So, not approaching my own research and empirical questions in a way that doesn't try to understand would be a shame. Michael Carolan said it perfectly and changed my thinking forever on the topic, he said "our bias toward the status quo runs so deep that it even infiltrates how we frame our questions about food and potential food futures" (Carolan 2013: 2589). So, if hunger and food insecurity are fundamentally political questions then we must analyze the power behind the politics. When analyzing this power, it's important to remember power isn't just repressive but productive (Foucault 1978). This productive power, I believe, lies in our ability to be courageous. Francis Moore Lappe (1998: 178) advocates for researchers to be courageous and critically test the validity of age-old assumptions of the world that are taken for granted as the air we breathe; and remember our inter-connectedness to each other's wellbeing, and food is one of those things that connects us. For that reason, this research is theoreti-

cally grounded in an approach that acknowledges the unequal economic and social structures that produces unequal power relations that infiltrate our food system to produce winners and losers.

It is said on average, our food travels about 2,000 miles from the farm to the consumer (McMichael 2000) - this leaves a myriad of actors and processes between the farm and the consumer that all have an impact on the *types* of food being accessed. And if power is key to understanding these relationships, *who in the end has the power to decide what food reaches us?* Central to this research study is recognizing that food security is not something that can be adequately defined or measured, especially in quantitative terms; nor is it an end in itself, but rather a process to achieve better well-being and health (Carolan 2013, Sen 1991). The unwillingness to see food security as such is undeniably going to lead us to a road of destruction, it is well noted that the current mode of food production and the social and economic inequalities it creates is unsustainable for the natural environment and humans alike (Connor 2017, personal interview[5], Gibson 2012, Green et al. 2011, McMichael 2000).

5

Chapter 2: Conceptual Framework and Secondary Data Analysis: The U.S. Food System and Food (In)Security

"...statistically measuring food insecurity as an individual or household condition hardly lends itself to an analysis of hunger as a collective social problem related to the broader dynamics of production, distribution, and governance." (Brown and Getz 2011: 128)

Introduction

The following subchapters in chapter 2 will continue to build a more in-depth conceptual framework of the topics that were touched upon in this introduction. Also, this is where secondary data analysis will take place to provide groundwork for the questions to be asked in the semi-structured interviews to understand the reasons citizens are food insecure Carbondale. First, definitions and measurements of food (in)security will be presented, along with criticisms by scholars. Second, the researcher will explore some of literature on why food insecurity exists and who is food insecure in the United States, this will then segue into an analysis of the U.S. agro-food system. This will show how the upper and mide streams of the food system work, specifically focusing on government's role in agro-food markets and the relationship between different agro-food sectors. A brief history of the food security concept will be taken up to understand how it has evolved over the last century in response to different socio-political and economic circumstances. Then, an academic and USDA discussion of food access and availability to provide an overview of the debates by the two fields of researchers. This will be complimented with a discussion of 'food deserts', a major policy concern by the USDA and other grassroots' movements. Next, the U.S. charitable food system will be explored as they play a role in relieving food insecurity and work directly with some of the most food insecure populations. And, lastly a look at some of the alternative food movements will be discussed. In this chapter I highlight the commended work that has been done by government and non-profits, but also show the gaps where more work is needed to improve low-income citizen's access to healthy and affordable food.

What is food (in)security?

As mentioned before, food security can come from various entry points and disciplinary traditions, but most of the literature and evidence on food insecurity's impact and causes are produced by large international and national organizations and academia. They all have differing definitions and different approaches to measuring it. The FAO (Food and Agricultural Organization of the United Nations) defines the concept as:

"Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (World Food Summit 1996)

The USDA (United States Department of Agriculture) has utilized this definition since 2009:

> *"Access by all people at all times to enough food for an active, healthy life. Food security includes at a minimum: (1) the ready availability of nutritionally adequate and safe foods, and (2) an assured ability to acquire acceptable foods in socially acceptable ways (e.g., without resorting to emergency food supplies, scavenging, stealing, or other coping strategies)."*

**Also, those people who consume less than 2,100 kcal per day*

The FAO's definition came up after the World Food Summit (WFS) in 1996 where nations from all over the world came together to re-commit to their goals of ending undernutrition and hunger in the world. Linkages between food security widened to issues of poverty, political conflict, food safety, rural development, and more importantly a rights-based approach to food (Gibson 2012, FAO 1996). In defining food security, it is also good to sort out some of the confusion that can be made with terms like "hunger" and "malnutrition".

According to FAO (2008), hunger is the "uncomfortable or *painful* sensation caused by insufficient food energy consumption; scientifically, "hunger is referred to as food deprivation." The USDA prior to 2006, also utilized the term hunger, a concept widely understood since the 1960s, and was accompanied by "issues of access to food and socioeconomic deprivation related to food" (National Research Council 2006: 43). However, the National Research Council decided that the term lacked a conceptual basis of which adequate measurement couldn't be done. However, the term wasn't all together useless, because when it came to mobilizing public attention towards issues of hunger, the word itself was very useful and relatable (Berg 2008). However, as ethnographic research did show it was a real phenomenon, it was determined that "hunger" was a consequence of "food insecurity" at an individual-level; and as the FAO suggests "all hungry people are food insecure but not all food insecure people are hungry" (FAO 2008). This led the USDA away from the term "hunger" and towards "food (in)security", which was already being used internationally and took into account hunger but also the social and economic reasons for lack of food (National Research Council 2006). The point about "not all food insecure are hungry" is important because it brings up the notion of "malnutrition". This point reveals that just because someone doesn't experience the physical pain of hunger, they could be food insecure because of poor intake of vital nutrients. Hence, the FAO (2008) defines malnutrition as the result of "deficiencies, excesses or imbalances in the consumption of macro/micro-nutrients. It is an outcomes of food insecurity." So, here we have the terms "undernutrition" and "overnutrition" which fall under the umbrella of malnutrition.

FAO and the USDA use international and national databases to generate a considerable amount of food (in)security research. The FAO often focuses on market structure, agricultural productivity, nutritional interventions, and women's role in agriculture (FAO 2008, 2015). They tend to work on the levels of governance, markets, and households but their rhetoric is often legitimatized by the need for more agricultural production due to increasing population growth

and the need to raise incomes (FAO et al. 2015, 'WHO – MDGs' 2015). They also state that "poverty is undoubtedly a cause of hunger, [and] lack of adequate and proper nutrition itself [are] underlying causes of poverty" (FAO 2008: 3). For the USDA, food insecurity is a result of poverty as well along with reduced access to affordable and nutritious food because of income and distance to a supermarket (i.e. food deserts) (USDA 2009). The USDA's research is often linked with Biology, Nutrition, and Economics by looking at the impacts of food insecurity on child development, linkages between poverty and obesity, human capital, the imbalance between healthy and non-healthy food prices, and the influence of nutritional policy on health (Coleman-Jensen et al. 2013, Cook and Frank 2008, 'Feeding America' 2017, Gundersen et al. 2011, National Urban League & Tyson Food Inc. 2015).

Then, there is the academic literature, often grounded in the humanities that are much more critical of how food security is defined and measured by these large international organizations and their policies and practices, plus the broader power relations embedded in the food system (Alkon and Agyeman 2011, Berg 2008, Block 2012, Carolan 2013, Gallagher 2010, Gibson 2012, Lappe 1998, Lappe et al. 2013, McMichael 2000, McMichael and Friedmann 1989). One very interesting research done by Lappe et al. (2013) actually criticizes the FAO's definitions and measurements of hunger in the world. The authors argue that after a report was released in 2012, the number of undernourished had been declining after it peaked in 1990. However, prior to that, the 2007-2008 food-price riots had shown that up to 150 million more people in the world were malnourished, peaking at 1 billion in 2009 (Lappe et al. 2013). One of the reasons this happened was because of how narrowly they defined undernourishment, based on "an extreme form of food insecurity, arising when food energy availability is inadequate to cover even minimum needs for a sedentary lifestyle" (Lappe et al. 2013: 252). They argue that such a sedentary lifestyle does not accurately describe the types of labor that many rural poor engage in, and require more calories or energy than the FAO estimates. Then, there is the argument that focusing solely on hunger and calories, leaves little consideration for the *quality* of food; such that in hard times, people might spend more on calorically dense, cheap food that isn't necessarily nutritious (Lappe et al. 2013, Morris 2017, personal interview[6]).

Michael Carolan, Jean Dreze and Amartya Sen have an interesting view on what food security, as a concept, is. According to Carolan (2013) it's not just about availability and access but sustainability, enhanced individual, societal, and nutritional well-being and prosperity. Jean Dreze and Amartya Sen (1991) use the terminology "hunger" but in many contexts of their writing, they are talking about "food insecurity" or the socio-economic deprivations that come with decreased access to food. They believe that the goal of food security is making it possible for people to have the "capability to avoid undernourishment and escape deprivations associated with hunger" such that the focus should not be on attaining "command over commodities, [although important], but ultimately on basic capabilities...and not just his or her intake of food but a person's access to health care, medical facilities, elementary education, drinking water, and sanitary facilities" (Dreze and Sen 1991: 14). Thus, here their views are broader than just

[6] Personal interview with L. Morris on food insecurity and nutrition, Longbranch Coffeehouse, on 7 November 2017.

being a concept tied to the ability to acquiring food, but considers the attainment of other necessary goods, ranging far and wide, that account for a person's well-being and health. Their conceptualization brings in other important elements that should be understood in relation to food (in)security. This chapter shows that asking what food (in)security is ultimately dependent on who is being asked.

Why does food insecurity exist?

There are several approaches to answering this question, one could be to look at the underlying conditions of poverty which is linked to consumer demand for food by looking at income and food price, this is often found in the gray literature of governments and international organizations. Or, the more critical scholars would consider how demand is structured by the agro-industrial food complex and other intersecting policies. They argue that food production and distribution is constructed in a way that is conducive to food insecurity by altering patterns of eating in the direction of consumers eating more empty calories (Carolan 2013). However, let's start with the FAO (2008) who states that "poverty is undoubtedly a cause of hunger, lack of adequate and proper nutrition itself is an underlying cause of poverty" (3). The USDA and others also makes the same link between poverty and food insecurity when they discuss how food insecurity can be a vicious cycle of reducing one's ability to perform in school and work, thus making them poorer (Gundersen et al. 2011, National Urban League & Tyson Food Inc. 2015, 'USDA' 2017).

