FEEDING HUNGRY PEOPLE:
AN INVESTIGATION OF US FOOD ASSISTANCE PROGRAMS

A Dissertation in
Geography
by
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Submitted in Partial Fulfillment
of the Requirements
for the Degree of
Doctor of Philosophy

December 2014
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Abstract

Many US households struggle to make sure all members have enough food for an active, healthy life. The USDA describes such households that do not have enough as “food insecure,” meaning that they were “at times, unable to acquire adequate food for one or more household members because they had insufficient money and other resources for food” (Coleman-Jensen et al., 2013: 4-8). In 2012, USDA researchers estimated food insecure households accounted for nearly 20 percent of all US households. They found that these households included about 33.1 million adults and 15.9 million children (Coleman-Jensen et al., 2013).

To help food insecure households get food, the US federal government intervenes in the country’s economy. These interventions are designed to alter the effects of poverty necessarily experienced by some of the people living in an economy that privileges exchange value, profits, and money income over the availability of basic use values, which includes household necessities. These interventions consist of federally-funded programs that supply households falling below a specified income threshold with agricultural commodities, hot meals, and/or cash values in the form of an electronic benefit, essentially a debit card for food aid.

I employ the exchange value concepts of supply and demand to examine the federal government’s largest and most costly intervention in food security, the Food Stamp Program (FSP) or the Supplemental Nutrition Assistance Program (SNAP). In 2011, the program aided an average of 44.7 million people each month, accounting for about 75 percent of the US Department of Agriculture’s (USDA) total expenditures for domestic food assistance programs (approximately $75 billion dollars).

There are serious financial, political, and social limitations to the federal government’s FSP and problems in general with the exchange value approach to people’s food security. My critique should not be construed as an argument for the discontinuance of food stamps (or SNAP),
as this food aid is a vital resource for poor people. Instead, my critique is intended to highlight the need for alternatives to FSP in the long run. In their current form the federal government’s assistance programs are large, expensive to operate, and financially unsustainable. Financial support for these programs varies depending on who is in power in Congress; individuals’ food security should not be held hostage to the vagaries of Congressional politics. Finally, program participants are caught up in a politics of race and class where frequent claims regarding welfare dependency, entitlement mentality, and poor work ethic disrespect them and rob them of their dignity.

I propose an alternate and complementary use value approach to food security. Specifically, I argue that household problems of food security may be resolved through the production of basic foods in proximity to poor people, which I refer to as a post-structural intervention. I use a well-developed theory of bio-intensive farming to show that land, labor, and capital do not limit the ability of the poor to produce nutritious, affordably priced food in the city. I support this argument with a series of maps related to urban farming in Philadelphia.
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ACKNOWLEDGEMENTS

It is my hope that this dissertation supplies the basis of a lifetime of prolific and interesting research opportunities. Of course, this project would not have been possible without the efforts of others. I would like to take a moment to recognize all those who generously gave of their time and energy.

A special thanks to Amy Glasmeier. I appreciate your continuing words of encouragement, support, and friendship. I thank you for opening up your home and personal life to me. I am also gracious for the opportunity to work alongside you on several related research projects. Through providing me these opportunities, I came to realize my profound interest and ability to analyze numerical and geospatial data. Without these insights, this project would have taken a very different form.

A note of thanks to Lakshman Yapa, Bill Easterling, Melissa Wright, and Leif Jensen for their continued support on this project. I appreciate Lakshman Yapa’s willingness to serve as my chair following Amy’s relocation. I am also thankful for his help in sorting through the structure and language of my arguments. Coursework with Leif Jensen provided me an introduction and basic understanding of the ways in which quantitative analyses are used in poverty research. Melissa Wright was gracious to serve as an informal interim chair for a semester which enabled me to remain continuously enrolled in dissertation credits. I appreciate Bill Easterling’s support, feedback, and willingness to serve.

My personal thanks to all the Penn State support staff who have enabled me to pursue much of my work from a distance. In the Geography Department, a special thanks to Kary Blaschak, Marnie Deibler, Denise Kloehr, Rosie Long, Bob Hibbert, and Barbara Luther. I am especially grateful to Jess Perks who was expedient in answering all my administrative questions
and streamlining my registration. In the EMS Library, Lee Ann Nolan was very helpful in making sure I was able to get easy access to materials on campus and through the mail.

I am grateful to all the government officials, human service agency staff, social workers, and dedicated volunteers who have helped me understand the power of poverty discourse and the importance of dignity in social service provisioning. Linda Tataliba and the late Bob Ott connected me with the other agency members of the Centre County Food Bank Network for an earlier version of this project. The Centre County Youth Services Bureau enabled me to remain gainfully employed in the early stages of writing. Dee Fisher, Pastor John, and the many board members and dedicated volunteers of the Windber Area Community Kitchen (WACK) offered prayers, words of support, and a site for distributing large quantities of homegrown produce to Somerset County residents. Cindy O’Connor, Steve Purich, Lee Kring, and countless others at Goodwill Industries of the Conemaugh Valley, Inc., Community Foundation for the Alleghenies, and Pennsylvania Mountain Service Corps enabled me to serve low-income and at-risk youth in Johnstown, Pennsylvania. In exchange for my service, I received two Segal AmeriCorps Education Awards which funded my tuition during my final stages of writing and analysis.

I am thankful for all my geography colleagues who supported me at various stages of the project. Paulo Raposo, Sasha Savelyev, and Sterling Quinn supplied me answers to various questions about maps, data, and technology. Raymond Tutu and Seth Baum contributed many of hours of enjoyable and smart conversation. Marina Viola and Laura Spess were very helpful in my teaching of Economic Geography. Katie Dietrich and Shaunna Barnhart offered much needed support and were quick to commiserate. The late Nancy Brown delivered early morning humor and much needed advice on how to survive Pennsylvania’s long, cold winters. The membership of Penn State Supporting Women in Geography (SWIG) contributed funding to help off-set the costs of travelling to numerous AAG conferences.
Finally, a shout out to all the farmers, gardeners, and folks working in agriculture who helped grow my interest in food security and production. My parents and grandparents introduced me to agriculture at a very early age. My friend and former colleague Lacy Isom shared much of her love of gardening with me throughout the course of my master’s degree. Dorothy Blair provided me an introduction to Philadelphia’s urban farms and gardens. Tommy McCann of Philadelphia’s Penn State Extension confirmed the names and locations of the members of Philadelphia’s High Tunnel Alliance. John Kirlin of the USDA’s Economic Research Service answered my questions about SNAP data. Erin, Steve, Phil, and Ilene enabled me to exchange work for organic produce while learning about the business of community supported agriculture (CSA). Nick and Tory were gracious to supply me with on-farm housing and income. Dave and Dina taught me about cows, equipment, and various other things. Ollie served a constant source of laughter and distraction. George remains my loving partner and friend; I am especially grateful for his hard work, dedication, sarcasm, and keen intellect.
Chapter 1

Introduction

Many US households struggle to make sure all members have enough food for an active, healthy life. The USDA describes such households as “food insecure,” meaning that they were “at times, unable to acquire adequate food for one or more household members because they had insufficient money and other resources for food” (Coleman-Jensen et al., 2013: 4-8). In 2012, USDA researchers found nearly 2 in every 10 US households were food insecure. These households included about 33.1 million adults and 15.9 million children (Coleman-Jensen et al., 2013).

Figure 1-1 highlights the two key terms of food security and food insecurity as each is used throughout this dissertation. As it shows, food security refers to a condition in which all people have access to enough food to enjoy an active, healthy life. Likewise, food insecurity refers to a condition in which at least one of the members of a household were unable to acquire adequate food at some time in the past year due to their insufficiency of money and/or other resources for food. It is important to note that these conditions exist regardless of prevailing market prices for food.

**Food security:** a condition in which all household members [have] access at all times to enough food for an active, healthy life” (Coleman-Jensen et al., 2013: 4).

**Food insecurity:** a condition in which one or more members of a household were “at times, unable to acquire adequate food…because they had insufficient money and other resources for food” (Coleman-Jensen et al., 2013: 4-8).

Figure 1-1: USDA’s definitions of food security and food insecurity
For many years, the US federal government has implemented policy measures and programs to help food insecure people access the food necessary to enjoy an active, healthful life. The Supplemental Nutrition Assistance Program (SNAP) is the largest and the most costly of the many federal food assistance programs.¹ This program supplies self-selecting, income eligible households with cash values in the form of an electronic benefit, essentially a debit card for food aid.

Through its efforts, the federal government performs an essential role in helping food insecure households access food. Mykerezi and Mills (2008) found “strong and consistent evidence that [SNAP] participation lowers the severity of [food insecurity] by at least 19 [percent]...for insecure households” (1389). Likewise, Nord and Golla (2009) found “[h]ouseholds’ food security deteriorated substantially beginning 7 or 8 months prior to SNAP [enrollment] and improved shortly after benefits began” (iii).

While these interventions are important and necessary, such interventions are not likely to fully address the vulnerability of poor people. In its current form, the federal government’s efforts do not alter the underlying social stigma experienced by poor people. This social stigma influences many poor people’s initial decision to seek out food assistance at times of economic distress (cf., Villacorte, 2013). Further, it impacts the mental well-being of those who choose to use benefits by robbing them of their dignity and making them feel a sense of shame (cf., Chapter 3).

It is also difficult to see how the federal government’s food aid programs will fare in the future. In its current form, its programs are large and expensive to operate. The ability of each to supply people with resources is also contingent upon the country’s dominant political party. In 2014, Congressional Democrats proposed to reverse cuts to the SNAP program included in the

¹ Until 2008, SNAP was referred to as The Food Stamp Program (FSP). Throughout the dissertation, I use the name that is consistent with the time period for which I am referring.
country’s most recent Farm Bill (Food Research and Action Center, n.d.). However, Congressional Republicans sought to limit program expenditures by $137 million over ten years and end its entitlement status which is the program’s ability to supply benefits to any eligible person (US Senate Budget Committee, 2014).

It is impossible to talk about food assistance programs without discussing themes of poverty. Existing research indicates poor individuals and households are more likely to experience conditions of food insecurity than those with incomes above the poverty line (cf., Iceland and Bauman, 2004; Child Trends Databank, 2014). Further, federal food assistance programs target resources to poor individuals and households. In 2012, USDA researchers reported that more than “90 percent of SNAP benefits were received by poor households and over half were received by households with income[s] less than 50 percent of the Federal poverty guidelines” (Tiehen et al., 2012: 4). The income supplied by these benefits lifted about 4 million people above the poverty line (Parrott, 2013).

However, the problem of poverty will not be resolved quickly. It is situated within a dynamic nexus of social relations. In this position, it is linked to a multitude of interdependent, mutually constituted elements, such as race, unemployment, gender, education, and single parenthood. As it is presumed to result from the occurrence of these elements, it is believed we must solve these other issues of discrimination, marriage, and employment before solving problems of poverty (cf., Yapa, 1996).

Given this situation, it may be assumed that food insecurity will be a long-standing problem. However, the level of vulnerability poor people live with due to prevailing social and political discourse is unjust. It is also not right that poor people’s access to food be restricted until the resolution of other structural problems of our society. In this dissertation, I will argue for a need to discuss both poverty and food insecurity in alternative frameworks than those engaged presently.
Conceptual foundation. Throughout this dissertation, I draw upon the concepts of use value and exchange value in my examination of interventions in food security. These two concepts are central in the thinking of the classical political economists like Adam Smith and Karl Marx. In fact, Marx begins his first chapter of *Capital, Volume I* with a discussion of use value and exchange value. Use value refers to the utility derived from the consumption of a commodity with a single commodity having a range of use values depending upon human needs and desires as well as the physical and chemical properties of the good. Exchange value is common to all commodities; it is quantitative and represented by a unique amount of money—its price.

According to Marx, the circuit of use value represents the simplest form of exchange. In *Capital, Volume I*, Part II: Chapter 4, Marx represents use value with the formula C-M-C where a commodity C is sold in the market for a quantity of money M which is then used to purchase another commodity C. The primary purpose of production is consumption and the term M (money) facilitates the exchange of commodities.

Next, Marx relates the concept of exchange value which he represents with the formula M-C-M\(^1\) where M\(^1\) is greater than M. In this general formula for capital, a quantity of money M is employed in the purchase of a commodity C which is then sold on the market for a larger quantity of money M\(^1\). This circuit begins and ends with a quantity of money. In so doing, the process expands the quantity of money and transforms it into capital. It also marginalizes the utility of the good as its goal is the ever expanding process of profit for which the actual use value of a commodity is incidental.

A review of Marx’s two circuits of value evidences the complementarity of the concepts of use and exchange value. Marx’s representation of the circuit of use value with the formula C-M-C relates the idea that an economy organized for the production of use values can and does use money. However, it also shows that money is simply a medium of exchange. Likewise, his
engagement of the formula M-C-M¹ explicitly calls attention to the principal goal of an economy
organized for the purpose of maximizing exchange value—to grow the quantity of money (M-
M¹), regardless of the nature and quality of use values.

Despite the symmetry of this representation, Marx believed that the proper concern for
political economy was the concept of exchange value. While Harvey (2010) notes the vital
importance of the concept of use value for all Marxian analyses, he also indicates the extent to
which Marx abstracts from the immense diversity of use values to focus his attention on that
which is common to all commodities—namely, its exchange value. As Harvey notes

…Marx [in Capital, Volume I] immediately declares he is not interested in “the nature of
these needs, whether they arise, for example, from the stomach, or the imagination.” All
he is interested in is the simple fact that people buy commodities and that this act is
foundational to how people live (2010: 16).

The use value of a commodity is not a major focus of Marx’s investigations (Bottomore (1983:
504).

Marx believed the interests represented by use value and exchange value was a major
contradiction of the capitalist system. This contradiction is detailed in David Harvey’s 2014 book
Seventeen Contradictions and the End of Capitalism. In the opening chapter of the book,
Contradiction 1, Harvey identifies the capitalist system as one in which the direct provisioning of
use values has been subjugated to the process of a profit maximizing system. He also indicates
this system concentrates exchange value in a few hands and allocates goods on the ability of
people to pay.

In my dissertation on US food security, a central organizing principle is the concept of
use value. Specifically, I examine the diversity and place-specificity of this idea—an idea that
did not hold Marx’s interest. As Marx notes in Capital, Volume I:
A commodity is, in the first place, an object outside us, a thing that by its properties satisfies human wants of some sort or another. The nature of such wants, whether, for instance, they spring from the stomach or from fancy, makes no difference. Neither are we here concerned to know how the object satisfies these wants, whether directly as means of subsistence, or indirectly as means of production (26).

But, it is precisely these physical, chemical, personal, and individual characteristics of use values that hold my interest. My work draws attention to the specificity of use values which includes their diversity, physical and chemical properties, and production and consumption in particular places.

Through its focus, my approach can be characterized as a post-structural one. It follows on the ideas and arguments laid out by Gibson-Graham (2000; 2006) and Illich (1973; 1978; 1981). Instead of focusing on the grand unifying theme of exchange value, it seeks to look at the details of a disjointed conversation built around the concept of use value. In so doing, it fragments the metanarrative of exchange value. It also supplies a method through which ordinary people become capable of immediately addressing and resolving their problems of food insecurity at their current level of income.

In the US, the definitions of poverty in the form of income thresholds as well as the systems of provisioning that supply poor people with benefits to purchase food from grocery stores can be described as exchange value approaches. This is because these approaches emphasize the availability of money. I wish to argue that poverty is not just about a lack of money but a lack of physical access to the basic necessities of life.

Research approach. Using a scheme suggested by Yapa (2014), I apply the concepts of use and exchange value to identify and describe prevailing views of poverty. Here, I use the term “exchange value” to identify the view that people are poor because they do not have enough
money. I use the term “use value” to identify the view that people are poor because they lack access to such basic goods as nutritious food at affordable prices.

In this context, an exchange value perspective represents our conventional understanding of poverty. This is the view followed by members of the general public, the government, academia, and poor people themselves. Indeed, the USDA formulates its food stamp program within this purview of poverty. Specifically, the USDA presumes people are food insecure when they lack money income (which is in one sense true), and that all the food the poor need may be purchased from local retailers. The USDA then supplies households meeting a pre-defined, minimum income threshold with cash values in the form of an electronic benefit, essentially a debit card for food assistance. It enables recipients to purchase food from local grocery and convenience stores that are in turn supplied and stocked by the industrial agricultural system.

The use value perspective represents an alternative view of poverty. It does not ask why poor people do not have enough money. Instead, it asks why some people in some places lack access to basic goods at affordable prices. By basic goods, I refer to the most basic things of value necessary for an enjoyable life. This includes a variety of tangibles and intangibles, such as adequate food, clean water, health, housing, energy, nutrition, and warmth (cf., Yapa, 2013a).

In this dissertation, I begin by invoking the exchange value concepts of supply and demand. Using these concepts, I identify and characterize the federal government’s food assistance programs. Through this examination, I highlight the serious limitations of the federal government’s approach to resolving poor people’s food insecurity. Specifically, my analyses indicate that at least some people will have a permanent need for food assistance benefits.

Following this examination, I suggest a use value approach to food security. Here, I draw upon the USDA’s definition of food security which means that “all household members [have] access at all times to enough food for an active, healthy life” (Coleman-Jensen et al., 2013: 4). I argue that household problems of food security may be resolved through the production of food
in proximity to poor people, which I refer to as a post-structural intervention in the community. I employ a well-developed theory of bio-intensive farming to evidence the extent to which large quantities of affordably priced, healthy food may be produced in low-income residential areas like those of urban environments. I also engage a series of analyses and maps to demonstrate the extent to which land, labor, and capital are not limiting factors of productive efforts to improve poor people’s food security.

Supply and demand for food assistance. I begin with a series of analyses that identify and describe the supply and demand for food assistance. These analyses are broken up into three chapters. Chapter 2 characterizes the supply of food assistance by relating a brief history of the federal government’s efforts to provision its poor people. Chapter 3 identifies and describes the current recipients of the country’s flagship food assistance program—the Supplemental Nutrition Assistance Program (SNAP). Chapter 4 shows the geographical distribution of recipient households and relates the extent to which this geography of households has changed in time. By supply, I refer to the actual efforts through which the federal government has worked to provision its people. By demand, I refer to the individuals and/or households actually receiving the benefits of the government’s efforts.

In Chapter 2, I relate a brief history of the US federal government’s efforts to supply food to poor people. This history is grounded in a series of textual and statistical analyses. It is evidenced by a collection of photographs and graphs. It examines the country’s flagship, longest-standing program of food assistance—the Food Stamp Program (FSP). It details the extent to

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2 Alternatively, this examination may be thought about as an investigation of capabilities (cf., Sen, 2000). Food insecurity comes from people not having enough money to buy food. My argument is that we change this premise by saying poor people are ‘capable’ of producing food locally, but it is necessary to demonstrate that land, labor, and capital are not limiting factors. In this instance, the concept of capabilities does not refer to a given, fixed set of resources. Instead, it refers to a set of relations that is relative to a place-specific understanding of resources. For example, food waste and worm scat are resources for producing fertilizer. However, some individuals may not view these resources as a way of redefining their capabilities.

3 The Food Stamp Program is now referred to as the Supplemental Nutrition Assistance Program (SNAP).
which the program’s participation and expenditures are influenced by conditions in the country’s political economy, especially its prevailing macro-economic conditions, political support for food aid, attitudes and discourses, availability of agricultural surpluses, and the success of widespread advocacy efforts to supply food to poor people.

I then turn my attention to attributes of consumer demand. In Chapter 3, I characterize the social, economic, and geographic attributes of the households provisioned through the performance of the federal government’s flagship food assistance program—the Supplemental Nutrition Assistance Program (SNAP). This characterization is grounded in a series of statistical analyses. It is evidenced by a collection of numbers and figures. It identifies attributes of recipient households’ race, family structure, presence of children, citizenship, workforce participation, poverty, severity of poverty, locale, and region.

My analysis of demand for food assistance through the consumer profiles also serves three particular purposes. First, it shows the extent to which the stereotypes of SNAP participants match up with the actual statistics. Second, it enables me to critically examine the practice of engaging contingency tables for causative reasoning. Finally, it enables me to distinguish the attributes of food insecure people. While a person’s receipt of benefits is correlated with attributes of racial minorities, female headed households, unemployment, and poverty, it does not help to invoke these factors as causes of food insecurity when these are structural problems that have persisted throughout history and will likely continue into the future. To attain food security, it is necessary to focus attention directly on matters of food; the knowledge of who exactly lacks access to it helps to better focus efforts of post-structural interventions.

I continue my examination of SNAP consumers in Chapter 4 by considering the geographic distribution of beneficiary households. Here, I relate a series of spatial and temporal analyses and support these analyses with a collection of maps. Through engaging these pieces of evidence, I demonstrate the depth and remarkable persistence of regional patterns of household
participation through time. I also show the extent to which these patterns correlate with that of poverty, which itself is regionally persistent.

Collectively, my analyses indicate the US federal government’s current efforts do not represent a long-term, viable solution for resolving the issues of food insecurity. In its current form, the government’s food assistance programs are implicated in a system of capitalism that privileges exchange value over use value that Yapa (2014) indicated cannot eradicate issues of poverty. These programs are large and expensive to operate. The ability of these programs to provision people is contingent upon the country’s dominant political party. Further, individuals participating in programs targeting low-income people are caught up in a politics of race and class where frequent claims regarding welfare dependency, entitlement mentality, and poor work ethic disrespect participants and rob them of their dignity.

Without a long-term solution, analyses imply that at least some of the country’s people will have a permanent need for food assistance benefits. This situation represents a problem of socially-constructed scarcity. It arises from the program’s inclusion in a nexus of poverty, unemployment, race, class, and fractional politics which is evidenced throughout my three chapters. By nexus, I refer to a dynamic system of social relations in which the elements act and react upon each other in a permanent, continuous performance that impacts the supply and consumer demand for food assistance.

Post-structural interventions in food security. With the recognition of human agency, I identify and describe post-structural interventions in food security. These interventions include the efforts through which ordinary people are reducing poor people’s need for food assistance benefits. By efforts, I am referring to actions that engage locally-available sources of land, labor, and capital. Each recognizes thelimitations of social structures such as poverty, unemployment, race, and class. At the same time, each enables local individuals and organized groups to exercise agency to transcend the boundaries of these structures.
As a strategy of post-structural intervention, I relate a case study of food security in the City of Philadelphia. This case study is set forth in Chapter 5. It identifies and describes the extent to which Philadelphia’s people experience problems of poverty and food insecurity. It details the ways in which local people and/or organized groups exercise agency in food production and distribution. It also relates the extent to which their performance is helping poor people reduce their need for assistance benefits by making available affordably priced, healthy food and jobs in the city.

I also examine the potential for future post-structural interventions in agriculture by the city’s residents and organized groups. Here, I engage the case study to identify and describe the availability of local resources including land, labor, and capital. I detail the extent to which local people are able to access and use these resources. I draw upon the concept of bio-intensive agriculture to demonstrate that Philadelphia’s existing supplies of resources are not limiting factors in their production and distribution of local food, including those efforts located in the City’s poor and food insecure neighborhoods.

Through my use of this case, I highlight the ways in which ordinary people and organized groups are re-conceptualizing the political economy of food security. This re-conceptualization represents a shift in focus from food aid to food production in the city. It is performed by all those engaged in efforts to help poor people access healthy, basic foods. It transforms the ways in which local people experience issues of poverty, unemployment, race, and SNAP participation. It also changes the spaces in which they live as vacant lots and buildings are transformed into safe and functional sites of food production and distribution.

Contributions. Through its examination of interventions in food security, this dissertation contributes to a larger transition in poverty theory. This transition is characterized by a shift in the epistemology of poverty (how poverty is understood and explained by academics); that is, by shifting from an exchange to a use value view of poverty and food security. The use value view
also helps to recognize the role of human agency. In this dissertation, the transition is articulated in the change in focus from food aid to food production in the city.

Presently, there are three prevailing views in poverty theory. These prevailing views are perpetuated by the conservatives, liberals, and radicals. Each is distinguishable on the basis of its stated beliefs. Conservatives include those who believe a person’s poverty stems from his/her own failings, laziness, and a loss of incentive to work hard due to their receipt of welfare and/or other government aid assistance benefits. Another variety of conservative theory believes that poverty can be eradicated through the freeing up of the economy through government de-regulation. Liberals include those who believe a person’s poverty is the result of social inequities like racial or gender discrimination and differences in educational opportunities. Radicals include those who contend a person’s poverty is a result of uneven capitalist economic development.

Prevailing views may be identified and characterized as an epistemology of exchange value. This epistemology is based upon the universal consensus that all our basic needs like food, clothing, and housing will be obtained from the economy in the form of commodities. It follows that people are poor and experience food insecurity because they lack money.

However, my dissertation contributes to an epistemology of use value. This epistemology is based upon the idea that a person experiences poverty when s/he lacks physical access to basic needs. It purports that individuals and organized groups are able to resolve problems of food insecurity without an a priori need to eradicate poverty.

This starting point enables me to ask different kinds of research questions. These questions prioritize issues of bodily health, nutrition, and life quality. Such questions include: What does it take for a person to live in good health and dignity on a fixed income? What are all the possible ways in which individuals secure access to adequate quantities of nutrition in a city? Is it possible to create spaces in the economy that directly help meet people's basic food needs?
Through the application of this approach, I am also able to articulate a method for resolving the problem of permanence created by the system of supply and demand. This method includes the increased production of affordably priced, healthy foods in urban areas. It privileges use values over exchange values. It is realistic, manageable, and attainable. It engages the particularities of place. It is being enacted by local people and organized groups. It has the potential to reduce people’s cost of living and create jobs that cannot be outsourced. It engages the substantive competencies and knowledge of any one person who is interested and willing to make a contribution. It also enables poor people to improve their own wellbeing and live a life of dignity.