Now, Janet Poppendieck (2000), Jean Dreze and Amartya Sen (1991) go a step further by implying that poverty is a result of deep inequalities. This is important because the U.S. food industry is the second wealthiest in the nation, after pharmaceuticals (Magdoff et al. 2000). If we juxtapose this wealth with the poverty it has created, 'poverty' in terms of U.S. population's health, where the top four out of six diseases that kill people are diet-related (heart disease, stroke, cancer, and diabetes), but in other places hunger is the number one health risk, then the inequality and power are quite apparent (Carolan 2013, Morales 2011). So, on one hand there is too much of the wrong foods and on the other not enough food. This is why I do not think that the FAO and USDA (amongst others) have adequately conceptualized the problem of food insecurity, it is about poverty that is rooted in deep inequalities. This will become clearer in the next chapter when we discuss *who* is food insecure.

Who is food insecure in the U.S.?

When looking at *who* is food insecure in the United States, the government and non-profit literature doesn't differ much to what critical food system's researchers find. However, when asking *why* certain people are food insecure, they vary substantially. Feeding America, the largest non-profit charitable organization that works to fight hunger in the United States through a national food bank system and research has estimated that 42 million households were food insecure (13% of population) in 2015 ('Feeding America' 2017). According to them, the households that tend to be food insecure are African Americans, Hispanics, el-

derly, people with disabilities, single-mother households, households with children, and low-income ('Feeding America' 2017), the USDA has similar findings too (Coleman-Jensen et al. 2013). Economic factors like poverty and unemployment are the most salient reasons why food insecurity exists according to them. They found that a one percentage-point increase in unemployment is associated with a .51 percentage-point increase in overall food insecurity and a one percentage-point increase in poverty is associated with a .23 percentage-point increase in food insecurity ('Feeding America' 2017).

Some researchers take a closer look at how poverty and violation of citizen's right to food and nutrition are different according to one's gender, age, class, and ethnicity (Schuftan and Holla 2012). This can further be intercrossed with the issue of spatiality of not just urban and rural spaces, but also where certain "policies have determined where goods and services go" (Alkon and Agyeman 2011, Block 2012). These policies are historic and have partly created the physical, often segregated cityscapes, that dictate who has access to food or not across racial and socio-economic groups. Understanding the caveats in federal and state policies like urban development and housing makes a clear picture as to why certain groups of people cannot access food in the United States. These academic analyses give robustness to understanding the multi-faceted nature of food insecurity and show how poverty is an outcome of inequality (Dreze and Sen 1991, Poppendieck 2011). These academic discussions come from the tradition of food justice that looks at racial inequality in food access and public health (Morales 2011). One case study from Oakland, California tells the story of how housing and urban development policy created a landscape of segregation by channeling capital away from certain areas and people living in the city (McClintock 2011). This study is good to explore because it helps answer not just *who* is food insecure but *why*.

Nathan McClintock's case study of Oakland shows how "socio-economic terrain, demarcating poverty and affluence [coincides] with the physical geography of flatlands" where most ethnic and racial minorities live (2011: 89), and the Oakland hills are "home to the majority of the city's white and affluent population" (92). His argument is that due to certain policies coming out of three major periods: industrialization (1900s-1930s), deindustrialization (1960s), and neo-liberal era of the 1980s have historically channeled capital in and away from the flatlands, creating today's food deserts which are linked to various other social struggles. He calls this historical process "demarcate devaluation" (McClintock 2011: 93), and further argues that these material changes were brought on by uneven development projects such as urban and industrial planning along with state and federal housing policies. He argues that this "demarcated devaluation" has been compounded by a history of racialized practices through "zoning, redlining, and neighborhood covenants" (McClintock 2011: 95). This history of structuring housing policy in the favor of certain groups (i.e. whites) started with the new subsidized loan programs from The New Deal era and WWII re-localization of industrial jobs which effectively channeled goods and services away from the area (McClintock 2011). This precipitated a decline in not only industry jobs and purchasing power of its residents but a decent tax-base which has led to a de-investment in social services of the flatland area of Oakland. The post-WWII grocery retail market changed drastically too with the need for convenience, women entering the workforce, and reliance on automobiles made it so

that two-thirds of all food being purchased was by supermarkets (McClintock 2011). Due to violence and poverty in Oakland, groceries relocated to suburbs leaving what today is known as 'food deserts'. Fast food took its place for being "easily accessible, convenient, and cheap" (McClintock 2011: 109) and so did liquor stores which could by why obesogenic environments are linked to 'food deserts' and are often found to have higher proportions of minorities (Block 2012, McClintock 2011). This is partially why Oakland has been a hot-spot for food justice work (see http://cafoodjustice.org).

The author's historical case analysis is invaluable to understanding the food (in)security puzzle. Similar stories exist in other urban areas like Detroit, New York, and Chicago where uneven material development, discriminatory practices in legal systems, and culture (i.e. class and race-based discrimination) are important to understand that food insecurity is a result of inequality across spatial, economic, and racial lines. This will be discussed further in the subchapter on 'Food Deserts'.

Agro-food System in the U.S.

When framing the questions and possible reasons why food insecurity exists in a country like the United States, who produces more food than any other nation in the world (Poppendieck 2000), governance and market structures are indispensable. The analysis here will focus on how the food system works and interactions along the food supply chain. The primary actors under analysis in this chapter are firms, who have a considerable amount of economic power. Borrowing Sarah Whatmore's (1995) reference to the OECD's (Organization for Economic Cooperation and Development) definition of the agro-food system:

> *"a set of activities and relationships that interact to determine what, how much, by what method and for whom food is produced and distributed (OECD 1981)".*

It's generally characterized as globalized, concentrated, and expansive with massive state supported (Carolan 2013, Friedmann and McMichael 1989, Heffernan 2000, Whatmore 1995). It functions from a capitalistic logic, where the goal is to accumulate and maximize profit (Heffernan 2000). When we relate this to hunger and food insecurity, we are then presented with a "paradoxical reality of rapid growth of food production and perpetuation of over-production on one hand, accompanied by the reinforcement of social exclusion and the growth of hunger on the other" (Magdoff et al. 2000: 9). Discussion of the main organizational and distributional characteristics of this unequal system is important, because as Philip McMichael (2000) points out hunger is a result of it. Also, when exploring the *types* of food that are being produced, reveals the huge profitability that can come with cheapening raw materials for an industrialized diet [7]. Furthermore, is this diet based on "natural tastes and preferences" as Neoclassical

[7] Evidence exists that farming isn't very profitable, nor is food as a raw material (I.e. non-processed food) reduces in price as incomes rise (Magdoff et al. 2000, Whatmore 1995). It has been argued that this is due to the biological nature of agriculture that has its own processes outside of social and economic forces, thus not being a very profitable

economics suggests or are our tastes and preferences constructed via certain economic conditions and relations?

In the early beginnings, when the U.S. was a colony of England, most European settlers and Native Americans lived off the land by growing and consuming their own produce (Heffernan 2000). The distance between the site of production and consumption was very short, unlike today. However, as England began to industrialize slightly before the 1900s and the rural exodus to urban centers boomed so did the need to feed the "new" industrial poor. Since the U.S. colonies produced some of the foodstuffs for England, U.S. farming transformed from being family-based to increasingly industrialized (Friedmann and McMichael 1989, Heffernan 2000, Wood 2000). Most subsistence farming disappeared and farms became larger in size – the same exists today. Firms began to enter the picture as intermediaries who had the capital and technology to transport large amounts of food far distances, especially with railroads (Heffernan 2000). This new industrialized model of agriculture and the specialization taking place in the food production process became increasingly more common, which led to a multi-stage system with firms competing at various stages; including creditors, producers of farm equipment, and distributors (Heffernan 2000). This gave rise to business models of horizontal and vertical integration that would alter power relations among firms and all actors in the food supply chain.

Image 1. Carbondale's railroad tracks dividing West and East side of town

Commented [WP3]:

This concentration of capital and control of the food system as family farms declined, was partly a result of horizontal integration (Heffernan 2000, Whatmore 1995). This involves the expansion of a single firm within the same stage of the food system. This could be through constructing new facilities or merging with a competing firm (Heffernan 2000). There are several places where this is evident throughout history; the expansion in size of commercial farms is most prominent. Other sectors have seen the same, such as meat processing with pork and beef. Wilson, Armour, and Swift were firms that set monopoly prices on their goods (Heffernan 2000:64). As companies like Wilson, Armour, and Swift gained more capital and mergers over time, so did their power which resulted in situation today where four businesses own 55% of poultry processing

industry. However, reorganizing it to depend on the market and not nature itself through technological modification and industrialization, food has the potential to be very profitable especially when produced in mass (Whatmore 1995, McMicheal 2000).

firms in the U.S.: Tyson-foods, Gold Kist, Perdue Farms, and ConAgra (Heffernan 2000: 65). The same type of horizontal integration happens with different firms across different commodities such as flour, turkey, dry corn milling, and soybean crushing. Today, there is not an agreed amount of market share that creates an oligopolistic market, but some insist if four firms control 40% then they are able directly influence the market in a way that small competing firms can't. William Heffernan argues that such industry models of business allow these firms to have a "disproportionate amount of influence on the quality, quantity, type, location of production, and price of the product at the production stage and throughout the entire food system" (2000: 66). Also, along these lines, many expanded their production to other commodity markets, so the firm wouldn't lose money when one commodity did badly, they would have financial backup from another sector that was profiting. This illustrates their material and financial wealth to enter new markets (Heffernan 2000)

The other business model that grew out of the post-WWII era gave rise to a new set of business configurations in the U.S. - vertical integration. It involves a firm having control of a number of stages: production, processing, and distributing (Whatmore 1995). This is where *agribusiness* became a term that characterized the "sum total of all operations involved in the manufacturing and distribution of farm supplies; the production operations of the farm; storage' processing and distribution of farm commodities and items from them" (Whatmore 1995: 38). Increasingly, researchers in the tradition of political economy are interested in various aspects of this expanded agro-system, but capital accumulation with this mode of production and the social regulation apparatus (state institutions regulating trade and food costs in the wider economy) are of particular interest (Whatmore 1995, McMichael 2000). As mentioned before, the goal of agribusiness and government institutions is to lessen the dependency of agriculture on nature and place it on the market (Heffernan 2000, Whatmore 1995). This is done through biotechnology. Sarah Whatmore describes it happens in two ways, through appropriationism and substitutionism.

> *-Appropriationism is taking "elements integral to agricultural production process to be extracted and placed under certain industrial activities to then be re-incorporated into agriculture" (i.e. seeds and fertilizers).*
>
> *-Substitutionism is where "agricultural products are first reduced to an industrial input and then replaced by fabricated or synthetic non-agricultural components in food manufacturing" (i.e. starch, protein sources, high fructose corn syrup, and grain feed) (1995: 42).*

What becomes a concern is not just the increase in decision-power in how food physically gets from seed to store, but also how agribusiness indirectly influences state policies and agencies to facilitate this process through "public agro-technology research and extension services, agricultural price supports and subsidized food programs" (Whatmore 1995: 44). When looking at U.S. agriculture just five crops receive 90% of all farm subsidy money – wheat, cotton, corn, soybeans and rice (Green et al. 2011). And, large-scale, commercialized farming accounts for 3% of all farms but 42% of all production value ('USDA' 2017). The only way that such a small percent of farms could produce such a large proportion of agricultural value, could be a result of extensive financial and material resources, which are hugely state supported. This begs one to look at the

paradoxical situation that the U.S. government is situated, on one side they subsidize massive amounts of raw agricultural production (not ready for consumption - who can eat soybeans, wheat, cotton?) which is mostly used for animal feed and calorically-deficient, cheap food (Carolan 2013). But, on the other hand are responsible for funding and supporting programs that help the most vulnerable in society to access food (i.e. SNAP, WIC, Free-Reduced School Lunch). Who is the ultimate beneficiary of such an agro-food system? Is it the citizen or the corporate heads of major agribusiness companies like ConAgra, Monsanto, Tyson, and Philip Morris? The last piece of this agro-system puzzle that needs to be presented is the retail sector, who also exerts a considerable amount of power in the agro-food system and it is with this sector that citizens directly interact.

In 2016, Wal-mart had about one-fifth of the retail market share of all other major grocery retails in the United States (Johnson 2017), which generated $482 billion dollars ('Wal-mart Annual Report' 2016). These numbers are just to give an idea of how much wealth a single corporation has, but it isn't the only one that generates massive amounts of wealth (Costco, Kroger, Albertsons). As a buyer of processed goods, they exert a considerable amount of power over the processor, making it buyer-driven. For example, Carolan (2013) reveals that Smithfield, the largest pork processor, holds a contract with Wal-mart which is its biggest buyer of pork products. From this position, Smithfield doesn't have the power to decide the quality and quantity of their product as Wal-mart does. This retail power constrains Smithfield in some ways, however the considerable market share they have makes it possible to off-set their costs to farmers/producers. There are a couple of problems with this sort of retail market concentration. These include higher levels of food deserts, higher food prices, and less food choice (Carolan 2013). These are social and economic costs that are externalized to the consumer. Over time grocery retailers have continuously seen their share of retail market share grow over the 20th century, along with different social and economic transitions. Nowadays, there are probably few people in the U.S. who do not regularly shop at a major retail grocery store.

Another is food price, where pricing mechanisms within the retailer need exploration. Carolan (2013) discusses slotting fees, or the price to put a certain item on a shelf, this gets increasingly competitive when products compete for eye-view of the shopper. These fees can go up to $40,000 USD per item, which is paid by the manufacturer, this in turn can increase the cost that sell their product to the retailer. Another aspect that might be fruitful to explore, is the effect on food prices when large retailers remodel a large portion of their stores to remain "competitive" and "attractive" to the consumer; I consider this based on personal experience of witnessing increased food prices after a remodeling. Lastly, there seems to be an erosion of choice, which seems ironic if supermarkets present themselves as having everything a customer might need or want. This happens because when they contract with one or two major processors or manufacturers, this leaves out smaller, more diversified companies that could be more in line with a customer's cultural or ethical choices around food (Carolan 2013). An example of this happens when large retailers advertise "locally" grown food or produce. In fact, because of their binding contracts and the ease that market concentration has created to purchase from one processer or manufacturer leaves out the option to capture market share of what most consumers

consider local (let's say a farm that is 50 miles from the retailer). Ultimately, this would be a logistics and inventory nightmare if they were to truly incorporate "local" food in their stores (Carolan 2013).

The agro-food system definitely has to come into the conversation of food insecurity. As market concentration by a few powerful firms has put decision-making out of the hands of the citizens. This is concerning when we uncover what *types* of foods are promoted in this system, it doesn't allow much "choice" as the free market advocates. The next chapter will discuss some of the household-level "choices" that citizens make when it comes to food and other needs. However, within this "demand-side" analysis, things must be situated within a social and institutional context where citizens are often constrained by limited resources of time and money, and other interdependent aspects of nutritional knowledge, class, and race.

Household Demand for Food

One point about the agro-food system that wasn't mentioned previously are the economic assumptions that have presupposed much of the policy around food production and food security. It has often been the case, especially after the 1980s, that open trade is the best solution for countries to remain competitive in a global economy and enhance their food security (Clapp 2015). However, this isn't always the case, especially when we ask *who benefits?* One argument is that trade policy doesn't fully internalize all costs as economic theory suggests, but externalizes them on people and the environment (Clapp 2015). An example of this externalized cost can be seen with NAFTA (North-American Free Trade Agreement), pushed by a trade liberalization logic, opened up a sort of "dumping" of cheap, processed commodity goods on Mexico's market. McMichael (2000) and Carolan (2013) argue that this increased the consumption of fatty and sugary foods, thus externalizing the cost of cheap food production onto Mexican citizen's health by creating the second highest obesity rate after the United States. This case highlights how household demand should not be isolated from the wider socio-political and economic context. In this case, consumption of fatty foods wasn't a demand that the Mexican population suddenly created, but one that was put in place by trade negotiations. Since there are supply-side aspects of food, it would be good to see how these interact with food demand. The three aspects I'd like to explore, which come from the gray literature, are the increased demand for convenience foods, the link between nutritional knowledge and diet quality, and other competing basic needs.

Price, time, and advertising have been found to increase household's demand for convenience foods and food-prepared-away-from-home in recent years according to a USDA study (Okrent and Kumcu 2016). "Convenience foods" were defined as foods that save households time in meal preparation and

clean-up (Okrent and Kumcu 2016: i); they were organized by level of convenience [8] [9] These types of food options can be seen as problematic because they contain many more calories and are not as nutritious as freshly prepared meals. First and foremost, they found that price is the biggest determinant for increasing demand. The authors noted that "uneven price growth may be symptomatic of supply-side factors that have made processed foods cheaper over time compared to less processed foods" (Okrent and Kumcu 2016: 3). This echoes Michael Carolan's assessment (2013) that the agri-food system has altered consumption patterns for empty calories so that now they produce more of those goods, thus lowering their price, and making it more of a feasible option to price-conscious citizens (2807-2810). In relation to time, they also found that a 1% increase in hours worked by head of household decreased the demand for basic ingredients by .19% (Okrent and Kumcu 2016: 23). And, lastly the role of advertising was significant in that demand increases 25% to every 1% increase in advertising. They even mention that in 2011, McDonald's placed $962 million dollars towards brand marketing. These demand-side factors are important to consider in the food insecurity puzzle, to understand *why* and *which types* of food are more feasible than others. It seems to allude here that consumers aren't always rational as Neo-classical theory suggests, but are constrained by various institutional behaviors (i.e. advertisement and agro-food production).

Another study by two USDA researchers in 1998 brings up some interesting points about why diets vary so much. These differing diets can be compounded by intersects of nutritional knowledge, age, race and ethnicity, gender, income, price of food (price of other foods/services), household characteristics, and tastes and preferences (Variyam and Blaylock 1998). This is obviously a very long list of variables to consider, so I will present some of the interesting findings, especially the link between nutritional knowledge, the quality of a person's diet[10], and role taste and preferences might have. However, to start, it's good to remember that not only is diet quality correlated to socio-economic status and race, but so is nutritional knowledge (Handbury et al. 2016, Variyam and Blaylock 1998). They found that non-Hispanic whites have more nutritional knowledge than blacks and Hispanics. Also, more nutritional knowledge and better diet is associated with higher incomes and higher levels of education (HHS and USDA 2015, Variyam and Blaylock 1998). However, they questioned that if equitable nutritional knowledge was achieved between higher and lower incomes groups, would it be possible that because of income, tastes/preferences, and the fact that eating out (less nutritious option) is more accessible to higher income

[8] The food groups were leveled by least convenient to most convenient: basic ingredients, complex ingredients, Ready to Cook meals and snacks, Ready to Eat meals and snacks, fast-food meals and snacks, and sit-down meals and snacks (Okrent and Kumcu 2016).

[9] Convenience has a number of meanings in the literature according to the report. Such that, it could be convenience in the time, labor, cost, and handling in the processing and retailing lines of food production; the method for prepping, cooking, and heating foods; or the level of preparation and shelf life of a product (Okrent and Kumcu 2016: 2).

[10] This is based on the USDA's Healthy Eating Index which is based on how an individual responds to questions on nutrition based on the *Dietary Guidelines for Americans*.

groups[11] would high income diet quality be worse than poorer individuals? It's not the intent to answer this question or oversimply by only presenting a few variables of consumer demand, but to show how food choices are complex and also constrained by resources available to the individual, often because of his socio-economic background.