Figure 1-2 helps illustrate the logic and organization of my dissertation. As it shows, Chapter 1 provides for an introduction to the dissertation as well as a discussion about the epistemology of use values. In Chapters 2, 3, and 4, I use a series of analyses to highlight the serious limitations of the federal government’s exchange value approach to resolving people’s problems of food security. Specifically, I engage the exchange value concept of supply to detail a brief history of the federal government’s food assistance programs—most notably its Supplemental Nutrition Assistance Program (SNAP) in Chapter 2. In Chapters 3 and 4, I engage the concept of demand to identify and characterize the households receiving SNAP benefits as well as the extent to which regional patterns of household participation persist in time. Finally, I engage ideas from post-structural theory to propose an alternative framework for attaining food security in poverty households in Chapter 5. I also draw upon a case study of Philadelphia to test the validity and feasibility of this framework. Chapter 6 provides a conclusion.
Figure 1-2: Logical flow and organization of my dissertation
Chapter 2

US Food Assistance Programs: A Brief History

For many years, the US government has operated assistance programs to help its people get food. This set of programs is identified and described in various federal laws and rules. It directs different amounts of money and food resources to individuals and organized groups. It provides a minimum of support for the people most likely to experience conditions of food insecurity.

A history of food assistance programs may be developed around a set of common characteristics. I identify and characterize these characteristics as the supply and demand for food assistance. By supply, I refer to the federal programs that have been established to make food assistance available to those who need it. By demand, I refer to the individuals and households that actually make use of these programs.

In this chapter, I characterize periods of contraction and expansion in the country’s supply of food assistance through a series of temporal analyses of the country’s food stamp program (FSP), which was renamed the Supplemental Nutrition Assistance Program in 2008. I conduct these analyses for six uniquely identifiable periods of time. I make use of linear regression analyses in order to estimate program growth and contractions during the different periods. Finally, I use ideas from political economy to differentiate among the six periods of food assistance.
2.1 The Concept of Supply

Analytically, it is difficult to distinguish the idea of supply from the related topic of demand. I have adopted the ideas of a Keynesian liberal political economy to help explain temporal changes in the country’s supply of food assistance. The framework presumes a country’s economy is influenced by a variety of economic factors. It asserts that changes in the country’s gross domestic product (GDP) will similarly affect conditions of real output and employment (Blinder, 1988). It argues government intervention is necessary at times in which its people experience the adverse effects of business cycles, including high rates of unemployment and poverty (cf., Blinder, 1988). By GDP, I refer to the value of all the goods and services produced in the country during one year (BEA, 2012a). By rate of unemployment, I refer to the number of unemployed as a percent of the civilian, non-institutionalized labor force (BLS, 2008). Since 1947, this labor force has only included people older than sixteen years of age (Carter et al., 2006).

Although my larger analysis is not liberal, I find this framework is especially useful in explaining the history of domestic food assistance programs. In the US, the historical performance of food assistance programs is consistent with Keynesian interventions designed to maintain aggregate demand and stimulate the economy (cf., Blinder, 1988). The program was initiated by federal government officials during a time of severe economic recession in the 1930s (cf., Berry, 1984; Poppendieck, 1986). It was designed to enhance the marketability of surplus agriculture products and stimulate demand among low-income families (cf., Moran, 2011). It was justified in terms of the necessity of the government to supply food to people when lacking money to provision themselves (cf., Poppendieck, 1986).

In the following section, I demonstrate the usefulness of this approach. Specifically, I engage a series of temporal analyses. I draw upon these analyses to identify and characterize a
relationship among factors of unemployment, poverty, and food stamp participation. I engage this relationship in order to link the food stamp program to conditions of the country’s macro-economy and demonstrate the amplifying effects of unemployment on conditions of poverty and food stamp participation.

2.2 Amplified Effects of Unemployment

For many years, researchers have observed the occurrence of a relationship among the indicators of unemployment and gross domestic product (GDP). This relationship may be characterized as inverse and out-of-phase. As Figure 2-1 illustrates, oscillations in this relationship are represented by nearly opposing peak and trough values. The position of these oscillations suggests that people find it increasingly difficult to find a job during conditions of economic downturn. Likewise, people seeking work find it easier to get a job at times of economic expansion. 

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4 Throughout this dissertation, it is important to recognize that most economists agree that conditions of unemployment are necessary for the functioning of a capitalist economy. Like these economists, I engage the concept of “full employment” to refer to an economy that maintains some minimal amount of fractional and/or seasonal unemployment. In other words, full employment does not mean zero unemployment.
The long-term persistence of this relationship has led to the development of a rule named for economist Arthur Okun. Okun’s rule posits that a 1 percent increase in unemployment provides for a 3 percent decline in the value of the country’s GDP (and vice versa). With some exceptions, Okun’s Rule can predict the effects of unemployment as seen in the shifts of the country’s gross domestic product (GDP) (Knotek II, 2007).

A similar pattern may be observed among the indicators of unemployment, poverty, and food stamp participation. Figure 2-2 shows a strong correlation between these three macroeconomic indicators since 1962. Specifically, it shows that at times of relatively high unemployment, the incidence of poverty increases as does the use of food assistance. Since about 1970, rates of unemployment, poverty, and food stamps participation have moved almost lockstep with each other.
An exception to this trend occurred in the 1960s and 1970s when the incidence of poverty declined and use of food stamps increased. During this time, the Johnson Administration led efforts to help many more people benefit from such federal government programs as food stamps and cash assistance. The subsequent expansion of the federal government’s efforts worked to reduce the country’s poverty rate even as the number of unemployed people stagnated and then increased in the years prior to 1970.

Figure 2-2: Periods of expansion and contraction in the conditions of unemployment, poverty, and food stamp participation, 1962-2010

Sources: Carter (2006); Fishback and Thomasson (2006b); BLS (2013a); US Census Bureau (2011e); USDA (2012g)
Figure 2-3 helps illustrate the similar pattern in the indicators of unemployment, poverty, and food stamp participation. Specifically, it shows correlation among the numbers of individuals who are unemployed, living below poverty, and receiving food stamps since 1970. It indicates that the data are positively correlated with each other. It also evidences the strength of the pattern with each of the correlation coefficients exceeding 0.70.

| Correlation in the Number of Unemployed, Below Poverty, and FSP Participants (1970-2010) |
|---------------------------------------------|----------------|----------------|----------------|
| Count Unemployed                           | Count Below Poverty | Count FSP Participants |
| Count Unemployed                           | 1               |                |                |
| Count Below Poverty                        | .729            | 1              |                |
| Count FSP Participants                     | .789            | .890           | 1              |

Figure 2-3: Correlation in the number of unemployed, below poverty, and FSP participants (1970-2010)

Sources: Carter (2006); Fishback and Thomasson (2006b); BLS (2013a); US Census Bureau (2011e); USDA (2012g)

In addition to this correlation, the data exhibit an amplifying relationship resembling that of Okun’s Rule, with the rate of unemployment amplifying its effects on poverty and food stamp participation. Figure 2-4 shows the results of a comparative assessment of the macro-economic indicators of unemployment, poverty, and food stamp participation. It indicates that for every unemployed person living in the country, there are about 5.3 poor people and 2.3 food stamp recipients, with the actual values of this ratio varying in time. During the late 1960s, the amplifying ratio of poverty incidence peaked at more than 10 people and declined to slightly
more than 4 people in recent years. The number of food stamp participants per unemployed person has consistently remained between 2 and 4 for the last sixty years.  

![Amplifying ratio of unemployment: poverty and food insecurity](image)

Figure 2-4: Amplifying effect of unemployment, relative to poverty incidence and food stamp participation

Sources: Carter (2006); Fishback and Thomasson (2006b); BLS (2013a); US Census Bureau (2011e); USDA (2012g)

Through this series of analyses, I demonstrated the usefulness of a Keynesian framework to help explain temporal changes in the country’s supply of food assistance. I showed the links between changes in the country’s gross domestic product (GDP) and unemployment by invoking Okun’s Rule. I also established that a similar amplifying mechanism exists for poverty and food assistance. Not only are the three variables of unemployment, poverty, and food stamp

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5 Amplification ratio of unemployment: Poverty = number poor / number unemployed and Amplification ratio of unemployment: FSP = number FSP / number unemployed
participation highly correlated, but the number of unemployed has an amplifying effect on the number of poverty and food stamp recipients.

2.3 The Supply of Food Assistance

In considering the country’s supply of food assistance, a key program of interest is the Food Stamp Program (FSP), which was renamed the Supplemental Nutrition Assistance Program (SNAP) in 2008. Presently, this program accounts for the largest share of the federal government’s domestic food assistance programs. In 2011, the value of its share exceeded $75 billion dollars. This single food assistance program accounted for about 75 percent of the US Department of Agriculture’s (USDA) expenditures for domestic food assistance programs (Figure 2-5).

Figure 2-5: SNAP expenditures as a percent of USDA’s total expenditures for food assistance, 2011

Sources: USDA (2012b)
Since its beginning in 1939, the Food Stamp Program has experienced tremendous growth. As Figure 2-6 illustrates, the FSP has experienced a steady increase in both expenditures and recipients, with the graphs moving in unison. During its early years, the program was relatively inexpensive and served few people. Beginning in the 1960s, it began to serve more people and therefore became increasingly expensive. By 2011, its budget exceeded $75 billion dollars, and it served an average of 44.7 million people each month.
Figure 2-6: Growth of the food stamp program from 1938-2012. On the left, a graph of the federal government’s annual expenditures for food stamps in billions of 2011 USDs. On the right, a graph representing the average number of people using food stamps each month.

Sources: Herman (1940; 1943); USDA (1940); Freeman (1964); Ellender (1967); Sherman (1969); Committee on Agriculture, Nutrition, and Forestry (1985); Fishback and Thomasson (2006b); Moran (2011); USDA (2012g)
A temporal analysis of participation and government expenditures suggests periods of changing conditions in the country’s supply of food assistance (see Figure 2-8). The periods that I have identified roughly correspond to episodes of expansion and contraction in the country’s supply of food assistance. By expansion and contraction, I refer to the times in which the FSP grew and/or shrank in terms of its number of recipients and amount of money spent. The periods I have identified are as follows:

(i) 1938-1943: the initial development and expansion of the FSP;
(ii) 1943-1961: a decline in use;
(iii) 1961-1981: expansion in use;
(iv) 1981-1994: persisting expansion;
(v) 1994-2000: a decline in use;
(vi) 2000-2011: a steady expansion

In this chapter, I offer an explanation for the periods of expansion and contraction in the food stamp program (Figure 2-8) drawing on five key factors of political economy. These factors are as follows: (1) availability of surplus agriculture commodities; (2) macro-economic conditions; (3) political support for food aid; (4) prevailing public attitudes and discourses; and (5) success of campaigns of those advocating for the distribution of food assistance to the needy (see Figure 2-7).

I advance my explanation using a model of political economy that I call the nexus of relations of the Food Stamp Program (see Figure 2-7). It is developed from a proposal put forth by Yapa (1996) to discuss poverty. It serves as a useful discursive device that draws attention to those elements that I believe to be the most important factors influencing the expansion and contraction of the supply and demand for food stamps.
The model highlights four key premises in my history of food assistance. First, it situates the FSP within a dynamic system of social relations. Second, it suggests that the more important social relations are economic and political. Third, it proposes that these elements act and react upon each other constantly as each affects the supply of food assistance. Fourth, it suggests these relations are mutually constituted due to the constant and dynamic interaction of the elements (see Figure 6). I combine the temporal analyses and the model of political economy to construct a unique historical narrative of food assistance (see Figures 2-6, 2-7, 2-8 and 2-9).

A brief summary of this history is represented in two graphics. In Figure 2-8, I depict the six periods of changing conditions in the nation’s food assistance. In Figure 2-9, I describe these periods.
Figure 2-8: A visual depiction of the periods of expansion and contraction in the US Food Stamp Program, 1938-2011

Sources: Herman (1940; 1943); USDA (1940); Freeman (1964); Ellender (1967); Sherman (1969); Committee on Agriculture, Nutrition, and Forestry (1985); Fishback and Thomasson (2006b); Moran (2011); USDA (2012g)
2.3.1  **Period I (1938-1943): The Beginning of the Food Stamp Program and an Economic Recession**

In 1939 Henry Wallace, President Roosevelt’s Secretary of Agriculture, announced the country’s first food stamp plan. This plan made a special currency available to the residents of Rochester, New York and enabled income-eligible people to purchase a quantity of orange...
stamps equal to their normal food expenditures\(^6\) (cf., Berry, 1984; Committee on Agriculture, Nutrition, and Forestry, 1985). For every $1 worth of orange stamps purchased, the plan authorized the receipt of an additional 50 cents worth of blue stamps. The stamps could be used at participating food retailers and wholesalers. Orange stamps could be used to buy any food; blue stamps could only be used to buy food determined by the Department to be surplus\(^7\) (Figure 2-10).

Figure 2-10: Food stamps issued 1939-1943
Source: USDA (2011a)

\(^6\) Initially, USDA officials estimated this amount to be $1 to $1.50 per person per week (about $16.18 to $24.27 in 2011 USD). Later on, USDA officials estimated this amount based upon a set of pre-determined income tables. Their estimation varied on the basis of the particular household’s geographical locale.

\(^7\) By surplus foods, I am referring to agricultural products harvested in excess of consumer demand. During the 1930s, many people believed farms were failing due to the lower prices resulting from an overabundance of agricultural commodities. To help raise farm incomes, the US government enacted agricultural price support programs. These programs were designed to increase the price of agricultural products and farm incomes in two ways: (1) by increasing the consumption of surpluses; (2) by limiting farm production. The US government’s Food Stamp Program (FSP) and Needy Families Program (NFP) were designed for the purpose of increasing families’ consumption of surplus commodities. The Needy Families Program distributed quantities of surplus commodities to families receiving relief at no cost to them (see Poppendieck, 1986 for a more detailed discussion of the federal government’s efforts to support agricultural prices in the 1930s).
Throughout this period, agriculture officials helped the program serve increasing numbers of people (Figure 2-8). In May 1939, less than 25,000 people received food stamps but by June 1940, participation topped 1.5 million people (USDA, 1940). Over the course of four years the first FSP reached nearly twenty million people; the peak participation occurred in May 1941. At this time, the FSP was used by 3.9 million people (Herman, 1943). By December 1942, it was available to the residents of 1,354 counties (Moran, 2011).

The first FSP was short-lived—in December 1942, Secretary of Agriculture Wickard announced the program’s termination (Associated Press, 1943). In January 1943, he approved the final list of surplus foods available for blue-stamp purchases (Final List Issued of Surplus Foods, 1943). On February 27, 1943, he suspended financial authorizations for the food stamp plan (“Relief Families Ask to Report Grocers,” 1943).

An explanation of the short-lived duration offers some insight into the history of US food assistance programs. This explanation may be organized around five key factors of political economy (see Figure 2-7). These factors include macro-economic conditions, federal agriculture surplus policy, political support, public attitudes and discourses, and actions in civil society by activists and community leaders. Due to a severe economic recession and very high levels of unemployment many people did not have enough money to purchase adequate quantities of food. A growing agriculture surplus prompted Secretary of Agriculture Wallace to seek a strategy to market these surplus commodities. The adverse effects of the country’s recession and persisting surpluses gave members of the civil society ammunition to advocate for food aid. A liberal Presidential administration and Congress enabled the Secretary to use the Department’s appropriations to initiate and grow the country’s supply of food assistance.

The 1937 recession was characterized by a shift in prevailing federal relief policy. There had been a significant reduction in the amount of money allocated to the country’s federal work relief programs, and soon there was a sharp decline in the country’s industrial production and a
rise in civilian unemployment (Figure 2-1). In 1938, rates of unemployment exceeded 12 percent (Carter et al., 2006). The country’s GDP lost about $5.8 billion dollars relative to the previous year (BEA, 2012b).

A major effect of the new recession following the Great Depression and a weak recovery was that many people found themselves again with little money to even buy adequate quantities of food. People formed lines at their local government relief offices, often waiting long periods of time outside for some service. The procurement of any form of assistance was contingent upon the performance of local government relief officials (Figure 2-11).

Figure 2-11: During the late 1930s, poor peoples’ receipt of food assistance depended on the performance of local government relief officials. On the left, the man in the suit is a government relief worker attending the door in San Antonio, Texas (March, 1939). On the right, an arrow points to a woman in the window. I believe this woman is likely a government worker employed in Urbana, Ohio (August, 1938).
Sources: Lee (1939); Shahn (1938)

The long relief lines occurred at the same moment in which the federal government reported a substantial acquisition of surplus commodities (Figure 2-12). In June 1938, this
acquisition totaled 1.84 billion pounds. It represented a near doubling of June 1937 levels and indicated a dramatic reversal in the federal government’s consistent two-year loss of inventories (Figure 2-12).

![Weight of Inventories Graph](image)

**Figure 2-12**: Temporal changes in surplus government inventories. For two years prior to the 1937 recession, inventories experienced a period of decline. Beginning in June 1937, the weight of the government’s inventories increased dramatically following its attempts to lessen the effects of the country’s severe economic recession.

Sources: FSCC (1937a; 1937b; 1938)

The contradiction of seeing the county in a recession and large government holdings of surplus food galvanized civil society advocates for food aid. Reporters and photographers narrated widespread conditions of homelessness, hunger, and sickness (cf., “The Nation’s Health,” 1938; Churchill, 1938; “Cleveland’s Hunger Weeks,” 1939) (Figure 2-13). Organized groups of people demonstrated at sites of relief distribution (cf., Piven and Cloward, 1979) (Figure 2-13). In Harlem, local citizens spoke of discrimination, intolerance, and suffering
“Parley Discusses Harlem Suffering,” 1938). In Illinois, farmers organized against the ways in which the government limited the country’s supplies of major commodity crops, like corn and cotton (cf., Edwards, 1938; Ridgway, 1938).

Figure 2-13: During the late 1930s, members of civil society galvanized in support of food aid. On the left, photographer Dorothea Lange depicts a homeless family of seven walking on the highway near Phoenix, Arizona. On the right, members of The Worker’s Alliance protest in front of San Francisco’s city hall after hearing of the federal government’s intent to halve relief appropriations.
Sources: Lange (1939a; 1939b)

An important element of the political economy of food assistance is the liberal administration of President Roosevelt and a Congress that provided discursive, legislative, and financial support for action. The forceful language of President Franklin Roosevelt obligated Cabinet-level administrators to enact policies to help improve the lives of people, especially those
people who experienced destitution through no fault of their own (cf., Roosevelt, 1937). The legislative actions of Congress gave the Secretary of Agriculture the legal authority and finances necessary for marketing surplus commodities. Public Law 74-320, Section 32 (Agricultural Adjustment Act of 1935) authorized the Secretary to work towards increasing: (1) agricultural exports, (2) domestic consumption of agricultural commodities, and (3) farmers’ purchasing power. It also supplied the Secretary with the finances necessary to implement the plans. Future Public Law 75-165 (1937) granted the Secretary a legal authority to even donate foods purchased with Section 32 funds for relief purposes.

Under the leadership of Secretary of Agriculture Wallace, agriculture officials initiated a large federal response. In May 1939, they designed the food assistance plan in such a way that it promoted the equitable treatment of the country’s poor people (cf., Moran, 2011). They convinced local food retailers, wholesalers, and local and country government officials to assist in the performance of the new experimental venture (cf., “Rochester To Get First Stamp Food,” 1939). They monitored and issued lists of available agricultural surpluses (cf., “Add To Surplus Foods,” 1939).

The program ended when the conditions that brought the program into being no longer existed, namely food surpluses and widespread unemployment following the recession of 1938 (USDA, 2012a). In 1943, there was consistent growth in the country's GDP and steady decline in the rate of unemployment (Figure 2-1). Officials in agriculture approved fewer requests for the purchase and storage of surplus agricultural commodities (cf., Poppendieck, 1986), and the FSP ended in the spring of 1943 (USDA, 2012a).

A framework of political economy provides some insight into the history of the country’s food assistance programs. It suggests that federal agriculture officials responded to the calls of the President, Congress, and the people at a time when the country had a high national rate of unemployment and mounting commodity surpluses. The liberal composition of the
Congress which gave discursive, legislative, and financial support was vital to the initiation and maintenance of the first FSP. All this was strengthened by the efforts of advocates in civil society who called for federal action.

2.3.2 Period II (1943-1961): Decline of the FSP and the Beginning of a Long Post-War Economic Expansion

While the FSP came to an end, federal food assistance of some sort continued in the form of nutrition programs for school children. In 1943, Congress spent the equivalent of $304 million dollars on the purchase of surpluses for school lunch and related programs (in 2011 USDs). During the 1950s, the value of these expenditures continued to rise. By 1961, Congressional expenditures exceeded $3.05 billion (in 2011 USDs) (see Figure 2-14).

Figure 2-14: Temporal changes in federal expenditures for child nutrition programs, 1943-1961

Source: Fishback and Thomasson (2006a)
During this period, Congress authorized a federally-funded school lunch and milk program. The National School Lunch Act of 1946 provided the Secretary of Agriculture a permanent, annual appropriation for a school lunch program. Public Law 690 enabled the Secretary of Agriculture to use Commodity Credit Corporation funds to encourage schoolchildren’s’ consumption of milk (Figure 2-15). Public Law 465 made milk available to children served by local childcare centers, settlement households, nursery schools, summer camps, and other nonprofit service providers.

Figure 2-15: A truck driver delivers milk to the Inter-graded School in Lodi, Wisconsin. On the left, the cases and cans represent the day’s delivery of 1300 half pints of milk. This delivery is more than three times as large as the previous year’s average daily delivery of 416 half pints, represented on the right.

Source: Postlethwaite (1955)
Throughout the period, Congress made it easier for school districts and other non-profit providers to acquire and also prepare food for children. In 1949, Congress authorized the Secretary of Agriculture to make additional quantities of the government’s surplus acquired through price-support programs available for distribution to a variety of organized governmental and non-governmental groups, including public welfare agencies, foreign aid programs, school lunch providers, and tribal governments. It also enabled the government to distribute the value-added products made from surplus commodities. Such products included flour, cornmeal, cereals, and cooking oils (cf., The Agricultural Act of 1949).

A linear regression analysis illustrates the increase in government expenditures for child nutrition programs. Figure 2-16 shows the value of expenditure on child nutrition plotted against time. The linear regression is a good fit to the data as shown by the value of the square of the correlation coefficient which is 0.9671. The slope of the regression line indicates that government’s expenditure on child nutrition increased steadily at the rate of about $159.39 million per year (in 2011 USDs). The high value of the ratio of explained variance (0.9671) shows that the use of the slope value in this way is quite appropriate.
I shall now explain the expansion of child nutrition programs using the framework of the five key factors of political economy. These factors include macro-economic conditions, federal agriculture surplus policy, political support, public attitudes and discourses, and the actions in civil society by activists and community leaders. During this period, a prosperous economy enabled many people to buy their own food, and a growing conservative coalition in Congress opposed the expansion of food assistance. There was a large projected agriculture surplus which prompted federal government officials to engage in marketing efforts. There were also significant voices in civil society warning of the possible adverse effects of malnourished bodies.

Following World War II, the country experienced a period of economic expansion. Between 1945 and 1970 the US experienced an average annual growth rate of 3.5%. There was a substantial increase in household median income, low rates of unemployment, and widespread...
acquisition of household appliances, automobiles, and suburban homes (cf., Cohen, 2003).

Throughout the period, the country was resourced with roads, houses, manufacturing facilities, educations, and other material goods. The geography of these resources facilitated the mass migration of urban and rural people (cf., Glasmeier, 2002; Cohen, 2003).

Figure 2-17 relates the effects of this economic expansion on median household income. It shows the value of the country’s median household income for all types of families before taxes for the period of 1947 to 1961. It indicates the value of this income was estimated to be about $3,031 in 1947 (about $30,573.55 in 2011 USDs). It shows the value of this income increasing steadily throughout the period. Its linear regression suggests a family earning the median income in 1947 saw its pre-tax earnings increase about $1,071.90 each year (in 2011 USDs). By 1961, this family was taking home about $12,571 dollars more than it had just 14 years earlier.

Figure 2-17: Temporal change in median household income for all types of families, 1947-1961

Source: Lindert (2006)
A second theme that runs through this period is the existence of agriculture surpluses. In 1944, Secretary of Agriculture Wickard predicted agricultural production per capita would surpass that which was recorded previously (“Wickard Predicts Record Farm Output,” 1944). The volume of the country’s 1952 harvest was predicted to be even larger, especially its meat, dairy, poultry, and wool products (“Record Predicted in Farm Products,” 1952). By the late 1950s, USDA officials reported record corn, rice, sorghum grain, tobacco, peanuts, hay, wheat, oats, barley, and soybean harvests (cf., Blair, 1961).

This large agriculture surplus prompted federal government officials to engage in marketing efforts. In 1944, Secretary of Agriculture Wickard publicly advocated for the continuation of the country’s price-support programs (Wickard Predicts Record Farm Output, 1944). In 1949, Congress authorized the Commodity Credit Corporation for an expanded program to pay for the added processing, packaging, and handling costs for foods acquired under price support.

Voices in civil society warned of the possible adverse effects of malnourished bodies. During the early 1940s, members of the country’s military and Congress advocated for a system of school lunches to ensure its youth were nutritionally fit for military service (cf., Levenstein, 2003; Gunderson, 1971). Numerous State Directors for Nutrition Education and School Food Services advocated for a system of school lunches to ensure the country’s youth were well-nourished and capable of learning (cf., Flanagan, 1969; Martin, 2003).

However, a powerful conservative coalition of Northern Republicans and Southern Democrats in Congress acted to limit the extent of these advocacy efforts. This coalition organized in opposition to President Roosevelt’s New Deal economic policies. It controlled to a great extent the outcomes of Congressional politics, and it ensured the consistent failure of liberal efforts to expand food assistance.
Civil society advocates for food assistance got little support from conservative members of the Congress or from the Executive branch. They received only nominal support from Secretaries of Agriculture Clinton Anderson and Charles Brannan (cf., Berry, 1984). With the election of President Eisenhower came an increasing reluctance to expand food assistance programs; Eisenhower wanted issues of food aid to be addressed by local governments (cf., Eisenhower, 1958). In 1952, it was reported Secretary of Agriculture Ezra Taft Benson was not sympathetic to food stamps (Berry, 1984).