Another piece of the understanding the demand-side food is looking at the cost of other competing needs; such as housing, medical care, education, clean water, and participation in decision-making. Jean Dreze and Amartya Sen (1991) led the way with this important discussion in their book *Hunger and Public Action*. They discuss the role of entitlements - a person's ability to take command over commodities, but also capabilities, or the process to turn those entitlements into freedom (i.e. agency). The theory of entitlements and capabilities also considers if people's environments are conducive achieving these freedoms (Dreze and Sen 1991). Similar thinking can be found in Carolan's book (2013), in that the goal of food security shouldn't be food itself, but well-being and healthier life-styles, where food is just one piece among many that constitute a decent well-being. The principal idea here is that people's fundamental needs don't exist in isolation, but are very interconnected. For example, a food insecure person will need sanitary water as much as he needs food so that he can cook, clean, and prepare that food. So, here, I'd like to present two graphs that show how fluctuations in cost of other non-food basics and household income have changed over the last three decades (See Table 1).

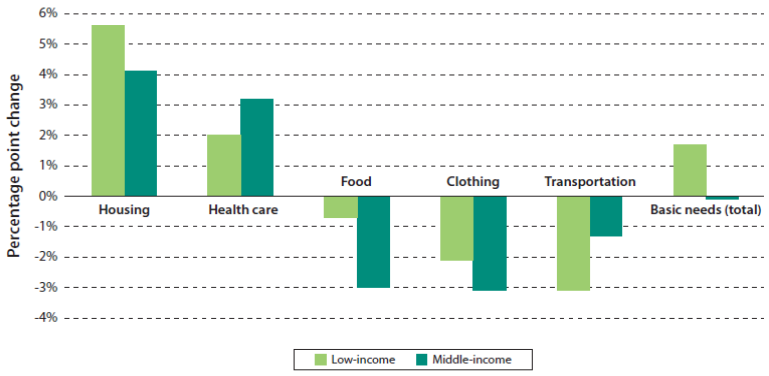


Table 1. Household Budget Change by Income, 1984 and 2014 (Schanzenbach et al. 2016)

What is seen here is that (overall) basic needs have risen for low-income groups, especially housing. The study where this was taken mentioned that low-income households spend 82% of their total budget on basic needs compared middle and high-income groups (Schanzenbach et al. 2016). Not only does housing take up a higher percentage of expenditure but so does food (includes food prepared at home and food-away-from-home) (Schanzenbach et al. 2016). This is where understanding trade-offs is important. Low-income groups tend to have less resources such as liquid assets (i.e. savings account or property) to absorb

[11] Reference: Schanzenbach et al. 2016

shocks such as rising costs or unexpected costs within the household. One study showed that two-thirds of food bank clients must choose between food and medicine or health care, the most rapidly increasing cost of all (Schanzenbach et. al. 2016). As Table 3 shows below, the lowest income quintile spends the highest percentage of their budget on food in comparison to other income groups. Contrary to popular belief most of those expenditures are for food-at-home not food-away-from-home.

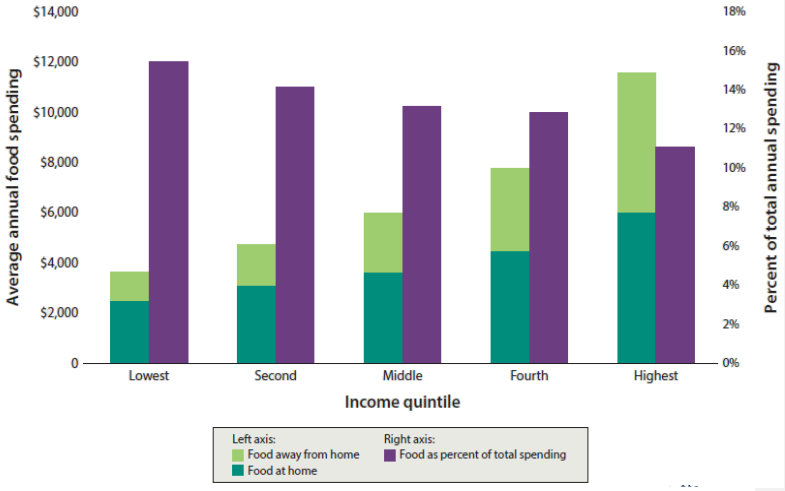


Table 2. Annual Food Spending and Share of Annual Spending for Food, 2014 (Schanzenbach et al. 2016)

Brief History of Food Security Concept

The agro-food system and its politics are inextricably linked to food security's development over the 20th century, such that agri-food policies have been supported by the need to provide more food security in the world (Carolan 2013, Gibson 2012). Carolan's (2013) stages of food security history discusses this link very nicely. He categorizes the stages as: the calorie-ization of food security (1940s to the present); the neo-liberalization of food security (1970s to present); and empty calorie-zation of food security (1980s to present) (404). What seems noticeable here is that each stage has not diminished until present-day but has continuously been built on the previous one. The general direction of food security discourse has gone towards the need to produce more food for an ever-growing population. This theory has existed since 1798 with Reverend Thomas Malthusian who suggested that the earth's capacity to sustain a rising population growth couldn't happen (Gibson 2012). Now, Carolan's main argument is that if a country like the U.S., who produces enough food to feed its population, might not necessarily translate into better well-being and health. He even brings in the fact that life expectancy is actually declining in some parts of the U.S., like the South, which is also the most food insecure area and also have some of the highest rates of obesity and racial inequality in the States (Carolan 2013, 'Feeding

America' 2015). Now, with a historical perspective on food security policy, we can see why this might be the case.

The first stage, calorie-zation of food security, was born out of Britain when the need to feed the new industrial laborers in the industrializing cities. Most of the concern came from elites who didn't want to risk social unrest with the new face of poverty that came with urbanization (Carolan 2013). This is where agri-food policy became concerned with the calorie, or, how they could feed more with less which introduced a diet based on sugar - 1 acre of sugar crop contained 8 million calories (Carolan 2013). At the same time, changes were being made in nutrition. Countries like the United States started to take inventories of how many calories it took to perform any number of jobs from farmer to secretary and school teacher, based on a quantitative logic which saw food as a "substitutable material" divorced from deeper cultural and social relations (Carolan 2013: 461). Thus, the food supply became more a concern about energy supply, as Carolan argues (2013). The Green Revolution though was a game changer in food security policy, such that it induced a turn to large-scale agricultural. Discursively, politicians and major organizations like the FAO were concerned with ending global hunger, but how they achieved those goals took a different turn (Carolan 2013, Gibson 2012).

A "productivist ideology" became the leading ideological force in ending hunger and providing food security to nations in the Global South. Attached to it was also a policy and research agenda that looked for technical solutions to biodiversity's natural course, such that from WWII to the 1970s they expanded new varieties of rice, wheat, and corn, advanced irrigation systems, created input supply chain for fertilizers, seed, and pesticide (Carolan 2013: 537). Often this side-lined other social, political, and economic policies that would have prioritized more equitable land ownership and protection of local plant diversity and knowledge. Key to actors being successful in this new agricultural was of production, having a significant amount of capital, resources, and credit to buy the necessary inputs to be profitable, something only land elite had (Carolan 2013). The 1980s brought a political ideology that sought to eliminate government institutions and allow the market to decide who survives and who doesn't. Ironically, the survivors have a lot of state support – look at U.S. farm subsidies! Other places in the world, like the Global South, were pushed to follow a very different set of rules where the market really was the best arbitrator of resources. These countries were persuaded to eliminate government support for agriculture, technology, and marketing for rural farmers (Carolan 2013). This would then place reliance on the market or firms that could provide these necessities to rural farmers, but at steep prices, leaving indebted farmers (McMichael and Schneider 2011, Patel 2007). This period, which continues today, and has concentrated power and wealth in the hands of few large firms, leaving rural peasants and farmers marginalized from the genuine road to food security and self-sustaining livelihoods.

The last phase is the empty calorie-zation of food security where liberalizing food security led to a liberalization of Foreign Direct Investment (FDI) (Carolan 2013). This happened in both international and national markets, but one that Carolan points out happened to public schools in the U.S. Seeing their budgets cut and competition growing for federal and state funds through meritocratic systems of teacher and administrator evaluation along with student test scores

has led to a de-investment in public funding. Now, administrators must turn to private companies for funding, often to large food and beverage companies to fill the gaps. With this funding, there are stipulations that schools must sell the company's products, which is leading to a "over-consumption of empty calories" of snacks and sodas (Carolan 2013). These FDIs in foreign markets have also led to a spread of shallow calories – remember the discussion of NAFTA's influence on Mexico's health? This is exactly the reason why Carolan asks us to be critical of how food security is framed (calorie-counting) and the policies put in place to achieve it (FDIs). This brief historical over-view of the concept's growth in the last century has echoed many of the themes seen in previous chapters, so that solving the food insecurity problem must take into consideration who has power and how policies benefit whom in a deeply *unequal* food system.

USDA Definitions on Access and Availability

The notion of food security is based on the USDA's definitions of three concepts – availability of food, access to it, and stability of both. The economic analysis of availability is based on macro and micro supplies of food. At the macro level, the USDA tracks the food supplies from production through the marketing system all the way to the consumer ('USDA' 2017). Food availability is measured in per capita amounts of calories and is often used as a proxy for consumption. Usually the total food availability at the national level is based on the total food supply during a specific time and divided by the U.S. total population plus the Armed Forces ('USDA' 2017). At the macro-level the USDA measures food consumption, year-to-year changes in consumption, long-term consumption trends, and changes in food consumption due to nutrition policy initiatives ('USDA' 2017). At the micro-level whether it be a community, household, or individual food availability is about quantity and quality of nutritious foods considered in a physical proximity sense where supermarkets are used as proxies for food access because according to the USDA, supermarkets have a nutritious and affordable supply of food[12] ('USDA' 2017).

The second concept is Access which is a bit more complicated because it goes beyond food supply but demand too. However, for the most part Access refers to people's physical access (i.e. distance) and economic access (i.e. ability to purchase food and food prices). Most of the food security research in the U.S. looks at the extent and characteristics of people and places who lack access to healthy and affordable food. Furthermore, the research often looks at the relationship of food access with food shopping, spending patterns, and diet and health ('USDA' 2017). The USDA's research institution, the USDA-ERS (Economic Research Service maintains database on food deserts looks at distance-based measures of supermarket access (low, medium, or high), low income neighborhoods vs. people's medium income outside of those areas, vehicle own-

[12] There is some counter evidence that supermarkets are not the best proxies for affordable and healthy food options. In a report by Louis Wharton and Troy Blanchard (2007) some rural areas of the Great Plains there is evidence that Wal-Marts and other superstores aren't always cheaper and that there is room for more competitive pricing if small markets were able to establish in rural 'food deserts'.

ership, and time to grocery store ('USDA' 2017). Furthermore, supermarket access is studied across four subpopulations: low income, race and ethnicity, vehicle ownership, and the elderly of 65 and over. Again, Access is dependent on Availability and consumer demand according to the USDA (2017). Both of these concepts are used as tracts to define which areas of the U.S. are considered 'food deserts'. This will discussed more critically in the next chapter.

Food Deserts

Just like the food security concept, not all researchers agree on what a 'food desert' actually is, it often depends on who you ask. The basic idea is that it's an area where people have low-access to a grocery store with healthy and affordable food (Block 2012, USDA 2009). Considerable amount of research is done by the USDA and other government departments, and academia surrounding the topic and how to measure it. The USDA-ERS's database and mapping tool called the 'Food Desert Locator' assesses an area's income and distance to a supermarket or major grocery store (including chain groceries and discount groceries). They use three low-access and low-income tracts to measure income and distance to a grocery store, but the general definition is an area with "at least 500 people, or 33 percent of the population, living more than 1 mile (urban areas) or more than 10 miles (rural areas) from the nearest supermarket, supercenter, or large grocery store" ('USDA' 2017). When looking at income, they measure an area with at least 40 percent of the people have income at or below 200% of the federal poverty level ($49,200 yearly income for a family of four). And, lastly, they look at the percentage of households with access to a vehicle. Overall, it has been found that 23.5 million people have low access to healthy and affordable food in the U.S. according to the USDA (2017). However, depending on the tract used this number of total population with low-access to a grocery store can range from 17.4 million to 54.4 million ('USDA' 2017). This is an interesting entry point, because research is still advancing in understanding how to adequately measure 'food deserts'. Daniel Block (2012) argues that some other important data should be considered, like store prices which vary, how to take into account population density[13], and shopping behavior. Due to political issues, adding grocery stores are attractive solutions because they can be easily measured and can foster good private-public relationships; but these initiatives have been criticized for oversimplifying the problem of 'food deserts'. This will be discussed next.

Daniel Block, a professor in Geography at Chicago State University discusses how 'food deserts' spatially map out where inequality exists. His research and others have shown that African American neighborhoods and rural areas are overwhelmingly considered to be 'food deserts' where obesity rates and food insecurity rates are also higher (Block 2012, Carolan 2013, 'Feeding America'

[13] In Daniel Block's research, population density as an indicator of 'food deserts' has been problematic. This indicator works under the assumption that higher population density areas have more grocery stores than places with low-density, thus distance isn't an issue. However, in St. Louis (an urban area) it was found that high-density areas had a supermarket more than one mile away (Ver Ploeg 2010). This then complicates whether population density is a valid indicator or not.

2017, Gallagher 2010, USDA-ERS 2009, Ver Ploeg 2010). This shows that 'food deserts' *do* affect access, thus people's food security status, but there is also the problem of choice and income. The focus of 'food deserts' is the need to provide *more* access to healthy and affordable food, but what about price-conscious consumers that might choose to purchase unhealthy food because of cost? Ver Ploeg (2010) argues that the problem should not be characterized as 'food deserts' but as 'food swamps'- where the consumer is overwhelmed by the abundance of low-cost, unhealthy food options. This gets to the core of what 'food desert' policy initiatives do not tackle – citizen income and food price! How are people going to afford healthier food, even if they have physical access to it? Carolan (2013) brings in another question and goes so far to ask if 'food deserts' are the exception to the rule or the rule itself? These points get to the main criticism that 'food deserts' have received; the policy response is too simplistic, especially when cost of healthy food, low purchasing power are not considered nor shopping habits (Block 2012, Handbury et al. 2016). Furthermore, they do little to understand why unhealthy food options are more available yet cheaper in the first place.

Charitable Food System

The 1960s and 1970s saw a huge national effort and consciousness rise about the seriousness of hunger in the United States, especially after the documentary *Hunger in America* in 1968. For a country who long thought problems of hunger and malnutrition had vanished, this documentary showed young children suffering from malnutrition and other related diseases in rural areas of the South and Appalachia mountain region. The Food Stamp Program eliminated the requirement that people had to pre-purchase a portion of their benefits, WIC (Women, Infants, and Children) was established; its aim was to enhance nutrition amongst low-income women and children, and Congress authorized the Child and Adult Care Program to provide food to low-income children and seniors in a variety of institutional settings (Berg 2008). However, these policy initiatives were set back in the 1980s under President Reagan when a number of social services were cut and were replaced by emergency feeding programs (i.e. food banks or soup kitchens); these programs skyrocketed to 40,000 programs throughout the country (Berg 2008: 192). Today, Feeding America is the largest charitable non-profit organization that runs a nation-wide food bank network, and also produces a considerable amount of research on food insecurity in the United States. This is where county-level data for Jackson county was extracted for this research. Food banks, like Feeding America's are spread across the United States and build partnerships with distributors, corporations, grocery stores, and restaurants to donate food that would otherwise be wasted and donate it to the network and the network distributes it to their partner food pantries. These are often found in churches and community centers. Food pantries then build relationships with local organizations and churches to put on food-drives and gather food and toiletries to give away in their pantries.

Janet Poppendieck (2011) did a sociological study on food pantries and comments that the campaigning efforts done with national and community organizations around issues of hunger in general are problematic when hunger is used as the central issue (194). She mentions that hunger is a salient and morally

provocative social ill that Americans empathize greatly with, and political motivation exists too - SNAP and WIC were some of the first entitlement programs that gave money to individuals. However, as mentioned before, the public focus can get lost in campaigning efforts where poverty and inequality as *causes* of hunger get side-stepped. She argues that collecting donations and rallying around issues of hunger is a "feel-good" American past time without a political focus on raising minimum wage or fighting for entitlements and other basic needs like housing and medicine. The issue of hunger is big in the U.S. but the scale of food pantry and food bank efforts are more like a bandage on the wound (Berg 2008, Galvay 2017, personal interview[14], Poppendieck 2011).

Going back to corporate firms and retailers, their involvement in Feeding America's efforts can be seen as a bit hypocritical. Companies like General Mills, Wal-mart, Kroger, Nestle, etc donate millions of dollars to Feeding America and donate large quantities of food for distribution ('Feeding America' 2017). Let's use Wal-mart as an example to show where this hypocrisy lies. Wal-mart is the largest private employer in the U.S. and a huge food donator. However, they have been very reluctant in past years to increase wages for their employees (Owens 2016). So, on one hand they are donating food to low-income citizens and on the other hand unwilling to raise wages for a decent living which would also reduce food insecurity and hunger in the U.S. These efforts to donate also may be seen as cost-effective ways to get rid of surplus. For the public eye it could be an attempt to merit their efforts for reducing food waste, especially for a good cause. Conversely, little consideration is given to the over-production of food that they support to produce such levels of waste in the first place. These efforts can also be thought of as not only a mechanism for getting on the public's good side, but as a financial break and get a tax write-off for their "charity" (Berg 2008, Poppendieck 2011). Lastly, to end, let's go back to who has power in this food system. When we do, we must ask *who* receives the left-over, would-be wasted food? Obviously, low-income citizens, and when looking at the health status of these citizens, is this really fair and equitable when many of these foods are highly processed, nutritiously vacuous foods? I think not.

Alternative Food Movement

Looking at what alternative food movements are doing in the food system tell us a lot about what is *not* being done or what people are unhappy about what's being done. This environmental critique against industrialized agriculture started in 1962 with Rachel Carson's unpublished work on the effects of chemicals on the environment and human health (Gibson 2012). However, as a formal movement against this mode of production, groups didn't formalize until the 1980s and 1990s (Gibson 2012). Now, there is no unified movement against corporate agriculture -concerns are vast - some are more worried about GMOs in our food, others with peasant rights to land and crop cultivation, animal rights, urban agricultural development, small-scale farmers, community projects that assist access to healthy foods, and so much more. These efforts range greatly but all contest some aspect of the U.S. and global food system that just isn't working

[14] Personal interview with K. Galvay on food pantry system, at the Good Samaritan Food Pantry, Carbondale, on 21 August 2017.

for a certain group of people or the environment. Since 1995, the Community Food Security Coalition was a prominent organization in the movement to end food insecurity in the U.S. through community capacity-building. They merged their efforts of food security with local and sustainable agriculture (Berg 2008, Morales 2011). Most of their work is small-scale by bringing supermarkets in low-access areas, mentoring new farmers on sustainable practices, promoting nutrition education, establishing farmers' markets, and promoting local and organic food (Berg 2008). A specific piece of their work is directed on the relationship between farmers and consumers into an effort called Community Supported Agriculture (CSA). The idea is cut out the expensive intermediaries along the food supply chain and have consumers pay in advance for shares of a farmer's yearly output. The consumer would then receive baskets of food which he or she purchased over the growing season which can enhance access of fresh foods for the consumer and protect the farmer from bad crop season (Berg 2008).

Image 2. Community Garden Located in East Side of Town "Grow Power Locally"

Another important initiative by diverse groups is building community gardens in low-income areas to give access to healthy food and empower community development and involvement. A particular interesting point about community gardens is the capacity it gives to immigrants to raise food that is culturally important to them, highlighting how food is deeply cultural and bonds a connection between people and their home lands (Alkon and Agyeman 2011). The USDA has been a supporter of community gardens since the 1950s with 'victory gardens' as they were once called (Gibson 2012). Today the USDA has grants for community and school gardens, and have supported initiatives to bring more farmers' markets to low-income areas and allow SNAP users to purchase food from these places; a feature of the 2008 U.S. Farm Bill (Berg 2008). There are also more grassroots' organizations that fund such projects and are often rooted in 'food justice' work in the U.S. Their primary goal is to undue racial inequality in food access and public health (Morales 2011). Some of these alternative food movement leaders believe that any truly just sustainable or food movement must attempt to de-commodify and relocate food systems (Mares and Pena 2011), which is what many of these movements are trying to do.