The rise to power of a conservative discourse limited the power and influence of civil society advocacy groups (cf., Trattner, 1999). Throughout the period, there was also an increasing suspicion of political protest. The years 1950 to 1954 included the height of the Red Scare unleashed by Senator Joseph McCarthy. During this time, nearly all the state governments enacted legislation that limited forms of protests performed by organized labor groups (Piven and Cloward, 1979). Members of the federal government investigated approximately 6.6 million people and dismissed 500 for questionable loyalty (Zinn, 1980).

Subsequently, advocates were largely unsuccessful in their attempts to re-establish the country’s food stamp program. During the 1940s, Senator George Aiken (R-VT) was a key advocate for increasing food assistance. He introduced 5 of 8 different pieces of legislation to revitalize food stamps. During the 1950s, he was joined by a diverse group of Congressional Democrats and Republicans. These members introduced 71 different pieces of legislation to re-create a food stamp program (Committee on Agriculture, Nutrition, and Forestry US Senate, 1985). Of these bills, only one was enacted into law—Public Law 86-341, which authorized President Eisenhower to use discretionary funds to operate a food stamp plan; the Eisenhower Administration never exercised this authority (USDA, 2012a).

A framework of political economy has helped explain the history of the country’s food assistance programs from 1943 to 1962. In summary, a conservative coalition was primarily
responsible for the lengthy absence of a food stamp program. The effectiveness of sympathetic members of Congress and advocates in civil society was adversely impacted by the diffusion of a conservative discourse during a time of economic prosperity. Agriculture policy was the primary mechanism through which conservative government officials controlled the expansion of the country’s supply of food assistance. Despite hostility to food stamps, the data showed federal government officials did recognize a need to improve child nutrition.

2.3.3 Period III (1961-1981): An Expansion of the FSP and the Discovery of “The Other America”

During the period of 1961-1981, the country’s FSP experienced an unprecedented expansion in the average monthly participation. In the early 1960s, it averaged less than half a million participants each month. In 1966, this value exceeded a half million people. During the late 1960s and early 1970s, it continued to increase. In 1967, the average number of participants each month exceeded 1.4 million people. It reached 4 million people each month in 1970 and 12 million people in 1971. By 1981, it peaked at about 22.4 million people (Figure 2-8).

Corresponding to the increasing number of participants, the program cost the government increasingly large amounts of money. In the early 1960s, it cost the government less than $500 million (in 2011 USDs); during the late 1960s and early 1970s, these costs continued to rise. In 1967, it cost the government about $940 million. It topped $1.5 billion in 1969 and $20 billion in 1977. By 1981, it totaled about $27.8 billion (Figure 2-8).

Figure 2-18 shows a linear regression analysis of the average number of participants per month for the period of 1961 to 1981. The square of the correlation coefficient of the time series is .9377, showing that the regression is a good fit for the data. It shows the average number of
participants increased throughout the period and illustrates that the increase occurred at the rate of about 1.317 million people per year.

Figure 2-18: Temporal changes in the average number of people using food stamps each month, 1961-1981

Sources: Freeman (1964); Ellender (1967); Committee on Agriculture, Nutrition, and Forestry (1985); Fishback and Thomasson (2006b); USDA (2012g)

I have done a second linear regression analysis for the growth in federal expenditure for food stamps. The data were divided into two parts – from 1961-67 and from 1967-1981--because there were two distinct trends in the data. The regression trends suggest the earlier years of the period were characterized by a relatively small annual increase in expenditures (about $140 million each year). The year 1967 marks a shift in the level of federal expenditures. Following this shift, there was a period with a sharp increase in annual expenditures (about $2 billion each
The high correlation coefficients tell us that it is reasonable to use these regression slopes as an estimate of the annual increase in federal expenditure on food stamps (Figure 2-19).

![Graph showing total federal expenditures for food stamps, 1961-1981.](image)

Figure 2-19: Temporal changes in the total federal government’s expenditures for food stamps, 1961-1981

Sources: Freeman (1964); Ellender (1967); Committee on Agriculture, Nutrition, and Forestry (1985); USDA (2012g)

As before, I shall explain the graph of food stamp participation and expenditures through a framework of five key factors of political economy. During this time period, liberal scholars publicized the fact that there were many poor hungry people despite the great economic prosperity. The adverse effects of inequalities and social, political, and economic injustices were highlighted by advocates in civil society. Persisting agriculture surpluses encouraged federal officials to engage in additional marketing efforts. Finally, relatively liberal administrations were sympathetic and anxious to use federal powers to redress economic and racial injustices.

Beginning in late 1950s, liberal public scholars discovered the people who had been left behind and were unable to enjoy economic prosperity. These scholars presented their discovery
in a series of widely accessible books. They developed their claims with plausible and reasonable arguments. They provided policymakers and laypeople an opportunity to make sense of their social experiences in a way that other books were unable to.

Two key pieces of writing helped changed attitudes towards to the poor – those of John Kenneth Galbraith and Michael Harrington (cf., Stanfield, 1983; Isserman, 2009). Each publication drew attention to prevailing conditions of poverty and income inequality. In 1958, Galbraith’s *The Affluent Society* focused its attention on conditions of poverty, income inequality, and a need for large public investments in the country’s highways, education, health, and nutrition services. In 1962, Harrington’s *The Other America: Poverty in the United States* argued that nearly a third of the country’s people lived below the standards regarded as necessary to secure a minimum standard of food, housing, clothing, and health.

The receptive intellectual climate created by the writings of these liberal thinkers was augmented by the efforts of advocates in civil society. Beginning in the 1960s, advocates pursued these efforts in order to alleviate widespread social, political, and economic injustices. Through their performances, advocates afforded more recognition to the members of historically marginalized social groups, especially African Americans, native peoples, and women. They also made topics of poverty and entitlements key issues of political importance (cf., Piven and Cloward, 1979; DeLuca, 1983; Kotlowski, 2003; Mintz, 2012; Nadensen et al., 2009).

The occurrence of early advocacy efforts coincided with the federal government’s acquisition of a large surplus of agricultural products. In 1961, this acquisition included large quantities of corn, sorghum, barley, oats, wheat, rice, peanuts, and dairy products. It totaled more than 178.8 billion pounds. It cost the government more than a half billion dollars in storage and handling costs (Freeman, 1961).

Executive Order 10914 was a major piece of legislation in the history of food stamps. This Order enacted the food stamp pilot program financially authorized in the country’s 1960
Fiscal Year budget (Public Law 86-341). It mandated that federal agriculture officials make better use of its agricultural supplies and help low-income people get more food and a better diet. It mandated the Secretary of Agriculture make use of existing funds and statutory authority to expand the scope of existing food assistance programs (Executive Order 10914).

This Order provided the basis for a second food stamp pilot program. This program was made available to those people declared eligible for their state’s public assistance who lived in places experiencing chronic and widespread unemployment (Food Stamps Backed, 1961). It operated by permitting relief recipients to purchase a red and grey colored currency. It was made available for purchase in coupon books, valued at $2, $3, and $10. It permitted low-income people to purchase the books for a price presumed to represent their household’s normal food expenditure; the difference between the amount the household paid and the value of its coupons represented their bonus coupons. It allowed them to use stamps at participating food retailers and wholesalers. Red and grey stamps could be used to buy any food items, except for a few imported foods (cf., Berry, 1984; Committee on Agriculture, Nutrition, and Forestry, US Senate, 1985; Maney, 1989) (Figure 2-20).
The program ended with the passage of the Food Stamp Act of 1964. This Act was overwhelmingly supported by Congressional Democrats, especially Secretary of Agriculture Freeman, Presidents Kennedy and Johnson, Congresswoman Leonor Sullivan (D-MO), and House Committee on Agriculture Chairman Harold Cooley (D-NC). It was widely opposed by Congressional Republicans (cf., Berry, 1984; Maney, 1989). It appropriated the equivalent of $540 million (in 2011 USDs) to serve over 350,000 people living in income-qualified households in places that did not concurrently operate a surplus commodities program (Food Stamp Act of 1964). It represented the outcome of a complex process of legislative maneuvering to increase price supports for cotton and wheat (cf., Maney, 1989).

Under the leadership of Secretary of Agriculture Freeman, agriculture officials initiated a large federal response. Beginning in 1964, they worked with state and county governments to
authorize the establishment of new food stamp programs. They oversaw the allocation and apportionment of money to participating state governments. They administered legislation designed to ensure the equitable treatment of the country’s poor people. Specifically, this legislation mandates programs operate

- according to a plan of operation, eligibility standards, and according to the maximum income eligibility guidelines for the federal government’s public assistance programs;
- in ways that provided for an equal opportunity for participation, regardless of a recipient’s race, religious creed, national origin, and/or political beliefs;
- for the purpose of ensuring individuals purchasing stamps receive a value of stamps that more nearly allow them to purchase a low-cost nutritionally adequate diet (Committee on Agriculture, Nutrition, and Forestry, US Senate, 1985; USDA, 2012a).

However, the performance of this response did not enable all poor people a similar chance to use food assistance. Senator Joseph M. Montoya (D-NM) testified that the stringent requirements of the food stamp program contributed to as much as a 60-percent decrease in participation upon a county’s transition from the commodities distribution program in his state of New Mexico (Committee on Agriculture and Forestry, 1969). Reporter Nick Kotz indicated few rural, agricultural workers were permitted to use food assistance programs during times of planting and harvest (Kotz, 1971). US Department of Agriculture researchers found only about 55 percent of income-eligible families made use of food stamps in two Mississippi Delta counties (Subcommittee on Employment, Manpower, and Poverty, 1967).

The Food Stamp Act was widely perceived as a failure by poor people and their advocates in civil society. Beginning in 1967, low-income people galvanized into action and demanded federal officials provide them immediate food relief (cf., Maney, 1989) (Figure 2-21). Organized non-governmental poverty groups took up the cause and encouraged US Senators to visit the homes of rural, low-income people (cf., Kotz, 1971; Maney, 1989). Newspaper and
television reporters related widespread conditions of poverty and hunger, especially in the rural South (cf., Kotz, 1971; Carr, 1968). The Citizens’ Crusade Against Poverty organized an Independent Board of Inquiry to investigate the prevalence of hunger in the United States. Through its wide circulation, the Board’s published report, *Hunger, USA*, helped influence the performance of federal food assistance programs (Walter P. Reuther Library, 2008). The Food Research Action Center (FRAC) initiated a series of lawsuits; these lawsuits provided the basis for the law that mandated all counties operate a food stamp program (FRAC, 2010).

Figure 2-21: In 1968, poor people occupied portions of Washington, DC to demand action from their government

Source: Leffler (1968)

The general interest and activism around food issues led to a number of pieces of legislation. This legislation was widely supported by liberal Congressional Democrats, especially Representatives Leonor Sullivan (D-MO), Senators Joseph Clark (D-PA), Robert Kennedy (D-NY), George McGovern (D-SD), and Ernest Hollings (D-SC). During the early 1970s, these acts
provided low-income people an opportunity to exercise power to ensure fairness in the distribution of food stamps. These acts permitted recipients a chance to exercise greater choice in their receipt and use of benefits. Finally, these acts helped ensure that the people most vulnerable to conditions of ill-health were not impeded from accessing the program. Table 2-1 outlines the key provisions of these Acts of food assistance.

<table>
<thead>
<tr>
<th>Key Provisions</th>
<th>Acts of Legislation</th>
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<tbody>
<tr>
<td>Qualified households on the basis of a set of uniform, national standards of eligibility</td>
<td>Amendments to the 1964 Act (1971)</td>
</tr>
<tr>
<td>Enabled elderly people a similar chance to participate, regardless of their cooking facilities</td>
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<tr>
<td>Enabled the temporary eligibility and participation of households that are victims of disaster</td>
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<tr>
<td>Issued coupons at no cost to the lowest-income households⁸</td>
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<tr>
<td>Provided for the purchase a lesser value of stamps at a reduced price</td>
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<tr>
<td>Qualified public assistance recipients on the basis of the execution of an affidavit by the person making the application</td>
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<tr>
<td>Provided households a value of stamps equivalent to the cost of a nutritionally adequate diet</td>
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<tr>
<td>Made information available to low-income people about the benefits of food stamp programs</td>
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<tr>
<td>Enabled aggrieved households the chance to similarly enjoy a fair, timely hearing and determination process</td>
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<tr>
<td>Ensured narcotics addicts and/or alcoholics living in residential treatment and rehabilitation programs experienced a similar opportunity to participate</td>
<td>Agriculture and Consumer Protection Act of 1973</td>
</tr>
<tr>
<td>Afforded all people an equal opportunity to participate, regardless of their geographic location</td>
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<tr>
<td>Permitted the continuation of service in the event of a systematic mechanical failure</td>
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<tr>
<td>Enabled people to exercise choice in the timing and use of their benefits</td>
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Table 2-1: Key Acts of food stamp legislation, 1971-1973

⁸These lowest-income qualifying households had an income of less than $30 per month for a four-person household ($159.67 in 2010 USD).
However, many conservative policymakers maintained some concerns about the possible effects of this legislation. During the mid-1970s, President Ford, Secretary of Agriculture Earl Butz, Secretary of the Treasury William Simon, Representative Robert Michael R-IL), Senator James Buckley (R-CT), and others advocated for legislation to limit the size and scope of the food stamp program. They pressed for legislation to restrict food stamp participation to the country’s lowest income people. They also sought to overcome the stronghold of the country’s liberal federal government (cf., Maney, 1989; Berry, 1984).

Under the Carter Presidency, The Food Stamp Act of 1977 represented an early legislative compromise to alleviate the concerns of conservative policymakers. This compromise maintained the support of liberals and conservatives. It strengthened existing legislation to ensure that the neediest people had access to the program. It permitted people to receive and use food stamps in a way that was less expensive. It enabled people a more equitable chance of securing information about the program, and it also restricted the ability of poor people to exercise choice in their use of benefits and workforce participation (Table 2-2).
<table>
<thead>
<tr>
<th>Strengths</th>
<th>Restrictions</th>
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<tbody>
<tr>
<td>Informed low-income households about the availability, eligibility requirements, and health benefits of stamps using appropriate bilingual personnel and printed materials.</td>
<td>Restricted eligibility to students and resident aliens</td>
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<tr>
<td>Provided applicants simplified, standardized application materials</td>
<td>Required workforce participation</td>
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<td>Simplified and streamlined a complicated, cumbersome, and error-prone application process</td>
<td>Penalized households whose heads voluntarily quit work</td>
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<td>Clearly articulated the consequences of not following the law</td>
<td>Limited food purchases to stores where at least half of food sales are staple foods. Staple foods included meat, poultry, fish, bread, cereals, vegetables, fruits, dairy products, and the like</td>
</tr>
<tr>
<td>Ensured all legal residents maintained an equal opportunity to participate, regardless of their cooking facilities</td>
<td>Restricted the purchase of hot foods and/or foods for immediate consumption, except through nonprofit meal delivery services, communal dining facilities, and institutions that serve meals to drug addicts and alcoholics</td>
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<td>Allowed people to apply for benefits at Social Security Administration offices and sites located on Indian reservations</td>
<td>Prohibited recipients in Alaska from using their stamps to purchase clothing or equipment for transportation or shelter</td>
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<td>Afforded individuals a right to request, receive, and submit an application for benefits on the same day</td>
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<td>Treated all people similarly and fairly during the eligibility and certification process</td>
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<td>In continental US, it targeted benefits to non-farm households who maintained incomes less than poverty (about $20800 per year for a family of four in 2010 USD)</td>
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<td>Issued stamps at no-cost to all eligible households; no income households received were issued stamps within 30 days of application</td>
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<td>Provided wrongfully denied households the value of their lost benefits by increasing the amount of benefits provided to them for a pre-determined number of months</td>
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<td>Enabled all people the chance to use coupons for the purchase of hot meals from nonprofit meal delivery services, communal dining facilities, and institutions that serve meals to drug and alcohol rehabilitation clientele</td>
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<tr>
<td>Notified households at the beginning of the last month of their certification period of their need to reapply for benefits</td>
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Table 2-2: Key provisions of the Food Stamp Act of 1977
A framework of political economy has helped explain this historical period of the country’s food assistance programs. It suggests many people experienced economic prosperity, except the poor who lay invisible in an America which was widely seen as “The Affluent Society”. Authors such as Galbraith and Harrington drew widespread attention to the people neglected by the country’s post-war economic prosperity. Public support for the federal government’s surplus purchasing program contributed to the government’s efforts to market massive amounts of surplus commodities. Widespread activism around issues of civil rights, racial equality, and economic justice drew attention to issues of hunger. The leadership of President Johnson enabled food stamp participation to expand rapidly. The Republican administrations of Nixon and Ford could not entirely reverse the gains of poor people. The election of President Carter enabled its subsequent expansion. In summary, the framework suggests the period was still influenced by the five factors of political economy, including macro-economic conditions, federal agriculture surplus policy, political support, public attitudes and discourses, and the actions in civil society by activists and community leaders.

2.3.4 Period IV (1981-1994): A Persistent Expansion of the FSP and the Rise of Neo-conservatism

The earlier expansion of food stamps continued into the early 1990s. During this period, there was an overall increase in rates of participation and expenditure. In 1981, the program aided about 22.4 million people per month at a cost of slightly less than $28 billion each year. By 1994, it assisted an additional 5.1 million people (or about 27.5 million) at a cost of about $37.17 billion (in 2011 USDs).
However, this period of expansion may be distinguished from that of Period III on the basis of its two distinct statistical patterns of participation. From 1981 to 1988, participation in the food stamp program steadily declined at an annual rate of about 560 thousand people per year. Beginning in 1988, participation began to change. By 1994, it actually increased by an average of 1.73 million people per year. The square of correlation coefficients are 0.9795 and 0.9539 in the two regressions; this means the line is an appropriate means of representing the rate of change occurring in food stamp participation during this time period (see Figure 2-22).
Figure 2-22: Temporal changes in the average number of people using food stamps each month. On the left, the early years of the period were characterized by annual declines in participation. On the right, the latter years included a substantial increase in participation each year.

Source: Fishback and Thomasson (2006b)
This period may also be distinguished on the basis of its varying levels of government expenditure. Keeping in mind the overall level of expenditure actually increased between 1981 and 1994, this pattern may be resolved into two periods of expansion and two periods of contraction. As Figure 2-23 shows, the early 1980s were characterized by a $2.5 billion dollar decrease followed by a $1.5 billion dollar increase in the federal government’s annual expenditures. This pattern was followed by a period of gradual decline at the rate of about $870 million each year. Throughout the remainder of the period, costs actually increased at the rate of $2.5 billion per year (see Figure 2-23).
Figure 2-23: An analysis of the data shows four distinct periods of expenditure during the years 1981-1994. These periods indicate different rates of contraction and expansion.

Source: USDA (2012g)
For the purpose of explanation, I now return to the framework of five key factors of political economy. During this time period, neoconservative scholars critiqued the government’s efforts to provision the poor. Conservative leaders came into power in leading Western nations, including Ronald Reagan in the US, Margaret Thatcher in the UK, and Helmut Kohl in Germany. In the US, the arguments presented by neoconservative scholars helped justify the actions of a conservative President and Congress, which led to reduced appropriations for the country’s public assistance programs. The country’s economy experienced a period of erratic change: a recession in 1980 and then again in 1982; an impressive growth rate of over 7% in 1984; a subsequent expansion with steadily declining peaks; a recession in 1991; and modest growth until 1994 (Figure 2-1). A growing agriculture surplus prompted agriculture officials to look for ways to grow consumer demand (cf., Buttering Up the Farmers, 1981; Lipsky and Thibodeau, 1988). Persisting advocacy efforts made it difficult to eliminate the country’s food assistance programs (cf., FRAC, 2010).

During the early 1980s, neoconservative scholars critiqued the government’s efforts to provision the poor. These people presented their critiques in a series of policy papers, lectures, journal articles, books, grant applications, and research reports. They developed their claims using simple and accessible arguments. They engaged the logic of rational choice. They provided policymakers, academics, and laypeople a way of thinking about the outcomes of the federal government’s efforts.

Of these neoconservatives, many people recognize the influence of two early publications of importance written by George Gilder and Charles Murray. Each publication drew attention to the failures of the government in designing and implementing welfare programs for the poor. In 1981, Gilder’s *Wealth and Poverty* argued that the government’s efforts contributed to poor people’s inability to perform hard work, to create male-headed families, and to demonstrate faith in their neighbors, society, and the logic of the cosmos. In 1984, Murray’s *Losing Ground*:
American Social Policy 1950-1980 argued the government’s efforts incentivized poor people to rationalize their situations of unemployment, un-wed motherhood, crime, and welfare dependency.

The arguments presented by these scholars helped justify the actions of conservative policymakers. During the early 1980s, President Reagan pressed for economic policies designed to facilitate economic growth through a reduction in the federal government’s expenditures (Niskanen, 2007). A conservative Congress enacted laws to limit the supply of money allocated to a US food assistance programs. They also mandated that Secretary of Agriculture Block restrict access to all but the country’s poorest people.

Of these laws, the 1981 and 1982 Omnibus Budget Reconciliation Acts represented major pieces of legislation in the history of the US Food Stamp Program. These acts were supported by President Reagan, Congressional Republicans, and the general public. Each reduced the amount of money available to most of the federal government’s food assistance programs, including its child nutrition, food stamp, and commodity-based programs. Each also restricted the ability of working poor people to be classified as income-eligible for food assistance. After 1982, households with no elderly or disabled members were required to have a pre-tax income of no more than 130 percent of poverty⁹ (Omnibus Budget Reconciliation Act of 1982).

The liberal Congressional majority elected in 1986 resisted measures to reduce the government’s expenditures. Under the leadership of Speaker Tip O’Neill, House Democrats forced Republicans to abandon the most extreme aspects of supply-side economics. Beginning in 1987, these concessions helped a growing number of working poor people, homeless, active duty military, and veterans receive food assistance. It helped ensure all people a similar chance of

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⁹ In 2011, a pre-tax income of no more than 130 percent of poverty amounted to about $28,181.48 for a family of four.
getting assistance in times of natural disaster. It helped make sure income-eligible people without access to transportation were less impeded in their ability to qualify for benefits (Table 2-3).

<table>
<thead>
<tr>
<th>1987 Acts of Legislation</th>
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<tr>
<td><strong>Stewart B. McKinney Homeless Assistance Act</strong></td>
<td>Provided a definition of a homeless person</td>
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<tr>
<td>Provided 50 percent federal funding for voluntary food stamp outreach activities to homeless people</td>
<td>Identified households whose combined gross income and liquid resources are less than rent/mortgage and utilities to qualify as a homeless person</td>
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<th>1988 Acts of Legislation</th>
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<tr>
<td><strong>Hunger Prevention Act</strong></td>
<td>Enabled elderly, handicapped, and other hardshipped people to qualify through a telephone interview and/or home visit;</td>
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<tr>
<td><strong>Robert T. Stafford Disaster Relief and Emergency Act</strong></td>
<td>Provided for the exclusion of income and resources secured by the people participating in federal major disaster and emergency assistance programs and comparable disaster assistance provided by state and local governments and organized disaster assistance groups in the determination of eligibility and receipt of food stamp benefits;</td>
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<th>1989 Acts of Legislation</th>
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<tr>
<td><strong>Agent Orange Compensation Exclusion Act; Omnibus Budget Reconciliation Act</strong></td>
<td>Provided for the exclusion of income secured by veterans and other people receiving payments from the Agent Orange Settlement Fund and/or any other fund established for the purpose of settling Agent Orange product liability litigation in the determination of income eligibility and the receipt of food stamp benefits</td>
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<th>1990 Acts of Legislation</th>
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<tr>
<td><strong>Omnibus Budget Reconciliation Act</strong></td>
<td>Provided for the exclusion of income and/or deductible expenses the value of child care to low income, non-AFDC families for whom the state determines (1) need such care in order to work; and (2) would otherwise be qualified to secure AFDC payments.</td>
</tr>
<tr>
<td><strong>Mickey Leland Memorial Domestic Hunger Relief Act</strong></td>
<td>Authorized homeless people to use their food stamps at authorized restaurants to purchase meals at reduced prices; Provided for emergency allotments to replace food lost in disasters; Mandated personnel adjust their reporting and application requirements to ensure their efforts are consistent with the actual conditions in a disaster area; Mandated state relief departments designate rural areas and use mail issuance within those areas unless mail losses of the household or within the area exceed tolerances;</td>
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<th>1991 Acts of Legislation</th>
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<tr>
<td><strong>Persian Gulf Conflict Supplemental Authorization and Personnel Benefits Act of 1991</strong></td>
<td>Mandated state governments perform outreach activities in order to inform active duty military personnel of their potential eligibility for food stamps; Required state government personnel design and carry out these projects in consultation with members of The Defense Department, state agencies, and military family support groups.</td>
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<tr>
<th>1993 Acts of Legislation</th>
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<tr>
<td><strong>Omnibus Budget Reconciliation Act of 1993: Chapter 3, Mickey Leland Childhood Hunger Relief Act</strong></td>
<td>Provided for the exclusion of the earnings of elementary or high school students who are members of an applicant household and are 21 years of age or younger in the determination of income eligibility and the receipt of food stamps benefits;</td>
</tr>
</tbody>
</table>
Table 2-3: Key acts of food stamp legislation, 1987-1994

Even though the prevailing dominant political philosophy opposed the distribution of food assistance, the country’s economic realities made it difficult to entirely eliminate food assistance programs. During the early 1980s, the country’s economy began to experience a period of short business cycles—with periods of impressive growth interspersed with recessions. However, economic gains were realized by few people. Throughout this period, the country’s indicators of income inequality began to exhibit a pattern of divergence; the aggregate share of the income received by households in the lowest fifth percentile declined relative to the previous period of food assistance. The share received by households in the top 5 percent of the distribution experienced substantial gains (about 17.72 percent) (see Figure 2-24).
Figure 2-24: Change in the share of aggregate household income. On the left, the aggregate share of the income received by households in the lowest fifth percentile increased substantially throughout the 1970s. On the right, the share received by households in the top 5 percent of the income distribution experienced significant gains during the 1980s and early 1990s.

Source: Jones Jr. and Weinberg (2000)

A steadily increasing incidence of poverty evidenced the need for food assistance programs. In 1979, only about 26 million people reported incomes below the poverty line. By 1994, this number had increased to more than 38 million people (see Figure 2-2).

The availability of a large agricultural surplus supplied the resources necessary for the continuance of food assistance programs. During the early 1980s, federal officials purchased about 45 million pounds of surplus dairy products each week. The occurrence of this dairy surplus persisted with the occurrence of surplus quantities of wheat and corn. In 1985, the federal government purchased 16 billion pounds of surplus milk. A 1986 herd-reduction program lessened the availability of milk supplies. In 1988, however, the federal government still purchased 9.7 billion pounds of surplus dairy (GAO, 1989).
Advocates in civil society related the experience of those whom the elimination of food assistance would most impact. During the 1980s, journalists narrated the experiences of struggling farmers and newly unemployed people (cf., Rondinaro, 1981; Malcomb, 1984; Staurt, 1984; Malcomb, 1985; Robbins, 1985; Stevens, 1985; Collins, 1989). Members of governments and nonprofit organizations reported on the prevalence of hunger in the United States (for listings and/or reviews of published reports see Dove, 1984; Porter and Washington, 1986; Brown and Allen, 1988). Farmers protested in demonstration of their plight and need for the government’s assistance (National Archives and Records Administration, 1985) (Figure 2-25). The Food Research and Action Center partnered with the National Anti-Hunger Coalition to investigate the complexity of the experience of hunger and malnourishment. Its published report, *Hunger in the Eighties: A Primer*, detailed a chronology of the aggregate experience of hunger and the federal government’s solutions; it also proposed an alternative strategy of remedy (Select Committee on Hunger, 1985).

Figure 2-25: Farmers protest outside of the USDA building in Washington, DC to demonstrate their plight and need for assistance (March 1985)

Source: USDA (2011b)
A framework of political economy provides some insight into the history of the country's food assistance programs. During the early 1980s, the country’s neoconservative scholars helped launch the government’s application of supply-side economic principles. The election of a conservative President and Congress provided the impetus for policies to reduce financial appropriations to the country’s public assistance programs. However, the outcomes of the country’s erratic economy and its 1986 election of a liberal Congressional majority made it difficult to entirely eliminate food assistance programs. A variable rate of unemployment, growing income inequality, and increasing levels of poverty evidenced the persisting need for food assistance programs. The availability of a large agricultural surplus supplied the resources necessary for its persistence. Finally, advocates in civil society related the experience of those people who would be most adversely impacted by the elimination of such programs.

2.3.5 Period V (1994-2000): A “Contract with America” and a Reduction of the FSP

During the period of 1994-2000, the country’s FSP experienced a precipitous decline in the average monthly participation. In 1994, it served an average of 27.5 million people each month. The following year the average monthly participation experienced a reduction of 800,000 people. In 1997, the average number of participants numbered 22.9 million people. In 1999, it averaged 18.1 million people each month. By 2000, it declined to a low of about 17.2 million people (Figure 2-8).

The federal government also reduced the amount spent for the food stamp program. In 1995, they spent a total of $36.3 billion on the food stamp program (in 2011 USDs). In 1997, costs totaled only about $30.2 billion; it declined to $22.27 billion by 2000. This represented a reduction of about 40 percent (Figure 2-8).
Figure 2-26 shows the outcomes of a least-squares regression analysis on food stamp participation data and expenditure data. These analyses show participation declined by about 1.9 million people each year and expenditures declined at a rate of $2.8 billion each year. The r-squared values are 0.9704 and .9653. These values indicate it is safe to interpret the regression coefficients in this manner.

Figure 2-26: Temporal changes in food stamp program participation and expenditures, 1994-2000

Sources: Fishback and Thomasson (2006b); USDA (2012g)

For the purpose of explanation, I now return to the framework of five key factors of political economy. During this time period, the country’s economy experienced a short period of impressive growth, especially in the software and information technology sector. This period of economic prosperity coincided with the widespread adoption of a neoconservative understanding of poverty. Collectively, the performance of these factors encouraged many people to believe that families who remained poor just did not work hard enough to make ends meet. The country’s lack of surplus provided conservative policymakers an opportunity to transform the performance of the country’s supply of food assistance. However, advocacy efforts drew
attention to the physical needs of low-income, working people. In so doing, the country’s conservative Congress did little to adversely impact the country’s supply of food stamps.

During the mid-1990s, the country experienced a brief moment of economic prosperity. Beginning in 1994, this moment was characterized by a steadily improving GDP and relatively low rates of unemployment (Figure 2-1). It was fueled by substantial growth in the country’s technological innovation and productivity, especially its information technology industries (Gordon, 2002). It included substantial annual gains in the value of the country’s gross private domestic investments for equipment and software. Between 1994 and 2000, these gains exceeded 10.5 percent of the country’s GDP each year (BEA, 2012b).

This period of economic prosperity coincided with the adoption of a neoconservative understanding of poverty by liberal Democrats. During this time, both liberals and conservatives agreed the federal government’s public assistance programs fostered issues of welfare dependency, crime, laziness, and single motherhood. A liberal President Clinton vowed to put an end to an era of “big government” and “welfare as we know it” (Mink and Solinger, 2003). Liberal policy analysts and academics used this discourse in their investigations of welfare policy and poverty (cf., Borjas and Sueyoshi, 1997; Bane and Ellwood, 1994; Schram, 1995).

related industries (cf., “Farm Team Goes to Bat for Food Stamps,” 1995; “Agriculture Committee Flip Flops on Food Stamp Program,” 1995). Social researchers observed the shortcomings of existing poverty research; they proposed a different model to understand questions of poverty and welfare policy (cf., Schram, 1995; Yapa, 1996).

With little need to market surplus commodities, liberal and conservative policymakers attempted to reform the food stamp program. In September 1994, such changes were identified and described in the Republican’s Contract with America (cf., Pear, 1995a; Pear, 1995b; “Food Stamps in Peril,” 1995; Republican Members of the 104th House of Representatives, 1995; Super, 2004). This document, advanced by Congressional House Republicans, proposed to end the program’s entitlement status, limit annual budgetary expenditures, and give state governments the chance to establish and authorize their own supplies of food assistance (cf., Katz, 2008).

Under the leadership of President Clinton, Republicans were forced to settle for a more moderate set of policy reforms. This set of reforms was enacted as The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA). It was designed to restrict program eligibility for most of the country’s legal immigrants. It mandated limits on the time in which most able-bodied adults without dependents were able to make use of the supply. It also required states to enact a mechanism of electronic benefits transfer (EBT) before October 1, 2002. By EBT, I refer to a system through which individuals secure access to food assistance benefits through their use of a plastic card or other electronic benefit delivery device (USDA, 2012a) (Figure 2-27).
Figure 2-27: Contemporary EBT cards. These plastic cards began to replace food stamp currency following the country’s 1996 PRWORA law.


However, many people criticized the PRWORA, especially the portion of the law that restricted the participation of elderly and infirm legal immigrants. California activists filed a lawsuit to limit the rules governing the distribution of food stamp benefits (cf., McDonnell, 1996). Members of immigrant groups petitioned members of Congress to restore their food stamp benefits ("House Approves Farm Measure That Restores Many Food Stamps," 1998; McNiff, 1998). Reporters penned stories sympathetic to the cause (cf., Sun, 1996; Valbrun, 1997).

The Agriculture Research, Extension, and Education Reform Act (1998) addressed some of these critiques. This law represented the outcome of the period’s second major food stamp legislative compromise. It restored benefits to many legal immigrants and cross-border Native Americans, as well as their un-remarried surviving spouses and children (Agriculture Research,
Extension, and Education Reform Act). It represented the outcomes of a complex process of political maneuvering to authorize budgetary expenditures for crop insurance, agricultural research, and rural development programs (cf., Alvarez, 1998; “House Approves Farm Measure that Restores Many Food Stamps,” 1998).

A framework of political economy indicates that conditions of the macro-economy, federal agriculture commodity policies, prevailing discourses, political support, and actions in civil society continued to shape the outcomes of the country’s food stamp program. During the 1990s, the country experienced a brief period of economic prosperity. This period of prosperity coincided with the widespread adoption of a neoconservative understanding of poverty. While advocates rallied in support of low-income families, liberal and conservative policymakers took action to reform the food stamp program. The country’s relatively liberal President helped facilitate a political compromise. Advocates offered a critique of these efforts. A feat of political maneuvering helped restore benefits to the members of particularly vulnerable groups, especially the families of legal immigrants.

2.3.6 Period VI (2000-2011): Millennial Recessions and an Expansion of SNAP

Beginning in 2000, the country’s FSP experienced a rise in its average monthly participation. In 2000, it served an average of 17.2 million people each month. The following year its average monthly participation increased by 124,000 people. In 2005, the average number of participants numbered 25.6 million people each month; this average topped 33.5 million people in 2009. By 2011, the program’s average participation peaked at 44.7 million people each month (Figure 2-8).
The increasing use of the food stamp program contributed to a similar rise in federal expenditures. The first year of the period was characterized by the federal government’s expenditure of $22.3 billion dollars. In 2007, the federal government’s food stamp expenditures increased to about $36 billion dollars; its expenditures totaled $70.5 billion dollars in 2010. By 2011, its annual expenditures exceeded $75 billion dollars (Figure 2-8).

Figure 2-28 details the outcomes of a least-squares regression analysis of food stamp participation data. This analysis was divided into three episodes of participation. The early 2000s were characterized by an average increase of about 1.7 million people per year. This episode was interrupted by a brief decline in participation at the rate of 232,000 people per year. During the late 2000s, participation increased dramatically at a rate of 4.9 million more people per year.
Figure 2-28: An analysis of the data shows three distinct periods of participation. A period of contraction divides an overall increase in FSP participation.

Source: USDA (2012g)
Similarly, a complementary linear regression analysis provides a way of comparing changes in the government’s expenditures. Figure 2-29 details the result of a least-squares regression analysis on the federal government’s annual program expenditures. This result has also been resolved into three periods. During the early 2000s, the result suggests the federal government spent about $2.8 billion dollars more each year. It indicates this period was followed by a two-year period in which the expenditures actually declined $700 million. Finally, it demonstrates that the remainder of the period was characterized by a substantial increase in annual expenditures. Between 2007 and 2011, the federal government spent nearly $11 billion dollars more each year than it had during the previous year.
Figure 2-29: A linear regression analysis shows three distinct periods of government expenditure. These periods suggest distinct patterns of expansion and contraction for the years of 2000-2011. Source: USDA (2012g)

As before, I will explain the graph of food stamp participation and expenditures through a framework of five key factors of political economy. During this time period, two relatively severe economic recessions limited people’s ability to purchase adequate quantities of food. A volatile global commodity market contributed to brief periods of food surpluses and shortages. Advocates in civil society highlighted the adverse effects of the economy. The election of compassionate conservative and liberal policymakers enabled increasing numbers of people to benefit from food assistance.
Beginning in 2000, the US people experienced two economic recessions. A 2001 period of recession was characterized by a 3.2 percent decline in the amount of GDP contributed by domestic investments in equipment and software. Several years later, a second economic recession included substantial losses in the amount of money spent on durable goods and structures contributing to the worst economic recession since the Great Depression. In 2009, consumer expenditures on durable goods declined 5.4 percent of GDP; gross private domestic investment in residential and non-residential structures declined by more than 40 percent relative to the previous year (BEA, 2012b) (Figure 2-1).

The effects of the recession prevented many people from purchasing adequate quantities of food. People sought help at local sites of food distribution, including organized nonprofit groups and government relief offices. At these sites, they produced documents to verify their eligibility. They responded to the questions of local volunteers, social services personnel, and/or government caseworkers (Figure 2-30).

Figure 2-30: Low-income families apply for assistance at the Anderson-Cottonwood Christian Assistance Food Bank in Anderson, California (June 2008).

Source: heacphotos (2008)
At the same time, the country experienced volatility in agriculture characterized by periods of surpluses and shortages. Until 2003, the country had large surpluses of domestically-grown grains, fruits, vegetables, and dairy products (cf., Schnitt, 2002; Arax, 2002; Kirchhoff, 2008). Shortly thereafter, prices increased substantially, which created shortages in the food available for distribution to needy people. In 2008, Kirchhoff reported that the USDA’s “sole remaining sizable stockpile [of commodities] contain[ed] about 24 million bushels of wheat in a special government trust dedicated to international humanitarian aid.”

Throughout this period, the effects of the volatility were described by local newspaper reporters. During the early 2000s, they related the problems resulting from an increasingly globalized agricultural market (cf., Waresh, 2000; Baca, 2002). Between 2006 and 2008, they directed attention to the experiences of organized nonprofit groups struggling to meet the demand for food assistance at a time of minimal surpluses (cf., Koch, 2006; Rucker, 2007; Kirchhoff, 2008). By 2009, they chronicled the activities designed to improve the market price of food (cf., House, 2009; Nisperos, 2009).

The adverse effects of the country’s economy were also highlighted by advocates in civil society, especially during the latter part of the period. People engaged in forms of public protests (cf., Pisik, 2002; “Vietnam protests US catfish farmers’ antidumping petition,” 2002; Pennington, 2003; O’Toole, 2011) (Figure 2-31). Members of local governments and organized nonprofit groups drew attention to the plight of the working poor and newly unemployed (cf., Rupured, 2000; McKernan et al., 2003; Feeding America, 2012; Roberts et al., 2011). Gardeners and farmers participated in a movement to transform abandoned, open urban spaces into sites of food production (cf., North American Urban Agriculture Committee of the CFSC, 2003; Choo, 2011) (Figure 2-32).
Figure 2-31: Organized groups of people voiced their concerns about prevailing economic conditions in a series of nationwide public protests. At this site, individuals participate in Occupy Wall Street in New York City, October 2011.

Source: Shankbone (2011)

Figure 2-32: Urban farmers and community participants in West Philadelphia, Pennsylvania, transformed an abandoned brownfield into a space of food production.

Source: Mill Creek Farm (2011)
The election of “compassionate conservatives” and liberal policymakers contributed to a contradictory era of policymaking. This era was grounded in a political philosophy of responsibility and results coupled with a moral imperative to help citizens in need (Klein, 2013). It was characterized by a Republican led expansion of federal food assistance programs. During the seven year period between 2000 and 2006, the program experienced a consistent expansion. A majority of this expansion was led by the conservative Republican President G.W. Bush and occurred at a time in which Republicans dominated both bodies of Congress—the US House of Representatives and Senate (see Figure 2-8).

Through their efforts, the President and members of Congress enabled larger numbers of people to make use of food stamps. In 2002, members of Congress voted to enable larger numbers of working families to qualify on the basis of their incomes. It authorized income-qualified, able-bodied legal aliens to access the food stamp program, provided these aliens had lived in the US at least five years. It also made the supply available to all legal immigrants with qualifying disabilities and/or children (Farm Security and Rural Investment Act of 2002).

Following the election of a majority of Congressional Democrats, a conservative President Bush worked with Congress to enact legislation to reduce the social stigma associated with the use of food stamps. In June 2008, the Food, Conservation, and Energy Act authorized renaming the program to the Supplemental Nutrition Assistance Program (SNAP). It prohibited the issuance of paper food stamp coupon books and allowed families seeking assistance to sign their application using a recorded verbal assent over the telephone (Food, Conservation, and Energy Act of 2008).

A framework of political economy provides some insight into the history of the country’s food assistance programs. It suggests the performance of two relatively severe economic recessions prevented many people from purchasing adequate quantities of food. A volatile global commodity market created periods of agricultural surpluses and shortages. The country’s
election of compassionate liberal and conservative politicians encouraged larger numbers of people to participate in food assistance programs. Officials also changed the name of the country’s flagship program—the Food Stamp Program (FSP) to the Supplemental Nutrition Assistance Program, which potentially reduced the stigma associated with it. Finally, advocates in civil society drew attention to the plight of low-income and unemployed workers; they also engaged their own knowledge and creativity to help needy people access adequate quantities of food.

2.4 Summary

In summary, the FSP has experienced a steady expansion during the past six decades. Within this long-term trend, there are clearly identifiable periods of expansion and contraction. These periods coincide with the cyclical behavior of the economy, especially the country’s patterns of GDP and unemployment (Figures 2-1, 2-2, and 2-8).

In this chapter, I invoked the ideas of political economy to explain the differences among six periods of food assistance. I used these ideas to highlight the times in which the efforts of Democratic Administrations were resisted by politically conservative majorities in Congress, as happened in the cases of Presidents Roosevelt and Clinton. I also drew attention to the ways in which the efforts of Republican Administrations were challenged by a liberal Congressional majority, as happened in the case of President Reagan when Tip O’Neill was the leader of the House. I noted the times in which a desire to reduce a surplus of agricultural commodities was a factor influencing the outcomes of the country’s food assistance programs. Finally, I described the degree to which food security advocates were an integral part of the changes experienced by food assistance programs in the US. The data on food stamp usage allowed me to analyze geographical aspects of the consumption of food assistance and the characteristics of the
recipients of food aid. Here, I looked at food assistance from the viewpoint of supply; in the next chapter, I will look at aspects of demand for food assistance.

The existence of district periods of expansion and contraction of the FSP suggests that this kind of effort is not a secure or sound way to assure food security to the poor. The history also demonstrated the extent to which access to food assistance varied with several macro-economic indicators and structural aspects of society related to race, class, and political power. Collectively, these attributes of the history clearly demonstrate that access to food for the poor is determined at levels in which the poor have neither power nor agency.
Chapter 3

The Consumers of US Food Assistance

In the previous chapter, I invoked the ideas of political economy to explain the differences between six periods of food assistance. That discussion revealed that the US food stamp program (FSP) (now referred to as SNAP) has evolved beyond its original intended purpose as a temporary, emergency system of food provisioning. It also suggests this system has become a very important, permanent mechanism for feeding impoverished workers.

Throughout this explanation, I draw attention to a long-standing, acrimonious debate regarding US food assistance. This debate has been perpetuated by members of the Republican and Democratic political parties. In recent years, it has focused upon federal policymakers’ use of food assistance to help stimulate the economy during the most severe recession since 1929. Between 2008 and 2011, the Obama Administration advocated for measures designed to give money to low-income people, as they were believed to be the most willing to spend it right away (Tough, 2012). They believed such measures would yield the “most bang for the buck.”

The subsequent measures signed by the President prompted the average number of SNAP participants to rise from 28.22 million to 44.7 million people per month during the years of 2008 to 2011 (USDA, 2012g). These measures also led Republican Presidential Candidate Newt Gingrich to declare President Obama to be the “best food-stamp president in American history” in January 2012 (Bjerga and Oldham, 2012).

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10 In 2010 Mark Zandi, Chief Economist at Moody’s Analytics estimated that a dollar spent on food stamps will yield $1.74 of multiplier effect, the highest value of any stimulus measures being considered by the Obama Administration (Testimony of Mark Zandi before the House Budget Committee on July 1, 2010).  
11 In 2008, Congress enacted the Food, Conservation, and Energy Act; this law changed the name of the US Food Stamp Program (FSP) to the Supplemental Nutrition Assistance Program (SNAP). Due to the contemporary nature of the analyses, the remainder of this chapter will make use of the program’s new name.
Debates about food assistance raise questions about the long-term sustainability of the federal government’s programs. In its current form, SNAP is becoming increasingly more expensive to operate. The food security of low-income people is subjected to the ideological battles of the country’s two dominant political parties and in a very real way depends on which party is in power. Its participants are the victims of a politics of race and class in which claims about welfare dependency, entitlement mentality, and poor work ethic disrespect poor people and rob them of their dignity.

In this chapter, I consider the demand for food assistance by examining attributes of SNAP consumption. First, I look at the growth of SNAP over the years and raise questions about the long-term sustainability of the program. Then, I develop a series of contingency tables in order to construct statistical profiles of the households using the program.

I examine the demand for food assistance with three theoretical objectives in mind. First, I wish to understand if the statistical profile of a typical SNAP household matches that of prevailing public perceptions and stereotypes. Second, I wish to critically engage the social science practice of using contingency tables as devices for building theories of causation. This practice is consistent with that of post-structural theory which recognizes the role of larger social structures like race and class as causative factors in broader social problems but also recognizes that an exclusive focus on structures robs individuals of agency. Finally, I wish to distinguish the true attributes of food insecure people and households from stereotypes, since knowing who, exactly, lacks access to food will facilitate genuinely effective post-structural interventions (see Chapter 5).
3.1 Food Assistance: The Principal Programs

In considering the country’s demand for food assistance, it is necessary to consider the diverse variety of available programs. These programs include the Summer Food Service Program (SFSP), Commodity Programs,\(^{12}\) Child and Adult Care Food Program (CACFP), Women Infants and Children Program (WIC), School Breakfast Program (SBP), National School Lunch Program (NSLP), Special Milk Program (SMP), and the Supplemental Nutrition Assistance Program (SNAP). A majority of these programs are administered by the US Department of Agriculture (USDA).\(^{13}\) Each targets low-income people, especially members of groups perceived to be at-risk for poor nutrition (i.e., children and youth, pregnant and nursing mothers, senior citizens, residents of Indian Reservations, and individuals with disabilities). Programs operate at sites run by state and local governments, school districts, Indian tribes, and other organized nonprofit groups. Food is distributed in the form of a hot meal, commodity supplement, or electronic benefit transfer with little or no money supplied by the recipient.

In this chapter, I focus my attention on the country’s SNAP program. I choose to limit my analyses to this particular program for the following reasons: (1) its flagship status; (2) the strength of the correlation between its rates of use with that of the federal government’s other principal programs; (3) the similarities in the spatial distribution of the consumer demand for SNAP as well as other forms of food assistance.

First, SNAP is the country’s flagship food assistance program. In 2011, the program remains one of the federal government’s longest continuously operating food assistance programs. It assisted an average of 44.7 million people each month. It accounted for about 75

\(^{12}\) US Commodity Programs includes the Nutrition Services Incentive Program (NSIP), Food Distribution on Indian Reservations (FDIR), Commodity Supplemental Food Program (CSFP), The Emergency Food Assistance Program (TEFAP), and Charitable Institution Commodity Program (CICP).

\(^{13}\) With one exception, the US Nutrition Services Incentive Program (NSIP) is administered by the Administration on Aging; it is housed in the US Department of Health and Human Services. In this chapter, the NSIP is included in the category of Commodity Programs.
percent of the US Department of Agriculture’s (USDA) total expenditures for domestic food assistance programs (see Chapter 2).

Second, an analysis of state-level participation data indicates that SNAP participation is highly correlated with participation in the federal government’s other principal programs. As Table 3-1 illustrates, the values of Pearson’s correlation coefficient suggest a strongly positive correlation. The value of the coefficient indicates that the number of people participating in a state’s Supplemental Nutrition Assistance Program strongly correlates with the number of people participating in other principal food assistance programs. Specifically, these other programs include the Child and Adult Care Program (CACP), Women Infant and Children Program (WIC), School Meal Programs, and Supplemental Nutrition Assistance Program (SNAP).

<table>
<thead>
<tr>
<th>Correlations in state-level participation in principal US food assistance programs, FY 2011</th>
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<tbody>
<tr>
<td>CACP</td>
</tr>
<tr>
<td>CACP</td>
</tr>
<tr>
<td>WIC</td>
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<tr>
<td>School Meal Programs*</td>
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<tr>
<td>SNAP</td>
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</tbody>
</table>

*School Meal Programs include state-level participation data for the School Breakfast Program (SBP) and National School Lunch Program (NSLP)

Table 3-1: State-level SNAP participation data as compared with the other principal food assistance programs, FY 2011

Sources: USDA (2012c; 2012e; 2012f; 2012g; 2012h)

Finally, an analysis of state-level participation data suggests some regional clustering in the demand for US food assistance benefits. As Figure 3-1 illustrates, states with high rates of SNAP participation are concentrated in the US South and Southern Great Plains. These states also tend to have relatively high rates of school meal and WIC participation. States with the
highest rates of Child and Adult Care Food Program participation are concentrated in the Northern Great Plains and Northern Rocky Mountain regions. These states also tend to have relatively low to moderate rates of WIC and SNAP participation. Finally, states with the highest rates of WIC participation are concentrated in regions that encompass the US South, Southern Great Plains, Southwest, and West coast. On the West coast, states tend to have relatively low rates of participation in the school meals programs.

Figure 3-1: A comparison of state-level participation data suggests similarities in the regional distribution of consumer demand

Sources: USDA (2012c; 2012e; 2012f; 2012g; 2012h)
3.2 Unsustainability of SNAP

Maintaining a focus on SNAP, I shift my attention to issues of unsustainability. Here, I am most concerned with the long-term effects of increasing demand for food assistance. Throughout the decade of the 2000s and particularly with the onset of the Great Recession in 2008, the Supplemental Nutrition Assistance Program (SNAP) experienced a sizeable increase in participation. Beginning in 2007, the program added about 4.9 million more participants each year. In 2011 it assisted an average of 45 million people each month (see Chapter 2) about half of whom were children under the age of 18 years (USDA Office of Research and Analysis, 2011a).

As Chapter 2 showed, this sizeable increase resulted from a whole set of political and economic factors. Beginning in 2000, two relatively severe economic recessions contributed to widespread conditions of unemployment. Without jobs, many people lacked the income necessary to purchase adequate quantities of food. At the same time, a volatile global commodity market contributed to periods of agriculture surpluses and shortages. These market conditions encouraged USDA officials to make use of existing food assistance programs as a means of supporting domestic agricultural prices. Advocates in civil society helped draw attention to the plight of poor people and helped them more easily acquire and make use of their benefits. Finally, the election of compassionate conservative and liberal policymakers encouraged more people to apply for and receive benefits.