Chapter 2 Research Methodology: Secondary Data Analysis and Semi-Structured Interviews

"Americans have not generally been trained to understand the language of inequality nor the tools with which it is measured." (Janet Poppendieck 2011: 200)

Introduction

This chapter discusses the methodology of the research. First, the major connections made in the secondary-data analysis of Chapter 2 will be highlighted. This will then lead into a discussion of how semi-structured questions were decided and the methodology of collecting data, along with information on who was selected for interviews and why. This chapter will end by discussing the limitations of the research and how to adequately interpret the results.

Secondary-Data Analysis

The goal of the secondary-data analysis was to get a better understanding of the food system, with a particular focus on how food (in)security is understood, agro-food system behavior, and what other historical, socio-political dimensions are important to understanding why food insecurity might exist. The attempt was to get a macro-view of the U.S. food system to then understand what questions would be important to ask in the semi-structured interviews. This part of the research sought out two types of literatures from a mix of internet searches, websites, academic databases, blogs, internet media, and previous course material. The two types of literature were gray literature and academic literature. The gray literature included government reports, USDA data-bases, promotional material, policy evaluations, news media websites, and business reports. The academic literature came from books and journals from a variety disciplines: sociology, political science, economics, and nutrition.

The two types of literature yielded different results in what were considered to be causes of food insecurity, however there was overlap too. Some of the major themes that appeared across both types of literature where – certain socio-economic and racial/ethnic groups suffer more from food insecurity than other groups, the power food/beverage firms have in dictating which foods are more accessible and cheaper, income poverty as major underlying causes of food insecurity, food insecurity's link with obesity and other nutrition-related diseases, gaps in understanding food shopping patterns and nutritional knowledge on food (in)security, government's dual role in financially supporting agribusiness firms and providing nutritional assistance to American citizens. It became apparent to me as a researcher that the gray literature, especially USDA research, isn't as homogenous and benign as I thought it would be. There are several

USDA authors that were quite critical of the US food system, where their own organization (USDA) is a big constituent.

On the other hand, there is definitely a great amount of difference between the two types of literature when they conceptualize the reasons why food insecurity exists. However, the food (in)security research grounded in the Humanities - Political Science, Sociology, and Economics were more critical of the structure of the U.S. food system especially when using power as a lens in comparison to the medical sciences of Nutrition, Medicine, and Pediatrics[15]. It should be noted that I'm using these disciplinary groups very broadly, there is a considerable amount of difference even within each discipline. The academic literature from the Humanities' took into account wider socio-political dimensions. Such as, McClintock's (2013) analysis of the interplay between housing policy, urban development planning, and a culture of racism as relational causes of 'food deserts'. Also, the history and behavior of agribusiness along the food supply chain was notably *more* present in the academic literature and so were discussions of empowering citizens through alternative food movements.

Semi-structured Interviews

Based on the secondary-data analysis then it was determined which questions would be asked in the semi-structured interviews to see which aspects of the US food system and broader socio-political and economic dimensions are playing a part in Carbondale's food insecurity. From this conceptual framework, I created my interview questions to understand more about these general topics:

1. Retail environment and concentration
2. Income poverty and competing needs of food insecure
3. Racial, socio-economic, and spatial inequalities in economic access to healthy and affordable food
4. Local attempts to improve local food system with food insecure citizens in mind

My biggest resource to approximate to food insecure individuals and reasons for food insecurity in Carbondale was through volunteering and interviewing people who work and use charitable food resources. I interviewed 2 food pantry directors, 1 pastor in charge of a soup kitchen, 2 soup kitchen workers, and 7 food pantry patrons. These interviews helped me answer the topics 1-3 from my conceptual framework. For knowing more about all four topics, but specifically number 4, I reached out to a wider audience who work in Carbondale's food system. 2 were researchers - one had the dual role of dietician. 1 farmer's market manager. 1 with founder of a local food and farm non-profit. 1

[15] Just as a commentary, I don't believe that these sciences are not critical of why food insecurity exists nor does every researcher of the medical sciences take the same approach to collect data on health. Some are very "scientific" and some are quite interdisciplinary and bring in the wider socio-political and economic dimensions of food insecurity. However, most importantly, I believe their role has been to determine the health *impacts* of food insecurity. This is very important because their research can draw political action; therefore, we cannot divorce the natural and human sciences when it comes to food insecurity - they are both necessary to understand the full range of implications it has and motivating political action.

restaurant manager. These interviews were recorded and transcribed, all lasted 30 minutes to two hours and were held over the months of August - November of 2017. I also had countless 'informal' conversations with volunteers and workers in the food pantries and soup kitchens, patrons of charitable food resources, friends and family on the topics above to get greater insight on people's views and what they have observed happening in Carbondale.

These interviews had different courses of questioning, depending on who was being interviewed and the according to the flow on the conversation. Food pantry directors received more questions on income poverty, racial inequality, food bank system, and retail food donors. Individuals involved in local food system had more questions about challenges of local farming, retailer concentration and access, city support for local food, and alternative/local food movements in the community. The interviews were chosen to be semi-structured to allow openness of answers and due to the sensitivity of the topics of food insecurity, poverty, racial inequality, etc; the goal was to keep it open so they could share their point-of-view freely without judgement. List of interviews and interviewee background can be found in pages 44-48.

Advantages and Limitations in the Research Study

The biggest advantage of using a case study was the ability to research a complex phenomenon like food (in)security and apply it a single unit of analysis – the community of Carbondale. It offers a lens to see how these larger governance and market structures that produce uneven power relations at the global and national level that affect a community's food system, like Carbondale's. A benefit of this study, is filling in the gap for much needed food system's research focused on rural areas (McEntee 2011)[16]. The semi-structured interviews allowed for an open framework to assess the complexity of not just food (in)security but also the food system in general. This methodology was effective in getting respondents to respond to the aspect that most concerned them and was evident in their day-to-day reality of working and/or interacting with the food system.

The limitations of this study are that results can't be overgeneralized, they can only be representative of the community of Carbondale and not of the larger society. Lastly, as an overall limitation this study suffered from a lack of historical analysis of policies and political history of Carbondale and Illinois. This would have aided in understanding the stages of events that led to local-level structures

[16] This idea of rural is very contested. The U.S. Census Bureau defines rural as a town of less than 2,500 people, which technically disqualifies Carbondale as rural according to this definition ('HRSA' 2017). However, this population-based definition is a bit arbitrary. If we look at resources, does a place like Carbondale really compare to the available resources of a city like St. Louis or Chicago? I question this idea of "rural" as a population-based category. The same concern arose in my interviews with Shiloh Deitz and Loran Morris' (2017) who had the same difficulty in understanding Carbondale's status as an "urban cluster" - population between 2,500-50,000 ('HRSA' 2017). It's out of the scope of this paper to debate this, but it does provoke some needed thinking about what is considered "rural" especially when we ask this question through the lens available resources (economic, social, and cultural).

of governance and politics. Therefore, the semi-structured interviews should be interpreted as part of someone's reality and understanding of past events (current ones too). With no historical data collection to back up what actually happened, this study is left open to the personal subjectivity of the interviewee as an account of historical events.

Chapter 3 Research Results

"Hunger involves much more than food, and the solution of hunger in the contemporary world also calls for taking note of many different interconnections." (Sen 1997: 24)

Introduction

This chapter will present the research results based on the secondary-data analysis and the semi-structured interviews. The main question to this research is: *Why does food insecurity exist in Carbondale, IL?* There were several sub-questions that guided the research, see *List of Research Questions*. These were probed from the theoretical framework and conceptual framework/secondary-data analysis. The results from the secondary-data analysis then created a guide for what specific questions were to be asked in the semi-structured interviews. The main areas of focus that surged from secondary-data analysis and seemed most applicable to Carbondale were:

1. Retail environment and concentration
2. Income poverty and competing needs of food insecure
3. Racial, socio-economic, and spatial inequalities in economic access to healthy and affordable food
4. Local attempts to improve local food system with food insecure citizens in mind

The idea was to see which aspects of the U.S. food system and socio-political and economic spheres are most affecting food insecurity at the community-level in Carbondale. The main argument of this research paper is to not just see food (in)security as people's access to food, but as a process to better health and well-being where consideration is made to the types of available food and their affordability, but also the other necessary capabilities that allow a person to achieve well-being. I will present results from the secondary-data analysis parallelly to the results of the semi-structured interviews to show how the macro-levels of governance and market structures have influenced the community of Carbondale. I will work backwards and answer the sub-questions first and then end with the main question of the research which will be concluded in a summary of results for the reader's clarity.

Results of Sub-Questions

How do "excercisers" of power influence citizens' choice on what food is available to them?

Based on the data collected, certain agro-business firms, government, and retailers exert a considerable amount of power of what is produced and sold in our food market. The big source of agro-business' power comes from their abilities to firms vertically integrate and control various aspects of the production. This is then supported by U.S. legislation through the Farm Bill which allots money to farm subsidies, nutritional programs, and grants for local initiatives.

Based on this research, a contradictory role exists with government's involvement especially if you juxtapose this with the health-related problems of U.S. society. Already mentioned in subchapter "Agro-food System in the U.S.", large-scale agriculture receives most government subsidy money for cultivation of five crops – soybeans, wheat, cotton, corn, and rice. With this government support, farms and agribusiness have the extra capital to be able to produce more, and more cheaply. Thus, these surplus commodities end up many of our processed foods, which overall have decreased in cost, especially in relation to fruits and vegetables (Carolan 2013); and, like the situation of Mexico, have contributed to declining health status of U.S. citizens because of over-abundance of cheap, calorically dense foods.