In this section, I identify and characterize the reasons why this sizeable increase may be unsustainable in the long-term. I have identified three key issues that threaten the program’s sustainability: financial conditions, Congressional politics, and social discourse. In its current form, the program is large, and it is increasingly more expensive to operate. Second, the ability of the program to provide food security to the country’s people is contingent upon whichever political party is in power. Finally, people actually receiving assistance are caught up in the
politics of race and class where frequent claims regarding welfare dependency, entitlement mentality, and poor work ethic disrespect poor people and rob them of dignity.

3.2.1 Issue I: Financial Conditions

In its current form, the Supplemental Nutrition Assistance Program is large and expensive to operate. In 2011, the program’s expenditures exceeded $75.3 billion dollars. It accounted for about 75 percent of the USDA’s expenditures for domestic food assistance programs. It provided assistance to an average of 44.7 million people each month (see Chapter 2).

A non-linear regression analysis illustrates the growing demand for SNAP benefits. Figure 3-2 shows temporal changes in the levels of government expenditure and average number of SNAP participants. While the exponential regression is a relatively poor fit to the data, the analyses suggest a relatively stable rate of growth, exceeding 7 percent each year. Even considering this conservative estimate, the analyses indicate current levels of expenditure and participation may be expected to double in about 8 to 10 years.
Figure 3-2: A non-linear regression analysis of the data on federal expenditures and participation shows the sizeable increase in demand since the program began in 1962.

Sources: Freeman (1964); Ellender (1967); Committee on Agriculture, Nutrition, and Forestry (1985); Fishback and Thomasson (2006b); USDA (2012g)

An examination of the system of government finance provides some insight into the reasons why SNAP may be considered financially unsustainable in the long-term. In the US, prevailing attitudes and beliefs in civil society help define what is considered an acceptable and appropriate level of federal government expenditure. The widespread adoption of these prevailing ideas about government expenditure impacts the level of political support for federally-funded programs. These prevailing ideas also contribute to policymakers’ decisions to increase and/or reduce the amount of money allocated to food assistance and agricultural adjustment programs.

Since 2009, a growing conservative populist movement has helped define what is considered an acceptable and appropriate level of government expenditure. This populist movement —the Tea Party—recruits members from the ranks of civil society and employs evangelical rhetoric to advocate their position (Fishman, 2012). They believe the policies of the
Obama Administration disproportionately serve the interests of poor people (“Tea Party Movement,” 2012). They seek to defend and protect the interests of the country’s people against a diversity of “conspirators,” especially Wall Street financiers, intellectuals, minorities, and immigrants. Finally, members advocate for a reduction in the size and scope of all domestic entitlement programs, including broad-based programs such as Social Security and Medicare (Fishman, 2012).

The rise of the Tea Party movement puts pressure on many policymakers to seriously consider changing existing levels of federal government expenditure. In 2010, the mid-term election of several Tea Partiers put pressure on Republican leaders to carry out promises to significantly reduce levels of government expenditure (“Tea Party Movement,” 2012). The appointment of Tea Party Representative Paul D. Ryan (R-WI) to the Republican Party’s 2012 bid for Vice-President “instantly made the campaign seem bigger and more consequential, with the size and role of the federal government squarely at the center of the debate” (Zeleny and Rutenberg, 2012: n.p.).

The widespread adoption of this brand of conservative populism has limited political support for the current level of the federal government expenditures including its food and non-food policy initiatives. Presently, this view guides discussions regarding the two proposed budgets for the federal government’s upcoming fiscal year. The Democratic President’s 2013 budget proposes a $520 billion savings in the level of the government’s total expenditures (Obama, 2012). Likewise, Congressional Republicans propose to reduce the government’s total budgetary expenditures by $5 trillion dollars, relative to the President’s budget (US House Budget Committee, 2012).

In embracing this view, members of Congress have proposed measures to reduce the amount of money allocated to federal agriculture surplus programs, including food assistance. Presently, two versions of the 2012 Farm Bill call for a reduction in the federal government’s
expenditures for the Supplemental Nutrition Assistance Program (SNAP) (Hamedy, 2012). A Senate measure proposes a $4.5 billion reduction in the federal government’s expenditures. Similarly, a House bill calls for a $16 billion dollar budgetary reduction to be enacted over a period of ten years. Both pieces of proposed legislation seek to cut costs through limiting state governments’ ability to easily coordinate a household’s receipt of SNAP benefits with the benefits available through other low-income assistance programs (FRAC, 2012a; 2012b).

Through their actions, members of Congress have also contributed to a new threshold in the politics of food assistance. This threshold may be identified as a powerful new block of Congressional Tea Partiers. These representatives work in the House and Senate and take an uncompromising stand in favor of restricting food assistance to the poor.

3.2.2 Issue II: Congressional Politics

In its current form, the Supplemental Nutrition Assistance Program is embroiled in the political debates of Democrats and Republicans. These debates focus upon the use of food assistance to help stimulate the economy during the most severe recession since 1929. The Democrats claim the recent increase in expenditures mitigated the effects of the financial crisis with every $1 billion increase creating or maintaining 18,000 full-time equivalent jobs and generating $1.79 billion in economic activity (cf., House Resolution 760). The Republicans claim the temporary increase to SNAP actually harmed the country’s low income people; it was too expensive, failed to keep the jobless rate below 8 percent, and promoted widespread dependency (cf., Keefe, 2009; Montgomery, 2012; “GOP Candidates Wade Into Food Stamp Debate,” 2012).
An analysis of these debates provides supporting evidence for this view. As Table 3-2 shows, the data indicate a shift in the pattern of SNAP participation and expenditures. Specifically, these data indicate an overall decline in participation and expenditure during the years in which Republicans controlled at least two of the three branches of the federal government. Between 1963 and 2011, a Republican-controlled government coincided with about 69 percent of periods of declining SNAP participation. It was also associated with about 62.5 percent of all the years that included reductions in the program’s budgetary expenditures.

<table>
<thead>
<tr>
<th></th>
<th>Years of Increase</th>
<th></th>
<th>Years of Decrease</th>
<th></th>
<th>All Years</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent of Total</td>
<td>Number</td>
<td>Percent of Total</td>
<td>Number</td>
<td>Percent of Total</td>
</tr>
<tr>
<td>Democrats</td>
<td>26</td>
<td>78.79%</td>
<td>5</td>
<td>31.25%</td>
<td>31</td>
<td>63.27%</td>
</tr>
<tr>
<td>Republicans</td>
<td>7</td>
<td>21.21%</td>
<td>11</td>
<td>68.75%</td>
<td>18</td>
<td>36.73%</td>
</tr>
<tr>
<td>Total</td>
<td>33</td>
<td>100.00%</td>
<td>16</td>
<td>100.00%</td>
<td>49</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

* By dominant political party, I refer to the party which has a majority in at least two of the three branches of the federal government, as of the day following an election in an election year.

Table 3-2: The influence of Congressional politics on SNAP participation, 1963-2011

Sources: House of Representatives (2012); US Senate (2012); Executive Office of the President (2012)

An examination of the system of Congressional politics offers some insight into why SNAP may be considered politically unsustainable in the long-term. Specifically, prevailing attitudes and beliefs in civil society help define the position advocated by the country’s dominant political parties. At the same time, the actions of party members occupying positions of leadership influence the prevailing level of political support for food assistance. Through this
performance, SNAP is held hostage as the country’s dominant policy party leaders influence the amount of money spent on food assistance (see Table 3-2).

Since the early 1980s, the hegemony of neoconservatism has influenced the longstanding views and understandings widely advocated by both of the country’s dominant political parties. In Chapter 2, I identified and described the ways in which this perspective influenced the economic and social policies of Republican policymakers during the early 1980s. I also looked at the ways in which it enabled a liberal President Clinton to declare an end to “welfare as we know it.”

At the same time, leaders in the country’s dominant political party leveraged political support for food assistance programs. In 1983, Republican Senator Robert Dole joined Congressional Democrats to oppose cuts to domestic food assistance programs (Pear, 1983). In 1988, a campaigning Republican Vice-President George H.W. Bush urged the country’s people to support programs that helped the poor, especially low-income children (Dowd, 1988). During the late 1990s, a Democratic Clinton Administration made a purposeful effort to help more people get food assistance benefits. The Administration supported legislation that restored benefits to eligible immigrants and helped qualify more working families (see Chapter 2).

Through their efforts, SNAP is held hostage as the country’s dominant party leaders determine the amount of money allocated for food assistance programs. Figure 3-3 shows the varying effects of Congressional politics even when the same political party supplies the dominant ideology. It shows rates of SNAP participation and expenditure varied widely each year in which Republicans controlled at least two of the three branches of the federal government. Like Table 3-2, it shows a Republican controlled federal government is more often associated with declines in rates of participation and federal expenditure. It also indicates that this pattern is not inevitable. During the six year period between 2001 and 2006, the program experienced a consistent expansion. This expansion was led by the Republican President G.W. Bush, who
advocated a political philosophy of compassionate conservatism—a view that emphasized responsibility and an obligation to help citizens in need (cf., Klein, 2013). It was facilitated by a relatively severe economic recession and volatile agricultural commodity markets. It was supported by the general public as well as a Republican controlled Congress\textsuperscript{14} (see Figure 3-3; Chapter 2 for a more detailed history of the time period).

\textsuperscript{14} During the 2001 and 2002 legislative sessions, an equal number of Democrats and Republicans occupied seats in the US House of Representatives. However, this analysis still classified these years as Republican controlled as members of the Republican Party dominated the Senate and Executive Office.
Figure 3-3: Annual percentage of change in SNAP participation and expenditures for all Republican-controlled federal governments, 1963-2011*

Sources: Freeman (1964); Ellender (1967); Committee on Agriculture, Nutrition, and Forestry (1985); Fishback and Thomasson (2006b); USDA (2012g); House of Representatives (2012); US Senate (2012); Executive Office of the President (2012)

*Change measured relative to the previous year
3.2.3 Issue III: Public Attitudes and Discourse

In thinking about issues of unsustainability, it is important to think about the extent to which The Supplemental Nutrition Assistance Program is caught up in long-standing attitudes and discourses about race and class. This portrayal makes use of stereotypes about poor people. It implies a majority of SNAP participants are people of color. It characterizes participants as individuals who lack a strong work ethic, prefer to live off the government’s money, and take unfair advantage of the program by lying, selling benefits, having children, and/or sneaking into the country (cf., Moses, 2012).

Two recent analyses evidence the prevalence of a racialized view of poverty (see Table 3-3). Conducted by Martin Gilens and Bas W. van Doorn, these analyses evidence the persisting association between poverty and people of color. In 1999, Gilen’s content analysis of the poverty coverage in *Time, Newsweek*, and *U.S. News & World Report* found African-Americans were overrepresented in the images of poor people published alongside poverty stories beginning in the mid-1960s. In 2012, van Doorn’s content analysis of the same publications found this trend persisted in contemporary reports, with African-Americans substantially overrepresented in the media’s images of the poor. At both times, the authors found whites comprised the majority of poor people and were underrepresented in the images of poverty stories. By over- and under-represented, the authors refer to the number of times a poor person of a particular race was pictured, relative to the actual racial breakdown of poor people.
Table 3-3: The prevalence of a racialized view of poverty as evidenced by Gilens (1999) and van Doorn (2012)

Sources: Gilens (1999); van Doorn (2012)
A racialized view of poverty is also evidenced in public opinion polls, illustrating the extent to which the public maintains negative attitudes about poor people. A 2009 survey of Political Ideology found 42 percent of respondents characterized immigrants as a “burden” because they take away jobs and abuse government benefits (Halpin and Agne, 2009). A 2011 survey of Racial Attitudes in America found 50 percent of white respondents believed blacks lacked the will power to pull themselves out of poverty. It also found 60 percent of white respondents believed somewhat or strongly that if blacks tried harder they could be just as well off as whites (Krysan, 2011).

An examination of this racialized view of poverty provides some insights into why SNAP may be considered socially unsustainable in the long-term. Namely, many notable public figures perpetuate a moral discourse about SNAP recipients that is constituted from ideas about race and class. The widespread prevalence of such views robs poor people of their dignity and makes them feel a sense of shame. However, it must be said that regardless of the public’s discourse, the country has always included a group of community leaders and activists who work for food security.

During the months of the 2012 Presidential Campaign, the country’s people experienced an increase in negative political rhetoric about the poor. Republican Presidential Candidate Newt Gingrich remarked that the African-American community should “demand paychecks and not be satisfied with food stamps” (Byers, 2012). Republican Presidential Nominee Mitt Romney remarked that 47 percent of the country’s people are “dependent upon the government…believe that they are victims…believe that government has a responsibility to care for them, [and]…believe they are entitled to health care, to food, to housing, to you name it” (Romney quoted in Hunt, 2012). Minnesota State Representative Mary Franson released a video in which she appeared to compare SNAP participants to animals (Siple, 2012). As she noted,
…last week [state legislators] worked on some welfare reform bills. And here…it’s kind of ironic…I’ll read you this…little funny clip…that we got from a friend. It says, ‘Isn’t it ironic that the food stamp program, part of the Department of Agriculture, is pleased to be distributing the greatest amount of food stamps ever? Meanwhile, the [National] Park Service, also part of the Department of Agriculture, asks us to please not feed the animals, because the animals may grow dependent and not learn to take care of themselves.’ Our reform bills are meant to bring people up out of the clutches of poverty. We want to provide a safety net, no longer a safety hammock… (Franson, 2012)

The widespread prevalence of such views imposes a sort of Foucaultian panoptic disciplinary grid over poor people. A California blogger reported (Newport Beach EBT, 2012) that she was “sooo nervous, and quite frankly, embarrassed to use [her SNAP benefits card] in public [for the first time].” Nick Newman (2010) asked his readers if he should “feel guilty about buying [his daughters] that traditional popcorn tin or whatever [for Christmas] on Uncle Sam’s…dime.” Diana Bauman (2013) wrote of her anxiety purchasing groceries. As she notes

…Although I was happy that these [grocery] stores accepted EBT, I still had a lot of anxiety using it. Every time I had to pull that card out, I could feel the pressure in my chest rise right up to my throat. My husband started going with me so that he could pay and take the pressure off of me…

It also robs poor people of their dignity and makes them feel a sense of shame. SNAP recipients are caricatured by the members of civil society such as journalists, politicians, researchers, assistance workers, and grocery store clerks. They also have to seek assistance from the very people who shame them. As blogger Dresden (2011) writes about her past experiences as a beneficiary,
Judgment. It’s everywhere. This was always a shock to me. There is a moment after you ring up your groceries when the cashier sees that you have a plastic card. They ask, “debit or credit?” You have to reply, “EBT”…it’s a change in the atmosphere—it’s subtle—but I felt it often enough to recognize it. Judgment [sic]. Not every cashier, not every store. But often enough that I knew which stores and which checkout lines to avoid…parallel to judgment, there are people that will attempt to shame you for being on food stamps. Heard the phrase “entitlement mentality”? Yup, that’s shaming.

Despite these prevailing views, members of civil society continue to work for food security. Advocates and community leaders labor at sites of food production such as kitchens, gardens, fisheries, and farms. They supply money, equipment, buildings, food, and other resources to the people and organized groups who distribute food assistance to those who need it. They volunteer at community- and faith-based sites of distribution, like food banks and community kitchens. They advocate for the production, consumption, and distribution of locally-grown produce at places like farmers’ markets and community cooperatives.

As important as SNAP is in the lives of low-income people, it is important to seek out long-term alternatives to the program. Presently, the program is not viable in the long run. Its level of spending is financially unsustainable. The amount of spending and political support for the program is contingent upon the dominant political party. Finally, its beneficiaries are positioned in a larger prejudicial discourse of race and poverty in which SNAP participants are widely perceived as the dependent “other”.
3.3 Consumers of SNAP

As the previous section evidences, prevailing attitudes and discourses help create a caricature of SNAP consumers. Most often, it is presumed a recipient is a person of color. Usually, the recipient is characterized as a black or African-American unmarried woman with children. More recently, she may also be identified as a Hispanic immigrant who has snuck into the country from Mexico or Central America. Economically, she is unemployed either by virtue of her own laziness or lack of employment opportunity. Often, she is not believed to be all that poor as she reportedly owns “luxury goods” like a car, computer, or cell phone. Geographically, she lives in a metropolitan locale, usually an inner-city neighborhood.

But, is this really the profile of a ‘typical’ SNAP recipient? In this section, I apply the probability theorem of statistical independence to examine the socio-economic attributes of households receiving SNAP benefits. This exploration provides me with a systematic way of situating and contextualizing the people who actually receive food assistance benefits. It also serves as a basis for identifying and characterizing human agency. In this context, I use agency to refer to the capacity of a person and/or organized group to create, develop, and maintain a more sustainable alternative to the federal government’s food assistance programs.

To test the prevailing view, I draw upon two unique sets of data. These include the 2010 American Community Survey (ACS) 5-year estimated dataset\(^{15}\) and the Supplemental Nutrition Assistance Program Quality Control (QC) database\(^{16}\). The American Community Survey dataset is compiled by the US Census Bureau. It includes the results of an ongoing survey of US households (US Census Bureau, 2012). It represents an average of all responses supplied by households surveyed in the five year period ending December 2010. The QC database is compiled by Mathematica Policy Research for the USDA’s Food and Nutrition Service (FNS). It

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\(^{15}\) To view the original datasets, please see US Census Bureau (2010f; 2010h; 2010i; 2010j; 2010l).

\(^{16}\) For these datasets, please view the aggregated data tables included in USDA Office of Research and Analysis (2011a), especially Table A.23 (59).
represents an edited version of a raw datafile collected each month by state SNAP agencies to ensure the accuracy of the state’s eligibility determinations and distribution of benefits (USDA Office of Research and Analysis, 2011b).

### 3.3.1 A Household and its Members—definitions

In developing my profile, I make use of the key concepts of household, family, householder, and participant. By household, I refer to an organized unit of people who purchase, prepare, and share meals together to eat at home. By family, I refer to a unit of two or more people related by birth, marriage, and/or adoption. By householder, I refer to the adult for whom the relationship of all other members is recorded. By participant, I refer to all the people who actually receive SNAP benefits. Sometimes, I may also refer to participants as recipients or beneficiaries.

A household represents the most common unit of SNAP consumers. These units are comprised of all the people who occupy a residence. Each household includes all related and unrelated individuals who share a living space, such as spouses, children, grandparents, domestic partners, roomers, and live-in attendants. Usually, at least some of these people purchase, prepare, and share meals with each other (cf., USDA, 2013).

Often, a household includes the members of a family. A family is comprised of two or more individuals related by birth, marriage, and/or adoption. Generally, the family includes people such as spouses or children. It may also include the members of subfamilies, such as a young married couple sharing a living space maintained by the wife’s parents. In 2010, it excludes individuals who live alone and those who reside exclusively with one or more non-relatives, such as people living in domestic partnerships (US Census Bureau, 2010b).
A householder represents the most commonly referenced member of a household or family. A householder is the adult for whom the relationship of all other individuals comprising the unit is recorded. Usually, this adult is the person in whose name the living space is owned, rented, and/or maintained. However, it may also include any adult member of the household and/or family, excluding roomers, boarders, and/or paid employees (US Census Bureau, 2010b).

Finally, a participant represents the most basic unit of a SNAP household and/or family. Participants include the individual members of households and families. These are the people who actually receive the SNAP benefits. They are also the ones who purchase, prepare, and/or eat meals at home (cf., USDA, 2013).

3.3.2 Social Characteristics of Participating Households

In this section, I examine the social attributes of participating households, including race, family structure, and composition. Unless otherwise noted, I begin with the raw data representing the 2010 ACS 5-year estimates of participating and non-participating households with SNAP status identified in the rows and the social attributes represented in the columns (see Tables 3-4 to 3-11). I then normalize the raw data by cells, rows, and columns. Through this process, I am provided three valuable pieces of information. First, I am afforded a breakdown of participation across and within the different attributes. I present these data with a series of tables and graphs to characterize and describe the profile of a real ‘typical’ SNAP participant. I also reference these percentages as probabilities to evidence the contingent effect of the independent variable (or social attribute) on SNAP participation.
3.3.2.1 SNAP Households by Race

I begin my examination of the social attributes by looking at the attribute of race. These analyses of race are based upon categories identified by the US Census Bureau. I then aggregate these categories to highlight the three categories of race most commonly related in the prevailing discourse about SNAP recipients—white, black/African American, and all other races. On occasion, I use the term “households of color” to refer to all the households that identify as non-white. To avoid confusion, I maintain my use of the term “household” through my analyses. In the instance of race, however, it is important to understand the original data actually refer to the racial category with which the householder identifies. In some cases, the race of the entire household may actually be different from that of the householder.

In looking at the 2010 ACS dataset, I find about 10.5 million of the 114.2 million US households received SNAP benefits. Of these 10.5 million households, about 6.2 million were white and 2.9 million were black/African-American. The remaining 1.4 million households were neither white nor black. I use the variable all other races to identify these households (see Table 3-4).

| Characteristics of US Households, by SNAP Participation and Race of Householder* |
|--------------------------------------|-----------------|-----------------|-----------------|-----------------|
| SNAP Household                      | 6,248,653       | 2,943,153       | 1,391,914       | 10,583,720      |
| Non-Participating Household         | 82,797,458      | 10,676,802      | 10,178,016      | 103,652,276     |
| Total                               | 89,046,111      | 13,619,955      | 11,569,930      | 114,235,996     |
| *ACS 2010 Data                      |                 |                 |                 |                 |

Table 3-4: Characteristics of US households, by SNAP participation and race

Source: US Census Bureau (2010i)
To examine the contingency of the variables, I apply the mathematical concepts of independent events and conditional probability. By independent events, I refer to the idea that a household’s race provides absolutely no information about whether or not the household receives SNAP benefits as the two variables have no influence on each other (cf., Easton and McColl, 1997). By conditional probability, I refer to the likelihood that a household may be identified with a particular race given the knowledge that this household already receives SNAP benefits (cf., “Conditional Probability,” n.d.).

Independent events and conditional probabilities may be derived from the data of a contingency table. As Table 3-5 shows, a contingency table is a statistical table of data elements. It classifies observed frequencies of a particular attribute according to categories. In its rows, the variable named SNAP Households and its complement (Non-Participating Households) represent the frequency at which US households receive (or do not receive) SNAP benefits. In its columns, a second variable and its complements specify the frequency in which a household selected at random may be characterized by a particular race (White, Black/African American, or Other). In its cells, a numerical value represents the frequency at which the variable of the particular row and column occur at the same time.

Taking a look at Table 3-5, the data highlight some key characteristics of US households. Looking at the rows, the data show the use of SNAP with a little more than 9 out of every 100 households purchasing their groceries with SNAP benefits. Moving to the columns, the data show only a small proportion of people of any given race actually receiving SNAP benefits. This was particularly true for households of color. In 2010, less than 4 in 100 US households of color were receiving SNAP benefits including Black/African Americans and all other races (see Tables 3-5 and 3-6). This finding is very interesting as it undermines prevailing ideas about people of color, poverty, and welfare.
Table 3-5: Frequency of US households, by SNAP participation and race

| Characteristics of US Households, by SNAP Participation and Race of Householder* |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|
|                                | White           | African American| All Other Races | Total           |
| SNAP Household                  | 0.0547          | 0.0258          | 0.0122          | 0.0926          |
| Non-Participating Household     | 0.7248          | 0.0935          | 0.0891          | 0.9074          |
| Total                           | 0.7795          | 0.1192          | 0.1013          | 1.0000          |

*ACS 2010 Data

Source: US Census Bureau (2010i)

Returning to Table 3-5, it is possible to use the probability theorem of statistical independence to see if a household’s race provides any information about whether it will receive SNAP benefits. I perform this test by checking to see if the probability of the occurrence of both attributes (race and SNAP participation) is equal to the product of the probabilities of the two individual attributes. Mathematically, I express this idea using the following formula:

\[ p(SNAP \cap RACE) = p(SNAP) \cdot p(RACE) \]

A quick calculation reveals a household’s race does provide some information regarding the likelihood of its SNAP usage. Let’s take a look at the likelihood of SNAP usage among white households. As Table 3-5 shows, the probability of randomly selecting a white household that receives SNAP out of all the US households equals \( p(SNAP \cap WHITE) = 0.0547 \). Likewise, the probability that my randomly selected household receives SNAP benefits equals \( p(SNAP) = 0.0926 \), and the probability that it identifies as white equals \( p(WHITE) = 0.7795 \). Through performing the calculation, I find the variables are not independent of each other as \( p(SNAP \cap WHITE) = 0.0547 \neq p(SNAP) \cdot p(WHITE) = 0.0926 \cdot 0.7795 = 0.0750 \). I also find repeating this calculation for Black/African-American yields a similar result with \( p(SNAP \cap BLACK) = 0.0258 \neq p(SNAP) \cdot p(BLACK) = 0.0926 \cdot 0.1192 = 0.0110 \).
To ensure these findings are correct, I next normalize the data by rows. Table 3-6 shows the data processed across the racial categories, so each row adds up to 1.00 (or 100 percent). Like Table 3-5, the rows and columns still represent the likelihood that a household would be identified by the particular attributes and complements. However, the cells specify the likelihood that a household would be characterized by a particular race, given it already receives (or does not receive) SNAP benefits (see Table 3-6).

After normalizing the data by rows, I see a breakdown of households by the attribute of SNAP participation. This breakdown shows a majority of all US households identified as white (nearly 80 percent). It also shows that this majority is represented in the group of households receiving SNAP benefits with whites representing more than half of all participating households. Mathematically, this indicates a household selected at random from a group SNAP recipients was more likely to be white than non-white in 2010. The selected household was also more than twice as likely to be white than black/African-American (see Table 3-6).

| Share of Participating and Non-Participating Households, by Race of Householders* |
|---------------------------------|-----------------|-----------------|-----------------|----------------|
|                                 | White           | Black/           | All Other Races | Total          |
| SNAP Household                  |                 | African American|                 |                |
| 0.5904                          | 0.2781          | 0.1315          | 1.0000          |
| Non-Participating Household     | 0.7988          | 0.1030          | 0.0982          | 1.0000         |
| Total                           | 0.7795          | 0.1192          | 0.1013          | 1.0000         |

*ACS 2010 Data

Table 3-6: Frequency of race, by participating and non-participating households

Source: US Census Bureau (2010i)

Since the rows in Table 3-6 sum to 1.00 (or 100 percent), I use the probability theorem of conditional probabilities to verify if a household’s race actually does provide information about whether it will receive SNAP benefits. I perform this test by looking to see if the probability of the occurrence of both attributes is equal to the product of the probabilities of SNAP participation.
and race, given a randomly selected household already receives SNAP benefits. Mathematically, I express this idea with a second formula:

\[ p(SNAP \cap RACE) = p(SNAP) \times p(RACE | SNAP) \]

A second calculation confirms that a household’s race provides some information regarding the likelihood of its receipt of benefits. As we did earlier, let’s take a look at the likelihood that a randomly selected US household was white and getting SNAP benefits. As Table 3-5 shows, the probability of randomly selecting a white household that receives SNAP out of all the US households is still \( p(SNAP \cap WHITE) = .0547 \). It also shows the probability this household was receiving SNAP \( p(SNAP) = .0926 \). Finally, Table 3-6 shows the probability our randomly selected household was white, given that it was getting SNAP benefits \( p(WHITE|SNAP) = .5904 \). In carrying out the arithmetic, I validate my previous calculation and confirm the two attributes are not independent of each other as \( p(SNAP \cap WHITE) = .0547 = [p(SNAP) \times p(WHITE|SNAP) = .0926 \times .5904 = .0547] \). Again, I find the outcomes are similar when the calculation is repeated for the category of black/African American as \( p(SNAP \cap BLACK) = .0258 = [p(SNAP) \times p(BLACK|SNAP) = .0926 \times .2781 = .0258] \).

I then look at the data by columns. Table 3-7 shows the data processed across the racial categories, so each column adds up to 1.00 (or 100 percent). These data indicate a high likelihood that a randomly selected black/African American household would use SNAP benefits to buy groceries. In 2010, slightly more than 2 in 10 black/African American households received SNAP benefits. This rate of participation was quite high. In fact, it exceeded that of white households (< 1 in 10) and all other races (1.2 in 10) (see Table 3-7).
Table 3-7: Frequency of SNAP participation, by race

| Characteristics of US Households, by SNAP Participation and Race of Householder* |
|--------------------------------------|------------------------------|-----------------|-----------------|------------------------------|
| SNAP Household | White | Black/ African American | All Other Races | Total |
| Non-Participating Household | 0.0702 | 0.2161 | 0.1203 | 0.0926 |
| Total | 0.9298 | 0.7839 | 0.8797 | 0.9074 |
| *ACS 2010 Data | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

As before, I use the probability theorem of conditional probabilities to confirm that a household’s race actually does provide information about whether it will receive SNAP benefits. I perform this test by looking to see if the probability of the occurrence of both attributes is equal to the product of the probabilities of race and SNAP participation, given a randomly selected household of a particular race. Mathematically, I express this idea with a formula similar to that of the row analyses:

\[ p(SNAP \cap RACE) = p(RACE) \cdot p(SNAP|RACE) \]

Again, my calculation confirms the contingency of the two variables SNAP participation and race. Like the row analyses, Table 3-5 shows the chance a randomly selected US household was white and used SNAP benefits = \( p(SNAP \cap WHITE) = .0547 \). It also shows the chance this randomly selected household was white = \( p(WHITE) = .7795 \). As Table 3-7 shows, the likelihood that a randomly selected household was getting SNAP benefits, given that it was white = \( p(SNAP|WHITE) = .0702 \). In carrying out the arithmetic, I validate my previous calculations and confirm the two attributes are not independent of each other as

\[ p(SNAP \cap WHITE) = .0547 = [p(WHITE) \cdot p(SNAP|WHITE)] = .7795 \cdot .0702 = .0547. \]

Once again, I get a similar outcome when I repeat the calculation for the racial category of
black/African American as \( p(SNAP \cap BLACK) = 0.0258 = [p(BLACK) \times p(SNAP|BLACK) = 0.1192 \times 0.2161 = 0.0258]. \)

As a final check, I perform a chi-squared test on the SNAP X RACE data. A chi-squared test compares my observed data with a model that distributes the data according to the expectation that the variables are independent (Light, 2008). Tables 3-8a and 3-8b show the original, observed dataset side by side with a table of expected values. By expected values, I refer to the values that ought to occur given that race is not a contingent factor. These values are derived on the basis of the frequency with which all US households make use of SNAP benefits, which Table 3-5 shows to be about 9.26 percent of households (or 0.0926). In this instance, it would be expected that about 9.26 percent of all white households and the same percentage of black/African American households would be receiving SNAP benefits if race was not a contingent factor.

As Tables 3-8a and 3-8b show, the observed and expected values are different. This confirms the contingency of the variables. Specifically, the model of independence shows a fewer number of households of color were expected to receive SNAP benefits. Likewise, it predicts about 2 million more white households were expected to receive SNAP benefits, relative to those who were observed to receive these benefits in 2010.
Table 3-8: (a) Observed characteristics of US households by SNAP participation and race; (b) Expected characteristics of US households by SNAP participation and race in the event the variables were found independent of each other.

Source: US Census Bureau (2010i)
Returning to Table 3-8a and 3-8b, it is possible to use a single value to determine if the observed data are significantly different from what is expected. I calculate this chi-squared value by deriving new values for each of the cells contained in Tables 3-8a and 3-8b then adding them all up. For each cell, I subtract the expected value from that observed and square this residual to get rid of any negative values. I then divide by the expected count to normalize the bigger and smaller numbers in the dataset. Finally, I sum up all the new values to get one grand total. Mathematically, this process may be represented with the following equation:

$$X^2 = \sum_{i=1}^{n} \frac{(O_i - E_i)^2}{E_i}$$

Table 3-9 provides the results of this process with the sum of squares presented in the lower, right hand corner of the table.

| Characteristics of US Households, by SNAP Participation and Race of Householder* |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|
|                                 | White           | Black/White     | All Other Races | Total           |
| SNAP Household                  | 485,472         | 2,240,144       | 95,520          | 2,821,136       |
| Non-Participating Household     | 49,571          | 228,736         | 9,753           | 288,060         |
| Total                           |                 |                 |                 | 3,109,197       |
| *ACS 2010 Data                  |                 |                 |                 |                 |

Table 3-9: Results of the residual calculation process. The sum of squares is derived from these cells. It is shown in the lower right hand corner.

Source: US Census Bureau (2010i)

I then determine my standard for comparison. This standard is called a p-value. This value represents the probability that the difference in the observed values from that expected is due to chance alone. It may be looked up in a chi-squared distribution table after determining the
degrees of freedom\textsuperscript{17} and associated probability value which in this case is $p < 0.01$\textsuperscript{18} (McLaughlin and Noel, 1996).

I then compare my chi-squared value of 3,109,197 to a standard $p$-value of 13.28. As my chi-squared value is greater than 13.28, the chi-squared distribution table shows there is a very small chance that the deviation in the two datasets can be explained by chance alone (less than 1 percent). This finding indicates that one or more factors account for the large differences in the expected and observed datasets and confirms the findings of the previous two analyses—the attributes of race and SNAP participation are not independent of each other.

Aside from thoroughly demonstrating the contingency of the variables, this analysis of probabilities highlights an interesting relationship between food assistance and agency. It indicates a high likelihood of SNAP use among randomly selected households who happen to identify as black/African American (0.216). However, it also suggests this identification offers little agency, as it is not a variable controlled by the members of the household.

It also de-legitimates racial stereotypes about SNAP recipients. As Table 3-6 shows, the stereotype of the typical recipient household as black/African American is wrong, as whites actually account for the largest group of SNAP recipients. It indicates that a randomly selected household that receives SNAP benefits is more than twice as likely to identify as white (0.59) than black/African American (0.27).

These two findings highlight an interesting relationship between race and food insecurity. This includes the idea that food insecurity does not seem to discriminate on the basis of race. In

\textsuperscript{17} The degrees of freedom may be calculated by subtracting the number of categories by 1. In this case, the original dataset has 5 categories of attributes; therefore the data have 4 degrees of freedom.

\textsuperscript{18} The relative standard used in social research is $p < 0.05$. This value represents the probability that the deviation of the observations from that expected is due to chance alone will occur 5 percent of the time or less (cf., McLaughlin and Noel, 1996). For this test, I am using the $p$-value of 0.01, meaning that a random deviation of the observations from that expected will occur 1 percent of the time or less. It is also important to remember that if the calculated chi-square value for the dataset is greater than 0.01, then it may be presumed that the household’s race does not provide any information whatsoever about whether it will receive SNAP benefits.
2010, white households in America were just as likely to struggle with issues of food insecurity as black households.

3.3.2.2 SNAP Households by Type

Not only are SNAP households characterized erroneously in terms of race, it is widely believed single mothers typically personify the recipients of food assistance programs. In this section, I examine the extent to which single-woman headed households are the recipients of SNAP benefits. I look at the attributes of children and motherhood in the following two sections. As in my previous analysis of race, I use the counts provided in the 2010 5-year estimated ACS dataset of SNAP households. I present these data according to the types of households dominant in the debates about food assistance—those headed by heterosexual married couples, those headed by single women, and all other types including single men, people living alone, and those living with non-relatives (see Table 3-10a). I then break down these data into the cells, rows, and columns to identify and describe the profile of a typical SNAP participant (see Tables 3-10b to 3-10d).

For brevity, the remainder of my sections in this chapter will not detail my application of the probability theorem of statistical independence. However, it should be noted that each of the remaining variables detailed in this chapter was found to provide clues regarding the likelihood of a household’s SNAP usage. Likewise, the corresponding chi-squared analyses found there was very little likelihood—less than 1 percent— that the deviation in the observed and expected datasets could be explained by chance alone.
Table 3-10: (a) Characteristics of US households by SNAP participation and household type; (b) Frequency of US households by SNAP participation and household type; (c) Frequency of household type by participating and non-participating households; (d) Frequency of SNAP participation by household type

Source: US Census Bureau (2010f)
I begin my analysis of SNAP households by examining the 2010 ACS dataset. As Table 3-10a shows, households headed by single women comprised the largest number of SNAP recipients. In 2010, about 14.4 million of the country’s 114.2 million households were headed by single women. Of these households, about 4.2 million received SNAP. While these households represented the largest group of beneficiaries, it is important to note that a larger number of single woman headed households did not receive SNAP benefits (about 10.2 million) (see Table 3-10a).

In other words, the data show a majority of participating households were headed by single women, but these households accounted for a relatively small share of all US households. Table 3-10b presents the data by cells, showing that only a small share of US households actually receives SNAP benefits. This was particularly true for those headed by single women. In 2010, fewer than 4 in every 100 of the country’s households were receiving SNAP benefits and headed by a single woman (see Table 3-10b).

To determine whether single women are typical of most participants, I normalize the data by rows. Returning to Table 3-10c, the data are processed across the categories of participant and non-participant households, so each row sums to one hundred percent (or 1.00). These data show nearly three-quarters of all households getting SNAP were headed by people who were not involved in heterosexual marriages—these households were headed by single men and women, people living alone, and those living with non-relatives. Mathematically, this suggests a household randomly selected out of a group of SNAP recipients was least likely to be headed by a heterosexual married couple (0.2550). It was just slightly more likely to be headed by a single woman (0.3930) than a single man, individual living alone, or unrelated adult (0.3520) (see Table 3-10c).

I then normalize the data by columns to determine the likelihood of participation among the households headed by single women. Table 3-10d shows the data processed across the different family types, so each column sums to 1.00 (or 100 percent). These data show the high likelihood of participation among the members of single woman households. In 2010, nearly 3 in
10 households headed by a single woman received SNAP benefits. In fact, this rate of participation was six times that of households headed by heterosexual married couples (see Table 3-10d).

Through examining the rows, columns, and cells, I find that single women householders typify the profile of a recipient household. My analysis of the rows shows participating households are most likely to be headed by single women (see Table 3-10c). Further, my analysis of the columns also shows there is a very good chance that residents of single woman headed households will make use of food assistance (see Table 3-10d). However, I also find the stereotype of the single-woman household living on welfare to be wrong. My analyses of the cells showed most of the country’s households headed by single women are not receiving government benefits. In 2010, nearly three-quarters of all single women headed households were buying groceries without SNAP benefits (see Table 3-10b).

While my findings partially support the existing stereotypical profile, it is important to note that the existing stereotype does not help recipient households improve their food security. The prevailing discourse presumes a SNAP household is headed by a single mother who is poor, unmarried, and black. It is enmeshed in ideas about morality, race, class, and gender. It does not empower single-women recipient households, nor does it help them reduce their need for SNAP benefits. Further, it refuses to acknowledge the structural aspects of an economy that has never employed one-hundred percent of the available workers and has systematically discriminated against racial minorities and women in the labor market.

It is also important to note that marriage is not the sole answer to this problem. Statistics do support the view that rates of SNAP participation are far lower for heterosexual married couples. However, the problem of food insecurity experienced by households headed by unmarried women cannot be engaged through moralizing lectures on the virtues of heterosexual marriage; it results from the over-layering of several factors such as unemployment, underemployment, underpayment, and discrimination on the basis of race, gender, and sexual
orientation. As these are fairly enduring and permanent aspects of US society, it is important that food security not be held hostage to circumstances that are beyond the control of individuals and are unlikely to change in the foreseeable future.

3.3.2.3 SNAP Households by the Presence of Children

This section looks at the presence of children in SNAP households, as food security is of the utmost importance to children. I look at participation across and within two categories of households identified by the US Census Bureau—households with children and childless households. Throughout this analysis, I use the term child to identify any person younger than 18 years of age residing in a housing unit and/or group quarters such as a residential youth facility (cf., US Census Bureau, 2010b).

In Table 3-11a, I continue my use of the counts supplied by the 2010 estimated ACS dataset of SNAP households. I present these data according to the presence and absence of children in the household. I also present my findings in a series of tables to evidence the profile of a typical SNAP participant and show the contingent effects of the presence of children on SNAP participation (see Tables 3-11b to 3-11d).
Table 3-11: (a) Characteristics of US households by SNAP participation and presence of children; (b) Frequency of US households by SNAP participation and presence of children; (c) Frequency of children present by participating and non-participating households; (d) Frequency of SNAP participation by presence of children.

Source: US Census Bureau (2010f)
I begin my analysis with an examination of the 2010 ACS dataset. As Table 3-11a shows, households with children accounted for the largest number of SNAP recipients. In 2010, about 38.8 million of the country’s 114.2 million households included people less than 18 years of age. About 6.1 million children of these households received SNAP benefits. Another 32.6 million households included children but did not receive SNAP benefits in 2010.

As the data show, a majority of recipient households include children, but these households represent a relatively small share of all US households. Table 3-11b presents the data by cells. It indicates that a household selected at random from a group of recipients was more likely than not to include children. However, most households with children were not likely to use SNAP benefits. In 2010, only about 34 out of every 100 US households included at least one child. Of these 34 households, slightly more than 5 received SNAP (see Table 3-11b).

To see if households with children typify SNAP recipients, I present the data by rows. Table 3-11c shows the data processed across the categories of participating and non-participating households, so each row sums to 1.00 (or 100 percent). These data indicate that households with children accounted for a minority of all US households and a majority of SNAP recipients. In 2010, nearly 6 out of every 10 recipient households reported the presence of at least one child. Mathematically, this suggests a household randomly selected out of the group of SNAP recipients was almost 1.5 times more likely than not to include a child (see Table 3-11c).

I also present the data by columns to determine the likelihood that a household with children will receive SNAP benefits. Table 3-11d shows the data processed across the categories of households, so each column sums to 1.00 (or 100 percent). These data show a high likelihood of recipients among all the US households with children. In 2010, more than 1 in 10 of all US households with children received SNAP benefits. This rate of participation was more than 2.5 times larger than that of childless households (see Table 3-11d).

An examination of the rows, columns, and cells finds households with children represent the largest number and share of all recipient households. In 2010, households with children
accounted for more than 57 percent of all households receiving benefits. These recipient households represented more than 5 percent of all US households (or about 6.1 million households).

The presence of children raises the issue of food insecurity to another level. Specifically, these findings point to the need to separate the issue of food security from wider discussions of poverty, employment, race, gender, and family structure, as these issues have no resolution in the foreseeable future. Existing research shows food insecurity adversely impacts the health and development of children’s bodies. It is associated with poor academic performance, poor social skills, anxiety, depression, chronic illnesses, behavioral problems, and life events such as abuse and out of home placements (cf., Weinreb et al., 2002; Jyoti et al., 2005). Its most severe manifestation, malnutrition, is recognized as a cause of physical, sensory, and intellectual disabilities (Groce et al., 2013).

### 3.3.3 Economic Characteristics of Participating Households

Continuing my examination of participating households, I determine whether the ‘typical’ economic circumstances of recipient households match those of the prevailing view. As in the previous series, I begin with the raw data representing the 2010 ACS 5-year estimates of participating and non-participating households with SNAP status identified in the rows and the economic attributes represented in the columns. I then normalize the raw data by cells, rows, and columns. In my analysis of poverty, I engage the ACS 5-year estimates as well as the USDA’s 2010 Quality Control household dataset to show the severity of recipients’ poverty.
3.3.3.1 SNAP Families by Workforce Participation

It is widely believed that most recipients do not participate in the workforce. In this section, I examine the workforce participation of recipient families. As in my previous series of social attributes, I use the counts provided in the 2010 5-year estimated ACS dataset of SNAP households, which includes data about the labor force participation of US families. I also break down participation across and within the two categories of families widely discussed in the debates about food assistance—working and non-working families. As before, I present my findings in a series of tables.

It is important to note that these analyses draw upon the US Census Bureau’s definition of a worker. In 2010, the US Census Bureau defined a worker as a member of the country’s labor force. This category included all the members of a family who performed labor for pay, profit, or furthering a family-owned enterprise for the period of at least one week in the past year. It included all those laboring as civilian employees, self-employed people, and active duty military personnel. It also included all those who were temporarily not performing labor for wages due to their receipt of employer-sponsored benefits such as vacation time or sick leave, as well as those who worked without pay on a family-owned farm or business. This group of people excluded all children who were less than 16 years of age. It also excluded all the members of a family whose sole activity consisted of work around the house and/or unpaid volunteer work for religious, charitable, or other non-profit groups (US Census Bureau, 2010b).

It is also important to note that these tables provide counts of families and not households. Recall, a family includes those people living in the same household who are related by birth, marriage, and/or adoption. It excludes all people who live alone and those who reside exclusively with one or more non-relatives, such as people living in same-sex relationships and domestic partnerships (US Census Bureau, 2010b).
Table 3-12a shows the counts of working and non-working families as indicated by the 2010 ACS 5-year dataset of SNAP households. Tables 3-12b, 3-12c, and 3-12d show the data broken down into the cells, rows, and columns. These tables evidence the profile of a typical SNAP participant and show the contingent effects of labor force and SNAP participation. In examining these tables, it is important to keep in mind that a working family includes a family in which at least one member is a worker. It is also important to note that the exclusion of people living alone and non-family households makes the total number of US families smaller than the total number of households.
Table 3-12: (a) Characteristics of US families by SNAP and labor force participation; (b) Frequency of US families by SNAP and labor force participation; (c) Frequency of labor force participation by participating and non-participating SNAP families; (d) Frequency of SNAP participation by labor force participation

Source: US Census Bureau (2010j)
I begin my analysis with an examination of the 2010 ACS dataset. As Table 3-12a shows, working families actually accounted for the largest number of SNAP recipients. In 2010, about 66 million of the country’s 76.3 million families had at least one working person. Of these, about 5.9 million of them received SNAP benefits. Another 60.1 million working families did not receive SNAP benefits.

The data also show that working families comprised the greatest share of SNAP recipients in 2010, but these families represented a small share of all US households. Table 3-12b shows the data analyzed by cells. It shows that only about 10.03 percent of all US families received SNAP benefits. Of these beneficiaries, a majority were working families. However, most working families were not likely beneficiaries. In 2010, less than 1 out of every 10 US families worked and received SNAP benefits (see Table 3-12b).

To determine whether most recipient families work, I analyze the data by rows. Table 3-12c shows the data processed across the categories of participating and non-participating families, so each row sums to 1.00 (or 100 percent). These data indicate a majority of all US families work, including participating and non-participating families. In 2010, more than 86 percent of all US families participated in the workforce; among families receiving SNAP, this rate was slightly lower--a little more than 77 percent. Mathematically, this suggests a family selected out of a group of SNAP recipients was over 3 times more likely to work than not work (see Table 3-12c). This finding is very interesting, as it runs counter to prevailing ideas about unemployment and SNAP participation.

I then process the data by columns to determine the likelihood of SNAP participation among the working and non-working families. Table 3-12d shows these data, so each column sums to 1.00 (or 100 percent). The data shows the high likelihood of participation among non-working families. In 2010, more than 17 out of every 100 non-working families received SNAP benefits. This rate of receipt was nearly twice that of working families (see Table 3-12d).
An examination of the rows and cells finds most recipient families participate in the labor force. My analysis of the cells shows there are few US families who are not participating in the workforce and even fewer of them are getting food assistance benefits (see Table 3-12b). Likewise, my analysis of the rows shows few non-working families receive SNAP benefits. In 2010, less than 25 percent of all participating households had no working members (see Table 3-12c).

Likewise, a look at the columns highlights an interesting relationship between food assistance and agency. It indicates a high likelihood of SNAP use among randomly selected non-working families (0.1718). However, it also indicates that this knowledge of labor force participation offers little agency as it is a variable over which many families have little control, especially in this time period of Great Recession.

Collectively, these two findings suggest a relationship between labor force participation and food insecurity. This includes the idea that food insecurity does not discriminate on the basis of labor force participation. In 2010, both working and non-working families struggled with issues of food insecurity.

### 3.3.3.2 SNAP Households by Poverty

In this second analysis in the series, I look at the poverty of SNAP households. I define poverty as the money income situation of the householder relative to a threshold outlined by the federal government. In this case, households are considered “poor” when the total income of the family’s members is less than a level of income believed necessary for the basic necessities of life such as food, clothing, shelter, and healthcare. In 2010, poverty was determined strictly on the basis of family income. It varied by a family’s size, number of related children, and age of the
householder. It also excluded the income of any non-relatives who lived in the home (US Census Bureau, 2010b).

As in my previous analyses, I begin with the counts provided in the 2010 5-year estimated ACS dataset of SNAP households. I present these data according to the poverty status of the household (see Table 3-13a). I also present my findings in a series of tables to evidence the profile of a typical SNAP participant and show the contingent effects of poverty on SNAP participation (see Tables 3-13b to 3-13d).
Table 3-13: (a) Characteristics of US households by SNAP participation and poverty status; (b) Frequency of US households by SNAP and poverty status; (c) Frequency of poverty by participating and non-participating households; (d) Frequency of SNAP participation by poverty status

Source: US Census Bureau (2010h)
An examination of the 2010 ACS dataset shows a large number of recipients really do not have much money. According to Table 3-13a, about 14.9 million of the country’s 114.2 million households were poor. Of these households, more than 5.8 million of them received SNAP benefits. The data also show that a smaller number of households received SNAP benefits and reported an income above the poverty line (about 4.8 million).

Moving to the cells, the data indicate the largest proportion of recipient households are poor, but these households represent a relatively small share of all the US households. As Table 3-13b shows, a household selected at random from a group of recipients was more likely than not to have an income below the poverty line. However, the data also show a larger proportion of households with poverty incomes were not likely to use SNAP benefits. In 2010, slightly more than 13 out of every 100 US households had a poverty level income. Of these 13 households, just 5 received SNAP benefits (see Table 3-13b). This finding is interesting, as it runs counter to prevailing ideas about poverty and SNAP participation.

Table 3-13c shows the data processed across the categories of participating and non-participating households, so each row sums to 1.00 (or 100 percent). These data show that a majority of recipient households had incomes at or below the poverty line. In 2010, poor households accounted for slightly more than 5 in 10 households receiving SNAP benefits. Mathematically, this suggests a household selected at random from a group of SNAP recipients was about 1.2 times more likely than not to be poor (see Table 3-13c).

Finally, Table 3-13d shows the data processed across the categories, so each column sums to 1.00 (or 100 percent). The data indicate the high likelihood of SNAP participation among households reporting poverty level incomes. In 2010, nearly 40 out of 100 poor households received SNAP benefits. In fact, rates of participation among poor households were more than 8 times larger than that of non-poor households.

An analysis of the data shows that a typical recipient household is likely to be poor. An examination of the cells shows there is a 0.13 chance that a household picked at random is
officially poor; there is a 0.0926 chance that a household picked at random is receiving SNAP. However, a look at the columns shows there is a higher likelihood that a household is using SNAP given that it is poor (0.391). Likewise, an analysis of the rows indicates the majority of recipients report having an income below poverty level (0.5497).

The severity of recipients’ poverty is highlighted through an examination of the USDA’s 2010 Quality Control (QC) Dataset. Recall, this database is compiled for the USDA’s Food and Nutrition Service (FNS). It includes an edited version of a raw data file collected each month by state SNAP agencies (USDA Office of Research and Analysis, 2011b). As such, it is important to note that the data represent a more precise count of recipient households, making the total number of recipients larger than that reported in the ACS 5-year estimates.

As before, I show the counts and distribution of households provided in the USDA’s 2010 Quality Control Dataset. Tables 3-14a and 3-14b present these data according to the household’s gross countable income as a percentage of the poverty thresholds issued by the US Department of Health and Human Services (HHS) for 2010. By gross countable income, I refer to the value of the money income a household typically receives during a month. This income includes most such forms of cash income as wages, retirement income, and child support payments. It excludes money received as loans as well as most non-cash income and in-kind benefits such as SNAP (USDA Office of Research and Analysis, 2011a). The category of “no income” reports on all those households who have no registered income whatsoever.
Returning to the tables, Table 3-14a shows the counts of recipient households by percent of poverty as reported in the QC dataset. It indicates the largest number of recipient households had incomes of less than half the poverty level. In 2010, about 7.9 million of the country’s 18.4 million recipient households had a gross countable income valued at less than 50 percent of poverty (or less than $11,056.50 per year for a family of four in 2010 USDs) (see Table 3-14a).