My conversation with Ann Stahlheber, Farmer's Market Manager and farmer, echoed some of these themes in my interview with her (2017). She stated that "many of the farmers here at our market are small-scale vegetable and fruit farmers. They receive no government subsidy money and many are low-income themselves, just plotting a few acres of land." I, then asked about whether they have had success in selling their produce in local retailers like Kroger and Walmart, and said "the only one that has been supportive was Schnucks[17] because of a supportive general manager, but these guys just don't have the quantity that these stores require, the Farmer's Market is their market!" Furthermore, in a report by Food Works (2010), local [chain] retailers' managers, like Kroger, are already required to buy from distributors that their headquarters contracts, making it hard for local managers to push local produce in their store. So, here we can see that few retailers have been supportive of incorporating local produce in their markets, not necessarily because they don't want but logistically they can't, which affects the citizen's choice in which types of food are accessible in their grocery stores. This is important to consider because 77% of Southern Illinoisians stated they are more likely to purchase a product if it were local (Deitz 2016),

Now, looking at government's role as an "excerciser" of power is a bit more complicated, because of their role is contradictory, especially in regards to health. On one hand, they do provide little to no financial support for the neediest, even low-income fruit and vegetable farmer, and on the other hand they give most of their subsidy money to large-scale producers of commodity crops. This is problematic, because most times these crops are used for not just animal feed and crop speculation markets, but for food that has compromised America's health status. However, in my fieldwork, I learned that there is an experimental program called the Double-Up Program funded from the Illinois Department of Agriculture that is allowing SNAP (in Illinois it's called "Link") and WIC users to purchase foods in the farmer's market with the money they receive. Ann told me that "this program has been promoted and has received a lot of help from the Jackson County Health Department and for every $10 dollars of produce an individual buys with their Link card or WIC coupons, $10 dollars worth of tokens are given, and then they get an additional $10 of coupons, like monopoly money, to spend on qualifying produce in the market. So, they basically get $20 for every $10 they spend. It's grown a lot this year. It started last year but it's the first time we've seen it in action from April till November. It has boosted the

[17] Schnucks is a a small, Mid-west grocery chain. Not like Kroger and Wal-mart which are international.

farmer's market" (2017). Additionally, in our conversation we discussed that it doesn't just help low-income residents access and incentivize healthy food purchases but boosts sales for farmers too. This program is promising in that it enhances low-income citizen's ability to access fresh and healthy produce, and not at the expense of the farmer. Ann believes that this has boosted traffic at the Farmer's Market, and a couple farmers I spoke with too said it was a good program.

I had an interesting, informal conversation with an elderly lady who was volunteering at the Bethel A.M.E. church's soup kitchen. I learned from our conversation about the impact grocery retailer concentration in power and space had in Carbondale's retail landscape. Spatially, 3 of the 5 major grocery chains exist but in ½ mile of each other in the far East part of town.

Image 3. Soup Kitchen Storage at Bethel A.M.E. Church

Commented [WP4]: I put this image in here since in this part you explaining about soup kitchen.

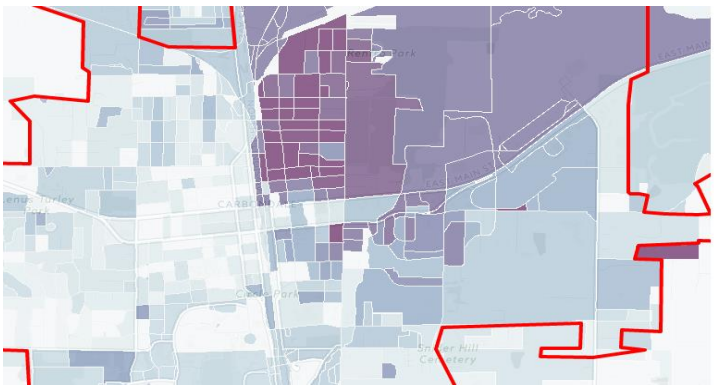
In economic terms, she said "oh yeah, there were a lot more businesses in downtown Carbondale when I moved here in 1979. There was a bakery and drug store on the strip. A lot more restaurants and small groceries." I asked her what had changed, and she said "well, I suspect but I'm not sure but I think the city government solicited big retailers like Walmart and Kroger, and fast-foods like McDonalds and Burger King to come in because they needed the tax revenue." And I asked her how that affected her grocery shopping and she said "well just recently my husband and I have purchased a condo on the West side of town and it would have been nice if that old Kroger was still there, I could walk and buy my groceries...yeah these big retailers on the East side of town have left us high and dry on the West side of town." Through this conversation, it is notable to see how the concentration of just a few retailers has affected citizen's access to food. Again government, specifically local government, has had a compromising role in concentrating good to certain people and areas. These changes in retail landscape are probably related to the eventual die-out of small businesses and groceries in the community, thus further affecting the community's access to food.

How have socio-political and economic structures impacted food insecurity?

1. *How does food insecurity interact with politics of space, race, and class?*
2. *How is food insecurity linked to other deprivations?*
3. *How does income poverty impact food insecurity?*

These four sub-questions are quite related to each other so I will present the answers here. This is also important because the theoretical framework advocated by Sen asks the researcher to look at the relational factors that link capability deprivation to other deprivations, and to see how different socio-political and economic dimensions relate to each other. Nathan McClintock and Daniel Block's work had me quite interested in the idea of race and class-based discrimination and their relation to concentrated retail landscapes. I therefore set out to see if this would be relevant to the context of Carbondale. In my interview with Kathleen Galvay (2017) and based on her food pantry data from June-October, blacks are consistently the largest group that frequent the food pantry, not far behind are Caucasian whites. Now, when we compare this is the racial make-up of the city, the numbers don't match. Blacks only represent 14.9% of the population ('DATAUSA' 2015). However, this wasn't the case across all charitable food organizations, in my interview with a Good Samaritan soup kitchen worker (2017), she said "I probably see as many blacks as I see whites, but definitely a lot more men"; the same was true when I looked at the Southern Illinois University's 2016 food pantry data, whites were the highest percentage of users at 34%. However, whites represent 63% of the total SIU undergraduate racial make-up, and the percentage of blacks utilizing the food pantry exceed the percentage that attend the university at 19% ('College Factual' 2016). Now some of the socio-political and economic dimensions could be indicative to why this is the case, I will try to approximate to the reasons below.

Considering the racial history of the U.S., it may be no surprise that blacks are concentrated in the North-east side of Carbondale. See Image 2 below, where purple represents the percentage of black residents throughout the town, the darker shades represent higher populations. It is probably no coincidence that the lowest medium household incomes are concentrated here too, it's not the poorest part of town, but considering population density it is ('City-Data' n.d.). This has come up in an interview with one food pantry patron who stated "yeah the need over on the East side is pretty big, you ought to go over there and see what's going on" (2017).



Map 1. Neighborhood Concentration by Race (Black) in Carbondale in 2000-2013 (City-Data n.d.)

In my conversation with Kathleen Galvay, Food Pantry Director at Good Samaritan (2017), I asked her why blacks patrons were consistently the ones utilizing her food pantry more than other racial groups, and she said "it's a well-known fact if you are black and male you are going to have a harder time finding a job" (2017). This is pretty congruent with the data collection in the secondary-data analysis where race is good determinant of who is food insecure (Block 2012, 'Feeding America' 2015, Gallagher 2010). Now, the reason for this should be considered as an exogenous cause because through our theoretical framework there is a relational cause of capability deprivation to the larger historical race-based discrimination that has existed in this country for hundreds of years. Thus, because of these broader phenomena, food security is being compromised through varies stages of capability deprivation – discriminatory social exclusion and lack of income.

Image 4. Town Market Square Grocery Church

Commented [WP5]: I put your picture here to give a context to your picture

This resonates with Daniel Block's work on spatial inequalities, 'food deserts'. For example, he found in Chicago, black neighborhoods tend to be the furthest away from all grocery stores except chain discount stores (2013), the same is true for the East side of Carbondale. It's interesting to point this out because my conversation with Longbranch Coffeehouse manager spoke of the Town Square Market, an organic store that sits on the corner of East Jackson and North Washington (entry streets to the East Side of Carbondale – See Image 4 above). He said "the owner's idea was to start a grocery there to increase access to food by residents of the area, but ironically because of high cost, they don't see much of the East side residents shopping at this small grocery" (Guyton 2017, personal interview[18]). Thus, illuminating how cost and purchasing power play a central role in food access. Save-A-Lot, the discount grocery, does receive many residents from the area probably pulled in by physical access and low cost, but according to many informal conversations with friends and interviewees in

[18] Personal interview with A. Guyton on local challenges and opportunities to incorporate local produce in Carbondale, at the Longbranch Coffeehouse, Carbondale, on 9 November 2017.

this research, nearly all but one said they shop there, and the reason they don't is mostly due to low quality foods. Some even stated "I wouldn't dare shop there!" This begs us to look at how class-based and race-based concentration of an area is linked to the retail environment and power relations, often where the neediest get the lesser quality.

When asking how food insecurity is linked to other deprivations, most salient was health in this research. Loran Morris (2017), a food (in)security researcher and dietician, talked about her client's financial constraints and their mentality of "the 'right here, right now' [and] instead of looking at the bigger picture...and if I'm eating crap now that's going to create a big health care bill in the long run so if I spend a little more now on healthier options, my long-term health will be better." This reveals how many food insecure people are juggling different needs at once, but don't have the financial capacity to make sure all their needs are met. This also came up in my interviews with Kathleen Galvay when she stated "people are so run down, they don't know how to manage their lives, this is what happens when you live in poverty" (2017). Loran Morris' discussed not just the financial need but the 'know-how' of living on a budget; she stated that "education about finances and life-skills aren't taught, and with a culture reliant on quick-fixes, free money with a credit card and debt[19]...we are lacking an education and responsibility on how to manage life."

Another interesting point that came up more than once was the issue of mental illness. Kathleen (2017) and Pastor Ronald Chambers (2017) mentioned that they see a lot of mental illness in the area. And, for Kathleen, what becomes worrisome are the trade-offs (because of inadequate income) between feeding children and staying healthy, implying that if a parent isn't on his/her medication children will suffer from not only not having food but potentially abuse. These are probably some of the most important aspects of understanding food insecurity, that people's needs don't exist in isolation, and from our theoretical framework it can be understood how deprivation of one capability (access to medicine or a life-skills education) can have an unforeseen consequence in a person's capabilities (being food secure or managing money). However, the inability to access money for a mental illness can have an addition affect on not just *that* person's capability to a healthy life, but the capability of *others* in the household, such as children. This is a gruesome cycle, because as medical literature shows, any period of food insecurity or hunger in a child can have lifetime consequences on their cognitive development, thus perpetuating a cycle of impoverished living and capability deprivation to lead a healthy life.