Table 3-14b shows the data processed across the row to show a breakdown of all the recipient households. The data confirm that the majority of recipient households had incomes at or below the poverty line (about 9 in 10 households). In fact, these data indicate that a household selected at random from this group of recipient households was slightly more likely to have an
income that was less than half of poverty (0.4326) than it was to report an income at or near the poverty line (0.4208).

Taken together with the analyses of ACS data, my findings indicate a close link between conditions of poverty and food insecurity. The ACS data indicate a majority of SNAP recipients have incomes of less than poverty (Tables 3-13a to 3-13d). Likewise, the USDA’s QC dataset indicates that many of these households have very low incomes with nearly 20 percent of recipient households reporting no income whatsoever in 2010 (see Table 3-14b).

However, I do not find it helpful to conclude that poverty is a cause of food insecurity. After a half-century of anti-poverty efforts, the United States continues to have more than 13 percent of all households reporting incomes of less than poverty. While it is desirable to eradicate poverty, I will argue in Chapter 4 that it is not a necessary, prerequisite condition to attain food security.

### 3.3.4 Geographic Characteristics of Participating Households

Continuing my look at SNAP households, I analyze the geographic characteristics of SNAP households. This includes the distribution of households by geographic locale and region. As in the previous series, I begin with the raw data representing the 2010 ACS 5-year estimates of SNAP households. I then process the data by cells, rows, and columns. I also present these data in a series of tables.

#### 3.3.4.1 Distribution of SNAP Households by Locale

I begin my examination of the geographic distribution of SNAP households by considering the attribute of geographic locale. These analyses are based upon categories
identified by the US Census Bureau. I aggregate these categories to highlight those two most widely used to identify the residences of SNAP recipients—urban and rural locales. By urban locale, I refer to all the counties the USDA recognizes to exist in a metropolitan (or metro) area as specified in its 2003 Rural-Urban Classification Codes. By rural locales, I refer to all the other counties in the country (see Figure 3-4). These counties are located outside of metro areas.

Figure 3-4: Distribution of the country’s rural and urban counties

Table 3-15a shows the counts supplied by the 2010 ACS 5-year estimated dataset of SNAP households. I present these data according to the geographic distribution of the households. I also present my findings in a series of tables to evidence the profile of a typical SNAP participant and show the contingent effects of geographic location on SNAP participation (see Tables 3-15b to 3-15d).
Table 3-15: (a) Characteristics of US households by SNAP participation and geographic locale; (b) Frequency of US households by SNAP participation and geographic locale; (c) Frequency of geographic locale by participating and non-participating households; (d) Frequency of SNAP participation by geographic locale

Again, I begin my analysis with an examination of the 2010 ACS dataset. As Table 3-15a shows, urban households comprised the largest number of recipient households. In 2010, about 94.6 million of the country’s 114.2 million households lived in urban locales. Of these households, about 8.2 million received SNAP benefits.

An examination of the cells shows urban households comprised the largest share of SNAP recipients, but these urban recipients represented a relatively small share of all US households (see Table 3-15b). As the rows of Table 3-15b show, there is only a small likelihood of randomly selecting a US household that received SNAP benefits in 2010 (about 0.926). Moving to the columns of this table, the data show that only a small proportion of households receive SNAP benefits, regardless of their geographic locale. In 2010, only about 7 in every 100 US households lived in an urban area and received SNAP benefits (see Table 3-15b).

A look at the data by rows confirms recipient households are likely to live in urban areas. As Table 3-15c shows, more than three-quarters of all participating households lived in the country’s urban counties. In fact, a household selected at random from a group of recipients was more than 3.5 times more likely to reside in an urban county than a rural one.

However, an examination of the columns shows a high likelihood of SNAP use among the country’s rural households. Table 3-15d shows the data processed across the locales, so each column sums to 1.00 (or 100 percent). These data show nearly 12 out of every 100 rural households received SNAP benefits in 2010. In fact, rural households were over 1.3 times more likely to receive SNAP benefits than urban households (see Table 3-15d).

As in the previous analyses, this breakdown of households by locale reveals some useful information about recipient households. It confirms that a large number and percentage of households living in urban areas use SNAP benefits. However, it also demonstrates that the stereotypical view of the urban recipient household is wrong for two reasons. First, there is a higher likelihood of SNAP participation among households residing in rural locales. Second,
recipient households residing in urban locales represent only about 8.71 percent of all urban households (see Table 3-15b).

It is also important to note that household re-location is not the sole answer to this problem. As the data show, the problem of food insecurity is experienced by households residing in both urban and rural locales. The suggestion that a household ought to move in order to improve its food security makes little sense; the problem of food insecurity results from the over-layering of multiple political and economic factors, such as racial discrimination and unemployment, that households can do little to change. As these factors are fairly enduring and permanent aspects of US society, it is important to improve people’s food security in their existing location of residence rather than seek to change circumstances beyond individuals’ control which are unlikely to change quickly.

3.3.4.2 Distribution of SNAP Households by Region

I begin my final examination of the distribution of SNAP households by considering the attribute of geographic region. Figure 3-5 shows the distribution of the country’s states into the regions of Northeast, South, Midwest, and West. Like Figure 3-4, it uses the categories of regions identified by the US Census Bureau.
Figure 3-5: Distribution of the country’s Census regions

Source: US Census Bureau (2010a)

Although prevailing discourse does not usually categorize participating households by region, I have included this analysis for two reasons. First, it supplies some additional details regarding the residential location of those households that actually receive food assistance benefits. Second, it helps contextualize the maps and analyses which follow in Chapter 4.

As before, I use the counts supplied by the 2010 ACS 5-year estimated dataset of SNAP households. I present these data according to the regional geographic distribution of the households (see Table 3-16a). I also process these data by rows, cells, and columns. I present my findings in a series of tables to evidence the profile of a typical SNAP participant and show the contingent effects of geographic region on SNAP participation (see Tables 3-16b to 3-16d).
Table 3-16: (a) Characteristics of US households by SNAP participation and geographic region; (b) Frequency of US households by SNAP participation and geographic region; (c) Frequency of geographic region by participating and non-participating households; (d) Frequency of SNAP participation by geographic region

Sources: US Census Bureau (2010a; 2010l)
According to the 2010 ACS dataset, the largest number of participating households lived in the US South. In 2010, more than 42 million of the country’s 114.2 million households lived in the South. This group included more than 4.4 million recipient households (see Table 3-16a).

An examination of the cells shows Southern households comprised the largest proportion of SNAP recipients, but these recipients represented a relatively small share of all US households. As Table 3-16b shows, Southern households receiving SNAP benefits represented just about 3.86 percent of all US households. While this is the largest share of all the regions, it still indicates that less than 1 in 10 of the country’s households lived in the US South and received SNAP benefits.

A breakdown of the data by rows confirms recipient households are likely to reside in the US South. Table 3-16c shows Southern households accounted for more than 4 in 10 of all recipient households. In fact, a household selected at random from a group of recipients was 1.76 times more likely to be located in the South than in the Midwest and nearly 2.5 times more likely to live in the South than in the West.

Further, an examination of the columns shows the high likelihood of participation among those living in the Southern states. In 2010, more than 10 out of every 100 households located in the South also received SNAP benefits. In fact, this rate of participation was higher than that of any other region (see Table 3-16d).

These cell, row, and column analyses represent the last pieces of information necessary to complete my profile of the households receiving SNAP benefits. Through these analyses, I find households living in the US South account for a large number and percent of all those receiving SNAP benefits. I also find households located in the Southern region are also more likely to receive SNAP benefits, relative to those who live elsewhere. However, recipient households living in the South are still a relatively small group. In 2010, these households represented just 3.86 percent of all of the country’s households.
These analyses highlight another interesting relationship between food assistance and agency. It indicates a high likelihood of SNAP use among randomly selected households who happen to live in the US South. However, it also implies this knowledge offers households little ability to improve their own condition short of relocating, which I have already noted makes little sense as the problem of food insecurity results from the over-layering of multiple factors for which households are unlikely to change.

These analyses also highlight an interesting relationship between geographic region and food insecurity. This is the idea that food insecurity does not discriminate on the basis of geographic region. In 2010, households residing in the Northeast, Midwest, South, and West were all likely to struggle with issues of food insecurity.

3.4 Conclusion

This chapter opens with a brief discussion of the extent to which US food assistance programs have been the subject of ongoing, bitter political debates. I indicate these debates are perpetuated by the members of the Republican and Democratic political parties. I describe the extent to which these discussions have increasingly focused upon federal policymakers’ use of food assistance to help stimulate the economy, especially since the beginning of The Great Recession in 2007.

I engage my introduction to highlight a shortcoming of the federal government’s current food assistance efforts. I argue that its ongoing efforts are not sustainable in the long-term. I identify the three greatest threats to the long-term viability of the federal government’s flagship food assistance program—the Supplemental Nutrition Assistance Program. I use qualitative and statistical data to demonstrate the extent to which the food security of SNAP recipients is
increasingly threatened by financial conditions, Congressional politics, and prevailing social
discourse.

I consider the prevailing demand for food assistance through a critical examination of
several household attributes of SNAP consumption. I identify and characterize the attributes of
race, family structure, composition, workforce participation, poverty status, residential locale, and
region of residence. I organize these attributes into the three categories of social, economic, and
geographic characteristics of SNAP households.

Through my examination of household demand, I further three theoretical objectives. I
construct a statistical profile of a typical SNAP recipient household to determine the extent to
which it corresponds with that of prevailing public perceptions and stereotypes. I develop
contingency tables in a way that is consistent with that of post-structural theory, which recognizes
the role of such larger social structures as race and class in contributing to broader social
problems but also recognizes that an exclusive focus on structures robs individuals of agency. I
also identify and characterize the attributes of food insecure people and households.

Collectively, my efforts recognize poor people’s ability to exercise human agency. This
recognition is important. It provides the basis for my final chapter, in which I propose post-
structural interventions in food security (see Chapter 5). It indicates that ordinary people are able
to engage in food security efforts prior to resolving the larger issues of poverty, unemployment,
underpayment, and discrimination in the labor market and suggests that poor people and their
advocates can work to improve conditions of food security now.
Chapter 4

A Geographical Distribution of Consumer Households

In 2011, USDA officials reported about 44.7 million people living in 21.1 million US households participated in the US Supplemental Nutrition Assistance Program (SNAP) each month, resulting in an annual expenditure exceeding $75 billion dollars (USDA, 2012g; USDA Food and Nutrition Service 2013c; 2013d).19 Through their participation, low-income recipients have become enmeshed in a vast discursive material formation of macro-economics, government policy, congressional politics, and discourses about welfare that not only shame recipients of food aid but fail to provide food security or nutrition. Given the enormous economic and social costs of participation, it is necessary to seek out more sustainable alternatives to SNAP.

In this chapter, I present a six part analysis of SNAP participation. The chapter begins with an examination of the concepts of eligibility, participation, and food security. Even though SNAP is the primary program in the US providing for the needs of the food insecure, a state-by-state analysis showed that the relationship between eligibility for SNAP and rate of participation is highly variable. In section 4.4, I explore some of the regional patterns of the statistical scatter formed by these two variables—SNAP eligibility and participation. A factor analysis of household participation data for the years 2000-2011 was run to examine the stability of household participation patterns over time. A cluster analysis of household participation rates by state was done to look for regional patterns in the data. The results of the factor and cluster

19 These figures represent the average monthly participation rates and actual costs reported by USDA government officials for fiscal year 2011 (cf., USDA, 2012; USDA Food and Nutrition Service, 2013c; 2013d). It should be noted that the USDA’s counts of individual and household recipients are consistently higher than those reported by the American Community Survey. For sake of comparison, my Chapter 3 ACS datasets indicated that only about 10.6 million households received SNAP benefits in 2010 (cf., US Census Bureau, 2010f). During that same year, USDA officials estimated this number was closer to about 18.6 million households (USDA Food and Nutrition Service, 2013d).
analyses were combined in order to examine SNAP participation in a space-time framework. In section 4.5, SNAP eligibility and participation rates were plotted against a set of factor scores of state poverty data. Finally, in section 4.6 I transition from the statistical analyses to a social theory of poverty. The statistical analyses reveal the depth and remarkable persistence of regional patterns of food insecurity; they also reveal the strong correlation to poverty which itself is regionally persistent. Food security is a fundamental human need, and some would say a human right (cf., Universal Declaration of Human Rights, 1948). Must we wait to solve the problem of poverty for people to have food security? I use this final section to introduce an alternative way of looking at food security and poverty—to ask why poor households have trouble meeting their basic food and nutrition needs. I will expand upon this theme in the next chapter where I invoke this social theory of poverty to explore the extent to which commercial urban farming can serve as a direct, productive activity that helps poor people improve their own food security, reduce their food costs, and secure employment.

Similar to the previous chapter, the purpose of my spatial analysis is localization. While I understand the standard social science presentation of the geography of households is to reveal spatial correlates and/or contingencies, I engage the data to better understand the identities of the people living in particular places. I believe the knowledge and recognition of social and cultural difference along with knowledge of local places is important in developing long-term alternatives to SNAP. In theoretical terms, I am looking for what may be a called a post-structural intervention in food security (Gibson-Graham, 2000). By a post-structural intervention, I refer to a food security solution that recognizes both social structures and human agency. It recognizes the “causal” effects of the interplay of social structures, such as economic class, race, and gender relations (cf., Yapa, 1996 for a discussion of the nexus of relations). At the same time, it enables ordinary people who may not have the capacity to easily change these structures to engage their own agency to reduce or remove the impact of those structures.
4.1 SNAP Eligibility, Participation, and Food Insecurity

To receive SNAP benefits, individuals and households must pass tests of resources and need (cf., USDA Food and Nutrition Service, 2013a; 2013b). In 2010, about 50.7 million people met the criteria specified by these tests and were considered eligible to participate in SNAP. However, only about 75 percent of them actually received SNAP benefits (Cunyngham, 2012). Individuals and households experiencing conditions of food insecurity were the most likely participants in SNAP (cf., Wilde, 2007; Nord and Golla, 2009). In this section, I examine the relationships between the concepts of eligibility, participation, and food insecurity.

In order to receive SNAP benefits, individuals and households must be eligible to participate in the program. Under federal law, individuals and households must satisfy two standardized criteria of resources and need. These criteria demonstrate a household’s insufficient access to monetary resources and legitimate need for food.

Eligible individuals and households have limited access to assets and income. In 2013, eligible households could have no more than $2,000 in such countable resources as cash or a bank account. Their gross monthly income may not exceed 130 percent of the poverty level (about $2,498 for a family of four). Additionally, their income after allowable expense deductions must be at or below the poverty line (about $1,921 for a family of four) (USDA Food and Nutrition Service, 2013b).

Eligible individuals and households also must demonstrate a legitimate need for food. This demonstration of legitimacy occurs in two different ways. First, a household must be legally qualified to receive benefits from the federal government on the basis of its citizenship and/or legal residency (cf., USDA Food and Nutrition Service, 2013b). Next, its members must exhibit

---

20 Households may have up to $3,250 dollars in countable resources if at least one person in the household is aged 60 years or older or the household has at least one member with a disability (USDA Food and Nutrition Service, 2013b).
behaviors showing that they lack adequate financial resources to feed themselves through no fault of their own. With some exceptions, unemployed, able-bodied adults are only eligible if they register for work, accept suitable employment, and take part in employment and training programs (cf., USDA Food and Nutrition Service, 2013b). Striking workers, undocumented immigrants, and many people living in institutional settings are deemed ineligible21.

While many people are eligible for SNAP benefits, not all of them actually go on to participate in the program. As Figure 4-1 shows, the rate of participation among eligible people remains less than 100 percent. In 2000, only about 56 percent of eligible people received SNAP benefits. This rate dropped to just 53 percent in 2001. By 2010, it had increased to include about 75 percent of all eligible people. This represented an increase of nearly 2 percent per year during the period of 2000 to 2010.

![SNAP Participation Rate Among Eligible People, 2000-2010](image)

**Figure 4-1:** Temporal changes in the SNAP participation rate among eligible people, 2000-2010

Sources: Castner and Schirm (2005a; 2005b); Cunnyngham et al. (2006; 2007; 2008); Cunnyngham and Castner (2009); Cunnyngham (2011); Cunnyngham et al. (2013)

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21 Exceptions to this policy appear in USDA Food and Nutrition Service (2013b).
Among those participating, many experience conditions of food insecurity. The USDA defines food insecure households as those in which at least one member lacked access to adequate food due to a lack of money and/or other resources at some time in the previous year (cf., Coleman-Jensen et al., 2013). In 2012, Coleman-Jensen et al. estimated that 52 percent of participating households were food insecure for some time during the previous year. This represented nearly 11 million of the 21.1 million households receiving SNAP benefits in 2011.

While not all eligible or participating individuals experience food insecurity, I use the concept of food insecurity to better characterize eligible and/or participating individuals and households. This is because SNAP and the other federal food assistance programs represent the primary means by which the needs of the food insecure households are satisfied. In 2013, Feeding America’s Map the Meal Gap report indicated that about 57 percent of all food insecure people were eligible to participate in SNAP on the basis of their income.22

4.2 SNAP Eligibility and Participation of Individuals

SNAP is the primary program in the US providing for the needs of the food insecure; in this section I analyze three variables related to SNAP—percent of people eligible for SNAP (SNAP_E), percent of total population receiving SNAP benefits (P_I), and percent of participants among those eligible for SNAP (P_E). The two variables (SNAP_E and P_E) are estimated by Mathematica Policy Research for the USDA’s Food and Nutrition Service (FNS). SNAP_E represents the estimated percent of people in each state eligible for SNAP on the basis of income and assets or their receipt of cash assistance (welfare payments) in 2010. P_E represents the estimated percentage of eligible people living in a state who actually received SNAP benefits in

---

22 In this report, researchers also noted that an additional 18 percent of food insecure individuals qualified for other forms of federal food assistance, like WIC or Child Nutrition Programs. Collectively, this suggests that about 75 percent of all food insecure people were income-eligible to receive some form of federal food aid in 2012.
2010. In a perfectly performing system, the value of $P_E$ would be 100 percent of eligible people (see Table 4-1).

<table>
<thead>
<tr>
<th>State Name</th>
<th>State FIPS</th>
<th>$P_I$</th>
<th>$SNAP_E$</th>
<th>$P_E$</th>
</tr>
</thead>
<tbody>
<tr>
<td>District of Columbia</td>
<td>11</td>
<td>19.59%</td>
<td>21.49%</td>
<td>87%</td>
</tr>
<tr>
<td>Mississippi</td>
<td>28</td>
<td>19.38%</td>
<td>26.60%</td>
<td>72%</td>
</tr>
<tr>
<td>Tennessee</td>
<td>47</td>
<td>19.25%</td>
<td>20.50%</td>
<td>92%</td>
</tr>
<tr>
<td>West Virginia</td>
<td>54</td>
<td>18.40%</td>
<td>20.98%</td>
<td>83%</td>
</tr>
<tr>
<td>Oregon</td>
<td>41</td>
<td>18.37%</td>
<td>15.37%</td>
<td>100%</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Minnesota</td>
<td>27</td>
<td>8.10%</td>
<td>10.62%</td>
<td>73%</td>
</tr>
<tr>
<td>Colorado</td>
<td>08</td>
<td>8.02%</td>
<td>11.57%</td>
<td>69%</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>33</td>
<td>7.93%</td>
<td>8.58%</td>
<td>82.00%</td>
</tr>
<tr>
<td>New Jersey</td>
<td>34</td>
<td>7.07%</td>
<td>11.30%</td>
<td>60.00%</td>
</tr>
<tr>
<td>Wyoming</td>
<td>56</td>
<td>6.16%</td>
<td>9.92%</td>
<td>60.00%</td>
</tr>
</tbody>
</table>

Table 4-1: A state-by-state table showing rates of SNAP participation ($P_I$), SNAP eligibility ($SNAP_E$), and ratio of participants over those eligible ($P_E$) in 2010. This table shows the five states—including the District of Columbia—with the highest and lowest rates of SNAP participation ($P_I$).

Sources: USDA Food and Nutrition Service (2013c); US Census Bureau (2011b); Cunnyngham (2012)

It is important to note the rates shown in Table 4-1 show estimated values. I derive these values by normalizing the estimated count of eligible people for each state on the basis of each state’s estimated population for the year 2010 (cf., US Census Bureau, 2011b). Mathematica Policy Research served as the original source for the estimated count of eligible people. They computed the counts of eligible people using two combined years of the US Census Bureau’s
Current Population Survey, Annual Social and Economic Supplement data and imputed missing data, including citizenship status, net income amounts, and asset eligibility. They excluded from their estimates individuals who were deemed eligible solely on the basis of their state’s categorical eligibility policies. They also did not adjust their final estimates to account for the individuals who were already participating in the Food Distribution Program on Indian Reservations and were ineligible to receive SNAP benefits (see Eslami et al., 2012).

As Figure 4-2 shows, SNAP_E and P_l show a high correlation of 0.845, indicating the obvious conclusion that the rate of participation in SNAP is higher in those states where more people are eligible for the program.
Figure 4-2: A comparison of the states’ rates of SNAP eligibility (SNAP_E) and individual participation (P_I) in 2010. Any point situated along the bolded line represents the ratio of P_I divided by SNAP_E, which is equal to P_E.

Sources: USDA Food and Nutrition Service (2013c); US Census Bureau (2011b); Cunnyngham (2012)
However, an examination of the ratio $P_E$ suggests that the situation is a bit more complicated. Recall that the ratio $P_E$ represents the percentage of people receiving SNAP benefits from among those eligible for benefits. Mathematically, it represents the value of $P_I$ divided by $SNAP_E$. For each state, I define these ratios as follows:

\[
P_I = \frac{\text{No. of SNAP Participants}}{\text{Est. Population}}
\]

\[
SNAP_E = \frac{\text{No. of SNAP Eligible}}{\text{Est. Population}}
\]

\[
P_E = \frac{\text{No. of SNAP Participants/No. of SNAP Eligible}}
\]

Given these definitions, the variable $P_E$ may be re-stated in terms of its relationship with the two variables $SNAP_E$ and $P_I$. Mathematically, this relationship is represented by the equation

\[
P_E = \frac{P_I}{SNAP_E}
\]

The validity of the relationship may be demonstrated by calculating the value of the variable $P_E$.

\[
P_E = \frac{P_I}{SNAP_E}
\]

\[
= \frac{\text{No. of SNAP Participants / Est. Population}}{\text{No. of SNAP Eligible / Est. Population}}
\]

\[
= \frac{\text{No. of SNAP Participants / Est. Population}}{\text{Est. Population/ No. of SNAP Eligible}}
\]

Upon multiplying by the reciprocal of the denominator, the variable representing the estimated population simplifies to 1. The resulting value of the variable $P_E$ may be expressed as

\[
= \frac{\text{No. of SNAP Participants}}{\text{No. of SNAP Eligible}}
\]

Returning to Figure 4-2, I show the relationship among three variables $SNAP_E$, $P_I$, and $P_E$. In this scatterplot, $SNAP_E$ is positioned along the horizontal axis and $P_I$ is shown along the vertical axis. This positioning of these two variables implies that the value of $P_E$ may be derived by dividing the vertical coordinate by the horizontal coordinate. It also indicates that the value of $P_E$ represents the trigonometric tangent of the angle formed by the origin and the XY coordinate
of any observation in the scatterplot. A line of tangent passing through the origin shows all the points for which the percentage of participants is exactly equal to the percentage of those eligible for SNAP (or \( P_E = 1 \)).

Looking at Figure 4-2, it is interesting to note three general trends in the data. First, the linearity of the data suggest states with a high or low percentage of individuals eligible for SNAP benefits have a proportional rate of people actually receiving SNAP benefits. As the majority of the scatter points falls below the line of tangent, the figure implies that most states underserve their SNAP eligible population—these states have a greater proportion of eligible individuals than SNAP recipients. Figure 4-2 also shows that a small band of states above the line of tangent. Specifically, the states of Maine, Michigan, Oregon, Vermont, and Washington have higher rates of participation than eligibility.

Generally, the trend of over-serving eligible people may be explained by limitations in the data. As I noted previously, my rates of eligibility and participation use estimated counts of state population sourced from the US Census Bureau (2011b)—these counts are different than those used by Mathematica researchers in their estimates of eligible people (cf., Eslami et al., 2012). Further, my counts of SNAP participants represent a state’s average monthly number of participants in 2010 (cf., USDA Food and Nutrition Service, 2013c). Finally, my counts of SNAP eligibility were derived from an estimated count of population that differed from that of my denominators. These data included imputations and only those individuals who met all applicable federal SNAP income and asset tests or have pure public assistance (PA) status. In other words, the estimated counts of eligible people did not account for state-specific policies governing SNAP eligibility, and it excluded some 1.5 million people who were otherwise eligible for benefits (cf., Eslami et al., 2012).

However, the trend of under-serving eligible people is a bit more complicated. This is because not all people receive benefits simply because they are eligible. Figure 4-3 shows the relationship between those eligible for SNAP (\( SNAP_E \)) and the percentage of people receiving
SNAP benefits from among those eligible (P_E). It shows that the value of a state’s P_E index is not dependent upon its rate of SNAP eligibility (SNAP_E). This finding is confirmed by a correlation of the variables SNAP_E and P_E, which yields a correlation coefficient value of -0.085.
Figure 4-3: A comparison of the states’ rates of SNAP eligibility ($SNAP_E$) and participation among eligible people ($P_E$) in 2010.