The above paragraph shows a bit about how income poverty can lead to other capability deprivations that are relational to food insecurity, but let's look at income itself. In a market economy, it is no surprise money is such an important piece to achieve commodities and capabilities to live healthy lives, where food is one of those necessary commodities. In many of my interviews the problem of fixed income came up, this could be a monthly check for Social Security, Disability, Veteran Benefits, or Child-support. Pastor Ronald Chambers argues

[19] In conversations with Loran Morris (personal interview, 2017) and Sherry Smedshammer (Wesley Foundation Food Pantry Director, 2017), they have seen college students acquire more debt just to be able to purchase food and other living needs.

that "getting that monthly paycheck, has put people in a 'get-by' mentality...where their wants come before their needs" (2017); a soup kitchen worker said something similar "yeah, they get that check at the first of the month and think they're rich and by the end of the month they run out of money and come here" (2017). Kathleen Galvay says "the money they get just isn't enough" (2017), and with *all* of the food pantry patrons I spoke with, inadequate income was their number one challenge in getting food, not so much distance to a grocery store. Now, Pastor Donald Chamber's comment is interesting about them getting their wants before their needs, here he was implying tobacco and alcohol, which were considerably present in many of my interviews. However, through the lens of impoverished living this makes sense, right? It could be an immediate fix to deal with the stresses of life or it could be inter-generational behaviors that were passed on from their caretakers. Either way, it's hard to know which is more relevant here, but the bottom line is fixed incomes are not adequate for a decent living nor do they give people the capability to grow their assets to be self-sufficient. Loran Morris says what we really need is to invest in people's job skills and also make sure there are jobs for them, otherwise this becomes a vicious cycle (2017).

How are institutions helping the food insecure empower themselves to become food secure and lead healthy lives?

The empirical evidence is clear in the secondary-data analysis that agribusiness are compromising the world's health, but to what extent is the blame on them? In Amartya Sen's paper "Capitalism Beyond the Crisis" (2009), he discusses how the market and its capitalist mode of production isn't entirely to blame for the very volatile and unequal world we live in but instead there is a lack of "clearheaded perception of how a variety of institutions...and organizations in our society actually work...that can contribute to a more decent economic world" (6). This brings me to government, pulled by separate interests, is producing promising results for citizens of Carbondale with the Double-Up Program, and also, not so good results for citizens by subsidziing commodity crops that make an abundance of nutritiously vacuous foods but cheap food. This gives us reason to believe that government has the capacity to affect this outcome health if their priorities are right and if people continue to demand programs like the Double Up Program, community gardens, and other beneficial projects that increase access, but these initiatives get political when so much power and influence is involved.

During this research, I spent a lot of time in food pantries and soup kitchens, so much of my focus will be on what good do they do in empowering individuals. First off, all food pantry directors agreed that their work was more like a bandage on the wound, and as Sen points out - hunger is more than food but it's about inequality. With that in mind, I don't think food pantries as local institutions are dismantling inequality, specifically across racial, class, and spatial lines but not because they don't want to but because they can't. They simply don't have the manpower for that (Berg 2008). And, during the time of the research (holiday season), I observed that food pantries and soup kitchens are overwhelmed with donations of goods and food, but when I asked the volunteers and workers if this was consistent throughout the year, they said no. This echoes

Janet Poppendieck's observation that charitable food drives and donations do little to focus on what hunger and impoverished living actually involves, because as donations dwindle throughout the year, people's needs don't! Now, I'm not placing the blame on these individuals for not thinking about these issues, I'm just more critical that the charitable food system is not structured in a way to deal with the complexity of food insecurity and capability deprivation. I wouldn't say they don't help but they are more like a relief for is he immediate problems of having no food in a household, but what about helping the person find a job, get educated, or access their medicine? This is why the theoretical framework of assessing food insecurity as capability deprivation within wider economic and socio-political relational causes is so beneficial to understanding the multi-faceted nature of food insecurity and impoverished living. This can then point us in the right direction to see which institutions have the resources to tackle such complex problems - at this point, my fingers point to government. But, not just any government but a government that values and incorporates the democratic voice of even the most vulnerable citizens.

Furthermore, it was observed in my fieldwork and through interviews and conversations that food pantries do pretty bad at providing healthy and nutritious food. If you see Image 3 on page 33, you can see the types of food - many preserved, highly processed options. This resonates with my experience at my school's food pantry – the worst option are left for the neediest. One lady said that after visiting the food pantry by then end of the week had realized that she had only eaten sugary cookies for the whole week. Furthermore, her family doesn't eat pork for health reasons but because they had no food, she fed pork to her family and all got sick the next day (food pantry patron, personal interview 2017)[20]. Here it's clear how food pantries leave people with few options, options that even compromise their health and well-being. Kathleen Galvay said that the "local retailers give us their garbage to distribute" (2017). It was also interesting to find out that when they receive the food from local retailers they weigh it, and they must pass those numbers to their food bank network in St. Louis who pass it to the government - presumably for charity write-offs and tax purposes (she's not sure exactly), but these numbers include *all* food that is given, not subtracting the big portion that is thrown away, which Kathleen says is a lot! So, it plausible to conclude that retailers are getting charity write-offs for food that is not consumable too!

Discussion of Food Insecurity in Carbondale

So, going back to the main questions of *why does food insecurity exist in Carbondale?* Well based on the results of this research it is fundamentally about inequality. Inequality across racial, class, and spatial lines that predispose an inequality in access to resources, specifically food. There is inequality in the agro-food system, governance structures, and the wider society where certain modes of production are favored over others, preference to cultivate certain crops over others, preference of certain institutions over others, preference of certain groups of people over others, and the list goes on. What becomes apparent in all these

[20] Personal interview with food pantry her challenges with food, at the Good Samaritan Food Pantry, Carbondale, on 1 September 2017.

preferences is they get chosen because they can generate more profit than the "other". This is probably the single most clear cause for food insecurity in the U.S., where profit has been placed in front of people's health and basic capabilities. The story plays out globally, nationally, and even in a small town like Carbondale. Food insecurity, in a world of abundance, is fundamentally about inequality.

Chapter 4 Conclusion

"I have my pancakes, peanut butter, crackers, and Ramen! I'll survive, I'll survive!"
(Carbondale citizen)

To conclude this work, I believe the most important lesson I learned is using the lens of food (in)security to understand inequality and the process(es) needed to achieve something much more than food but a decent well-being. In this research it became clear that means and ends of food security have become confused by an array of authors, policy circles, politicians, researchers, entire countries, and so on. It's time our discourse around food move away from its face value, and towards recognizing the social inequality and political and economic power that is involved in getting our food from farm to our mouths, *and* at the same time accounting for all those interconnections in between that create so much hunger in the midst of plenty.

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Annex

Topics and Responses Given from Semi-Structured Interviews

Kathleen Galvay	**Food Pantry Director (Good Samaritan)**	**8/21, 11/17, 11/21**	**-Racial inequality -Competing needs -Healthy options -Nutritional Knowledge -Retailers (charitable food system) -Mental illness -Drugs and alcohol abuse**

			-Children food insecurity **-Depressed area** **-Unemployment** **-Fixed Income** **-Trade-offs** **-Infrastructure** **-Food Pantry System** **-Cycle of Poverty**
6 food pantry patrons	(Good Samaritan)	9/1	-Income -Healthy Options -Trade-offs (Health) -Community Resources -Household demand -Nutritional Knowledge -Unemployment -Fixed Income -Health Status -Food Price -SNAP -Spatial Inequality
1 food pantry patron	(Wesley Foundation)	9/6	-Trade-offs -Operational Availability -Healthy Options -Income
Sherry Smedshammer	Food Pantry Director (Wesley Foundation)	9/6	-Income -Infrastructure -Competing Needs -Food Pantry System -Culturally appropriate foods -Trade-offs (Debt) -Spending Habits -Alternative Models of Food Pantries -Attitudes towards food pantry
Lauren Morris	Dietitian & Food Insecurity Researcher	11/7	-Food Insecurity Data Collection -Food Deserts -Competing Needs -Trade-offs (Debt, Health) -Fixed Income -Transportation -Depressed Area -Drug and alcohol abuse -Spending habits -Racial Inequality -Healthy Options -Attitudes towards food pantry -SNAP -Education -Nutritional Knowledge -Health & Food Insecurity -Nutrition (Calorie focus) -Obesity
Andrew Guyton	Restaurant Manager (Longbranch Coffeehouse)	11/9	-City Food Tax -Local farming and food -Food Habits

			-Retailers -Ethical Consumerism -Restaurant Distributors -Alternative Restaurant Models -Restaurant Business
Ann Stahlheber	Farmer's Market Manager and Farmer (Carbondale's Farmer Market)	11/11	-Small-scale farmer support -Double-Up Program, WIC, SNAP -Depressed Area -City Government -Retailers -Local farming and food -Community Relationships -Farmer Market Structure -School Lunch -Trade-offs -Ethnic Diversity -Families -Interagency Efforts
Shiloh Deitz	Food Insecurity Researcher	11/11	-Food Desert Data Collection -Food Price -Obesity -Shopping Habits -Food Convenience -City government -Racial and Spatial Inequality
Dayna Connor	Founder of Local Non-profit (Food Works)	11/15	-Small-scale farmers -Ethical consumerism -Local farming and food -Government subsidies -Retailers -Community Relationships -Environmental Concerns -Depressed Area -Global Food System
Jeana Childers	Soup Kitchen Worker (Good Samaritan)	11/19	-Fixed Income -Drugs and alcohol -Soup Kitchen System
Aur Beck	Soup Kitchen Volunteer (Good Samaritan)	11/19	-Cooking Knowledge -Soup Kitchen System -Convenience -Food Cost -Income -Double-Up Program
Pastor Ronald Chambers	Pastor (Bethel A.M.E. Church - Bethel African Methodist Episcopal Church)	11/21	-Cycles of Poverty -Spatial Inequality -Empowerment -Social Inclusion -Food Kitchen System -Mental illness -Community Relationships -Religious Mission -Fixed Income