Sources: USDA Food and Nutrition Service (2013c); US Census Bureau (2011b); Cunyngham (2012)
By dividing up the graph, it is possible to organize the states into the four quadrants of $Q_{(L,L)}$, $Q_{(H,L)}$, $Q_{(L,H)}$, $Q_{(H,H)}$. Returning to Figure 4-3, vertical and horizontal lines divide the graph up along the median values of the x- and y-axes. Beginning in the lower left quadrant, $Q_{(L,L)}$ states had the lowest rates of eligibility and participation in 2010. In the upper right, $Q_{(H,H)}$ states had the highest rates of eligibility and participation. Of the remaining quadrants, $Q_{(H,L)}$ states had high rates of eligibility and low rates of participation. $Q_{(L,H)}$ states had low rates of eligibility and high rates of participation. For clarity, I use increasing intensities of red and blue to identify the member states of the four quadrants, with the lighter colors representing the states with lower rates of eligibility ($\text{SNAP}_E$) (see Figure 4-3).

Figure 4-4 shows the regional patterns of SNAP participation by US state and eligibility rate. This map includes a legend that differentiates the states using the color scheme identified in Figure 4-3. It shows that states with high rates of participation are concentrated mostly in the North and East, with about 65.4 percent of states situated east of the Mississippi River. Generally, states in the South and Rocky Mountain areas had low rates of SNAP participation. In the US South, more than half of the states with high rates of eligibility had low rates of participation in 2010.
Figure 4-4: Regions of lowest and highest rates of SNAP participation by US state and eligibility rate (2010)

Sources: USDA Food and Nutrition Service (2013c); US Census Bureau (2011b); Cunyngham (2012)
Existing data suggest that the local articulation of political ideology helps explain the different regional patterns in the participation of eligible people. This makes sense given my previous examinations of SNAP. In Chapter 2, I described the extent to which the hegemony of neo-conservatism enabled liberals and conservatives to argue that the federal government’s assistance programs contributed to problems of welfare dependency, crime, laziness, and single motherhood. In Chapter 3, I showed the extent to which a Republican-controlled federal government is associated with decreased support for the program, as indicated by declines in annual budgetary expenditures and participation.

A breakdown of the states into the four quartiles shows regional patterns in the participation of eligible people by election results. Figure 4-5 uses the colors red, blue, and purple to show the winners of the popular vote by state for the 2008 and 2012 Presidential elections. The colors red and blue indicate that the state reported a Republican or Democratic win in both years, respectively. The color purple indicates that the state had a split win with the Democrats taking one election and the Republicans winning the other.

An examination of Figure 4-5 highlights a split along party lines in the country’s regional groupings. It shows the propensity to elect a Democratic winner among states characterized by low rates of eligibility and/or high rates of participation. As Figure 4-5 shows, 77 percent of states located in $Q_{(L,H)}$ elected a Democratic winner in the past two Presidential contests—that’s more than any other quartile. In fact, a Democrat was the least likely to win among states residing in $Q_{(H,L)}$ with the majority selecting a Republican candidate in at least one of the past two elections (67 percent).
Figure 4-5: Regions of high and low SNAP eligibility and participation by US state and results of the 2008 and 2012 popular vote for US President

Sources: USDA Food and Nutrition Service (2013c); US Census Bureau (2011b); Cunnyngham (2012); Leip (2012a; 2012b)
Through this analysis, I can differentiate the regional groupings of states—the inter-regional differences. However, I am provided little by way of explaining the differences occurring amongst the states co-located in a particular region—the intra-regional differences. For instance, my analysis does not help explain the differences in the states classed within the particular region of high eligibility and low participation ($Q_{H,L}$).

To distinguish the intra-regional patterns, I examine the extent to which prevailing local social conditions help explain differences in rates of SNAP usage among eligible people. Specifically, I am interested in the local articulation of the politics of race and class. In Chapter 3, I showed the extent to which SNAP participants are constructed through a racialized view of poverty and are made to feel a sense of guilt, shame, and/or fear.

Figure 4-6 shows the extent to which prevailing local attitudes about race correlate with different rates of SNAP participation among states located in $Q_{H,L}$. This figure includes a map and graph of the states with the highest rates of eligibility and lowest rates of participation. It positions these figures alongside Elmendorf and Spencer’s 2013 ranking of states by average level of anti-black stereotyping by non-black residents. The vertical dotted line denotes the average score of all the states. Elmendorf and Spencer published this ranking after conducting a state-by-state analysis of the explicit-stereotyping questions included in the online module of the 2008 National Annenberg Election Survey (NAES). This set of questions asked voters to rate the work ethic, trustworthiness, and intelligence of members of their own ethnic group and blacks/African-Americans on a 100-point scale (Elmendorf and Spencer, 2013).

Figure 4-6 suggests particular ideas and attitudes about race may contribute to low rates of participation among eligible people, especially in the Southern states. Of the 12 states included in this quartile, 7 topped Elmendorf and Spencer’s ranking of states. In 2013, Elmendorf and Spencer found that nonblack residents of Louisiana, Mississippi, Alabama, Texas, Arkansas, Florida, and Oklahoma all rated blacks significantly worse than themselves. In fact,
residents of the state of Louisiana exhibited the most prejudiced responses with an average nonblack respondent rating blacks more than 39 out of 100 points worse than his/her own group.
Figure 4-6: A geographical breakdown of the region with the highest rates of eligibility and lowest rates of participation suggests local racial attitudes influence rates of participation among eligible people.

Source: USDA Food and Nutrition Service (2013c); US Census Bureau (2011b); Cunnyngham (2012); Elmendorf and Spencer (2013)
While this figure explains some intra-regional variation, it fails to explain the low participation rates among eligible people, especially in the states located in the North and West. These states include Illinois, North Carolina, Indiana, New York, and California. Each of these states ranks in the middle to bottom of Elmendorf and Spencer’s index (see Figure 4-6).

Additional insight may be garnered from an examination of language spoken at home. A 2006 report published by the National Council of La Raza indicates that Latino immigrants and those with limited English proficiency experience cultural and linguistic challenges—for example, lack of appropriate information and confusion about eligibility—adversely impact their interest and ability to seek out food assistance benefits. They also note immigrants’ heightened fear regarding the possible adverse social, economic, and legal consequences of their SNAP participation.

To examine the relationship between language and SNAP participation, I compiled a data matrix. As Table 4-2 shows, this matrix consists of 51 rows representing each of the US states and the District of Columbia. It also includes two columns of values. The values in the column named “Count of Limited English Proficiency” relate the estimated number of people aged 5 years and older who speak English less than “very well”. The values in the column named “Percent of Limited English Proficiency” relate the counts as a percentage of the state’s population aged 5 years and older as reported in Table B16001 of the 2006-2010 ACS dataset (US Census Bureau, 2010e).
Table 4-2: A data matrix of states showing the rates of individuals with limited English proficiency, 2010. Data are ordered from highest to lowest percentage of residents aged 5 years and older.

Source: US Census Bureau (2010e)

Figure 4-7 shows the extent to which the percentage of people with limited English proficiency contribute to varying rates of SNAP participation among the states located in Q_{HL-L}. This figure includes a graph of the states with the highest rates of eligibility and lowest rates of participation. It positions this graph alongside a map of the region by US state and percent of people with limited English proficiency with the states classified on the basis of the median percentage value of LEP speakers for the 50 US states and the District of Columbia.

An examination of Figure 4-7 indicates that the experiences and perceptions of limited English speakers help explain the low rates of participation among eligible people, especially in the states grouped in the North and West. Of the 12 states included in this quartile, 6 states were estimated to have rates of LEP speakers that exceed the median percentage for all US states (about 4.40%). These included the states of North Carolina (4.91%), Illinois (9.57%), New York...
(13.25%), and California (19.85%). The states of Texas and Florida also have high rates of LEP speakers with rates of 14.44% and 11.84% respectively. As these two states rank high on Elmendorf and Spencer’s index of racial prejudice (see Figure 4-6), it should be noted that rates of participation may be especially low among eligible poor people of color with limited English proficiency.
Figure 4-7: A geographical breakdown of the region with the highest rates of eligibility and lowest rates of participation suggests local differences in language and culture influence rates of participation among eligible people.

Sources: USDA Food and Nutrition Service (2013c); US Census Bureau (2010e; 2011b); Cunnyngham (2012)
A final explanatory factor worth mentioning is the social stigma associated with receiving SNAP benefits. Existing research indicates that feelings of shame and embarrassment deter many eligible people from seeking out and/or receiving SNAP benefits (cf., FRAC, 2008). A 2004 study of food stamp program access found about 44 percent of all eligible nonparticipants surveyed cited stigma as a reason for their nonparticipation (Bartlett and Burstein, 2004).

To examine the relationship between social stigma and SNAP participation, I compiled another data matrix. As Table 4-3 shows, this matrix consists of 51 rows representing each of the US states and the District of Columbia. It also includes two columns of binary values. The values in the “Social Stigma” column identify the presence/absence of social stigma as a substantial barrier to SNAP participation. These data represent the responses of 51 state-level SNAP agencies that identified social stigma as a strong or somewhat strong barrier to SNAP participation in 2008 (see Rowe et al., 2010a; 2010b). The values in the “Fingerprinting” column identify the presence/absence of any requirements to fingerprint individuals seeking SNAP benefits in 2008 as identified by the USDA’s policy database (USDA Economic Research Service, 2013).

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23 Existing research indicates that the fingerprinting of individuals seeking SNAP benefits stigmatizes people who apply for SNAP benefits. This stigmatization is associated with images of criminality and has been found to reduce the chance that an eligible household will complete a SNAP application (see FRAC, 2008 for a review of this literature).
Table 4-3: A data matrix of states showing the presence/absence of social stigma reports and practices of fingerprinting individuals applying for SNAP benefits in 2008.

Sources: Rowe et al. (2010b); USDA Economic Research Service (2013)

Figure 4-8 shows the extent to which social stigma correlates with different rates of SNAP participation among the states grouped in Q_{(H,L)}. As before, this figure includes a graph of the states with the highest rates of eligibility and lowest rates of participation. It positions this figure alongside a map of the states that uses the colors green, orange, blue, and gray to group the states according to the indicators of social stigma. Here, the color green identifies the states in which state-level SNAP agencies reported the presence of social stigma as a substantial barrier to participation in 2008. The color orange highlights the states that required people to submit fingerprints as a part of their SNAP application process (interestingly state-level agencies did not report the presence of social stigma as a substantial barrier to participation). The color blue identifies states in which state-level SNAP agencies identified the barrier of social stigma and collected fingerprints. The color gray highlights states reporting the absence of any reports of substantial social stigma and/or fingerprinting practices in 2008. By substantial, I refer to the
An examination of Figure 4-8 indicates that social stigma may contribute to the low rates of participation among eligible people residing in these states. Of the 12 states included in this quartile, 6 states maintained at least one of the indicators of social stigma. The states of Indiana, Alabama, and Mississippi reported that social stigma was a strong or somewhat strong barrier to participation in 2008. The states of New York and Texas reported the practice of fingerprinting individuals seeking out SNAP benefits. The state of California reported the presence of social stigma and fingerprinting practices, which may help to further explain its especially low rates of participation.
Figure 4-8: A geographical breakdown of the region with the highest rates of eligibility and lowest rates of participation suggests local perceptions of social stigma influences rates of participation among eligible people.

Sources: US Census Bureau (2011b); Cunnyngham (2012); Rowe et al. (2013b); USDA Economic Research Service (2013); USDA Food and Nutrition Service (2013c)
A state-by-state analysis of SNAP eligibility, participation, and participation among those eligible provides some insight into the local performances of SNAP. Initially, my analysis suggested states did a reasonably good job of making sure eligible people received benefits with states showing proportional rates of SNAP eligibility (SNAP_E) and rates of individual participation (P_I). However, further investigation indicated the actual participation of eligible people was highly variable. With its low P_E index, California was estimated to have the lowest rate of participation with only 55 percent of eligible people participating in 2010. At the same time, the 11 states of Oregon, Washington, Wisconsin, Michigan, Missouri, Tennessee, Pennsylvania, Vermont, New Hampshire, Massachusetts, and Maine were all estimated to have near perfect rates of participation with more than 89.4 percent of eligible residents receiving SNAP benefits in 2010 (see Figures 4-3 and 4-4).

This analysis also helps contextualize the economic and social conditions experienced by food insecure people. The first series of maps shows the states with high rates of SNAP eligibility concentrate mostly in the South, Midwest, and Appalachia (see Figure 4-4). A second series of maps shows the regional patterns of SNAP participation. It highlights similarities in the patterns of SNAP participation and prevailing political beliefs, as the states with low and high rates of eligibility and participation were split along political party lines (see Figure 4-5). Figures 4-6, 4-7, and 4-8 highlight the extent to which prevailing local social conditions help explain different rates of SNAP usage among eligible people including differences in race, language, culture, and the psychological effects of program participation.

4.3 Statistical Analyses of Household SNAP Participation

In this section, I detail the ways through which I was able to map the households participating in the Supplemental Food Assistance Program (SNAP). Specifically, I will discuss
the techniques of factor analysis, cluster analysis, and factor/cluster analysis. The application of these techniques is important. Each technique identifies and characterizes a set of shared properties or relationships in the data (cf., Abler et al., 1971; Rogerson, 2010; Hair, Jr. et al., 2010). Each provides a well-defined way of mapping the location of the people who actually receive food assistance benefits and contributes a context for thinking about the different ways individuals and/or organized groups work to develop and maintain more sustainable alternatives to the federal government’s food assistance programs.

To identify and characterize my techniques, I make use of an original data matrix. This matrix contains 51 rows representing each of the US States and the District of Columbia. It also contains a series of 8 columns, each representing a one-year period of time for the years 2000 and 2005 to 2011. In its cells, values represent an estimated percentage of SNAP households. These values are calculated by normalizing data from the Supplemental Nutrition Assistance Program Quality Control (QC) and USDA’s Food and Nutrition Service (FNS) program datasets according to the number of households indicated in the 1-year estimated dataset of the American Community Survey (ACS) for the corresponding year (see Table 4-4).²⁴,²⁵,²⁶

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²⁴ In performing these calculations, I extracted data representing the number of SNAP households from the QC and FNS datasets. Specifically, all the values representing the number of households for the period 2000 to 2007 were taken from the QC dataset (USDA Office of Research and Analysis; 2001; USDA Office of Analysis, Nutrition, and Education 2006; 2007; USDA Office of Research and Analysis, 2008); the values representing SNAP households for the years 2008 to 2011 were taken from the FNS dataset (USDA Food and Nutrition Services, 2013d).

²⁵ For all years, estimates of the total number of US households were acquired from the American Community Survey (ACS) 1-year estimated dataset of the corresponding year. An exception to this rule occurred for the year 2000 and decennial census values representing the number of US households were substituted (US Census Bureau, 2000a; 2005; 2006; 2007; 2008; 2009; 2010d; 2011c).

²⁶ Each of these datasets provides a comprehensive perspective of US households. The QC database is compiled by Mathematica Policy Research for the USDA’s Food and Nutrition Service (FNS). It represents an edited version of a raw datafile collected each month by state SNAP agencies to ensure the accuracy of the state’s eligibility determinations and benefits (USDA FNS Office of Research and Analysis, 2011b). The USDA’s FNS program dataset is compiled by the USDA’s Food and Nutrition Service. It represents an edited version of the data reported by states or calculated from state reported data (USDA FNS Program Accountability and Administration Division, 2012). Finally, the American Community Survey dataset is compiled by the US Census Bureau. It includes the results of an ongoing survey of US households (US Census Bureau, 2012). It represents an average of all responses supplied by households surveyed during a particular year.
Table 4-4: A data matrix showing the rates of households using SNAP by state, 2000-2011


As the variables represent units of time, the data matrix may also be thought of as a series of eight maps. Each of these maps represents a particular variable—or a period of one year. It visually depicts the data represented in the cell entries of Table 4-4 (see Figure 4-9).
Figure 4-9: The data matrix representing the rates of household participation may be thought of as a series of eight, overlapping maps.

Through the application of these techniques, I created several summary maps. These maps help identify the patterns shared amongst the maps of the eight years of data. The factor analysis demonstrates the stability of the regional patterns of SNAP usage in time. The cluster analysis shows the regional patterns of household participation. Taken together, these analyses show me the locations of households that actually received food assistance benefits during the years 2000 to 2011. Going beyond macro patterns I am interested in isolating specific places of high and low participation. Once we know a place, its resources, its social, ethnic, and cultural attributes we are in a better position to design place-specific alternatives to SNAP.
4.3.1 A Historical-Statistical Analysis of Household Participation

For the data of SNAP households, I employed a factor analysis to describe the ways in which the locations of participating households vary in time. For my purposes, this factor analysis represents a technique in descriptive statistics. It identifies the existence of definite temporal periods in the data representing different spatial patterns. It calculates a set of standardized scores that represent places of high and low participation. Finally, a set of factor scores supplies a dataset for the creation of a summary map of SNAP households.

To conduct a factor analysis of SNAP households, I input the original data matrix describing the states according to the eight variables into SAS 9.3. SAS converts the original data into standardized, comparable units (or z-scores). It also derives the correlation coefficients that exist between all the possible pairs of variables (see Table 4-5).
<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SNAP Households 2000</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SNAP Households 2005</td>
<td>.870</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SNAP Households 2006</td>
<td>.839</td>
<td>.991</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SNAP Households 2007</td>
<td>.836</td>
<td>.980</td>
<td>.994</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SNAP Households 2008</td>
<td>.828</td>
<td>.973</td>
<td>.981</td>
<td>.989</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SNAP Households 2009</td>
<td>.787</td>
<td>.942</td>
<td>.954</td>
<td>.962</td>
<td>.970</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SNAP Households 2010</td>
<td>.741</td>
<td>.897</td>
<td>.904</td>
<td>.913</td>
<td>.931</td>
<td>.983</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>SNAP Households 2011</td>
<td>.699</td>
<td>.849</td>
<td>.855</td>
<td>.863</td>
<td>.888</td>
<td>.955</td>
<td>.988</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 4-5: A data matrix representing all the correlation coefficients that exist between all the variables representing rates of households using SNAP by state, 2000-2011.

After standardizing the data, I calculated a table of eigenvalues. Eigenvalues associated with a factor analysis tells how much of the total variance is associated with each of the factors presented in Table 4-6. Since there are eight variables in the analysis, the sum total of variance is equal to 8 (Kachigan, 1982). As Table 4-6 illustrates, the first eigenvalue is equal to 7.35. This value indicates that factor 1 explains about 91.9 percent of the total variance. The second highest eigenvalue is 0.41, which means that the 2nd factor explained less than the variance contained in a single variable.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Eigenvalues</th>
<th>Difference</th>
<th>Proportion</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7.35418450</td>
<td>0.94208949</td>
<td>0.9193</td>
<td>0.9193</td>
</tr>
<tr>
<td>2</td>
<td>0.41290501</td>
<td>0.23188078</td>
<td>0.0515</td>
<td>0.9708</td>
</tr>
<tr>
<td>3</td>
<td>0.18021423</td>
<td>0.15428830</td>
<td>0.0225</td>
<td>0.9933</td>
</tr>
<tr>
<td>4</td>
<td>0.02592593</td>
<td>0.01245705</td>
<td>0.0032</td>
<td>0.9966</td>
</tr>
<tr>
<td>5</td>
<td>0.01346887</td>
<td>0.00438191</td>
<td>0.0017</td>
<td>0.9982</td>
</tr>
<tr>
<td>6</td>
<td>0.00908696</td>
<td>0.00571964</td>
<td>0.0011</td>
<td>0.9994</td>
</tr>
<tr>
<td>7</td>
<td>0.00336731</td>
<td>0.00171011</td>
<td>0.0004</td>
<td>0.9998</td>
</tr>
<tr>
<td>8</td>
<td>0.00165720</td>
<td>0.0002</td>
<td>1.0000</td>
<td></td>
</tr>
</tbody>
</table>

Table 4-6: A table of eigenvalues identifies how much of the total variance is associated with each of the derived factors. The highest eigenvalue shown in the table (7.35) indicates that slightly more than 7 variables are explained by factor 1.


I also calculated a table of factor loadings by decomposing the variation in the set of 8 original variables (units of time) and organizing these variables into a few summary factors where each factor may represent a distinct period of time (cf., Rogerson, 2010). Table 4-7 shows this calculated table of loadings. The columns named Factor 1 and Factor 2 represent the distinct
periods of time. The cells in the table represent the degree to which each of the 8 variables correlates with each of the corresponding component factors (cf., Kachigan, 1982).

<table>
<thead>
<tr>
<th>Factor Pattern</th>
<th>Factor 1</th>
<th>Factor 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>SNAP Households 2000</td>
<td>0.85775</td>
<td>0.43115</td>
</tr>
<tr>
<td>SNAP Households 2005</td>
<td>0.97895</td>
<td>0.13630</td>
</tr>
<tr>
<td>SNAP Households 2006</td>
<td>0.98152</td>
<td>0.09298</td>
</tr>
<tr>
<td>SNAP Households 2007</td>
<td>0.98420</td>
<td>0.07189</td>
</tr>
<tr>
<td>SNAP Households 2008</td>
<td>0.98725</td>
<td>0.02293</td>
</tr>
<tr>
<td>SNAP Households 2009</td>
<td>0.98625</td>
<td>-0.13891</td>
</tr>
<tr>
<td>SNAP Households 2010</td>
<td>0.96044</td>
<td>-0.25571</td>
</tr>
<tr>
<td>SNAP Households 2011</td>
<td>0.92644</td>
<td>-0.32955</td>
</tr>
</tbody>
</table>

Table 4-7: A table of factor loadings indicates the strength of the relationship between each of the variables and the component factors.


A look at the table of loadings provides some detailed information regarding the extent to which each of the variables is associated with two distinct factors (or periods of time). As Table 4-7 shows, the loadings include some relatively high values (0.98725) and low values (0.02293). The occurrence of these relatively high positive numbers is important. In this case, it indicates all the variables are strongly and positively associated with the Factor 1. Factor 1 represents a distinct period of time, a single period in which SNAP patterns remain the same from one year to another.

Next the factor analysis derives a set of communality estimates. A communality estimate represents the extent in which the variance of the corresponding variable is explained by the
entire factor analysis (cf., Hair, Jr. et al., 2010). As Table 4-8 shows, the relatively high values across the row suggest the entire factor analysis did a good job explaining a relatively large amount of the variance for each of the different variables.

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>0.92161917</td>
<td>0.97692503</td>
<td>0.97203703</td>
<td>0.97380889</td>
<td>0.97518796</td>
<td>0.99198704</td>
<td>0.98782810</td>
<td>0.96688628</td>
</tr>
</tbody>
</table>

Table 4-8: A table of communality estimates shows how much variance of the corresponding variable is explained by the entire factor analysis.


For the rest of the Chapter, I use the results only for Factor 1. Each of the 8 variables correlates well with Factor 1. Factor 1 explains the variance in the original data matrix. Further, the entire analysis is valid, as it does a good job of explaining the variance for each of the 8 variables. Empirically, these results suggest that the data from the years 2000 to 2011 represent only one period of time; this single period is well summarized by Factor 1.

The analysis also yields a set of factor scores. A factor score is a composite measure of the factor computed for each state (cf., Hair, Jr. et al., 2010). Usually there is a set of factor scores for each factor. However, I will only use the scores from factor one. Scores for factor 1 are a reliable guide to a set of data that has remained stable through time. Table 4-9 shows the resulting factor scores for the 50 states and the District of Columbia. It shows states exist on a continuum of negative to positive values with 0 representing the mean score. States with the most positive factor scores (greater than or equal to 1.0) have the highest rates of SNAP usage. Each of these states has a high rate of households participating in the SNAP program and loads highly on the factor (see Table 4-9).
Table 4-9: A revised data matrix of the original variables indicates the addition of a factor score—a composite measure of the factor computed for each state.

A mapping of the factor scores for factor 1 shows the regional variations of SNAP usage summarized over 8 years. Figure 4-10 illustrates these regional patterns. It shows the states mapped into four subgroups. It uses an intensity of blue and red to show the decreasing and increasing rates of household SNAP participation, respectively (see Figure 4-10).

A majority of the states with low rates of household participation occurred in just 3 geographic regions. Figure 4-10 uses an increasing intensity of blue to show declining rates of participation. Of the 26 low-participating states, 15 were concentrated in a swath that extended from California in the west and continued eastward to Wisconsin and Indiana. This regional concentration includes 7 of the 9 lowest-participating states: California, Utah, Wyoming, Colorado, Nebraska, North Dakota, and Minnesota. A second group of 10 states clusters along the country’s eastern shore. In the North, Vermont, New Hampshire, Massachusetts, Connecticut, and Rhode Island form one low-participating group. Further South, a second group includes Pennsylvania, New Jersey, Delaware, Maryland, and Virginia.

The remaining 25 states with high SNAP usage are concentrated in at least 4 additional geographic regions. Of these states, a majority concentrated in the country’s Southern states. As Figure 4-10 illustrates, conditions of high participation are extensive and widespread in a band of 17 states that stretches from Arizona to North Carolina. It reaches as far north as Washington, DC and southward to Florida. In fact, this group includes 7 of the 10 highest-participating states represented in a band that stretches northeastward from Louisiana across Southern and Central Appalachia to Washington, DC. The remaining 8 high-usage states included Washington, Oregon, and Hawaii in the west, Maine in the east, and Michigan, Illinois, Ohio, and New York bordering the Great Lakes.
Figure 4-10: A map of the factor scores shows regional variations in household SNAP usage summarized over an eight year period.


For the data of SNAP households, this factor analysis provides a very useful map for the period of 2000 to 2011 (see Figure 4-10). It gives a relatively accurate depiction of the patterns of SNAP usage by the households located in each state and shows the states that had consistently high and low rates of household participation in time.
4.3.2 A Regional-Statistical Analysis of Household Participation

A cluster analysis of SNAP households complements the findings of a factor analysis by showing the ways in which household participation varies by region. A cluster analysis is a multivariate technique used to group the original dataset by states. It identifies groupings on the basis of distance (or proximity) of the states included in the original data matrix (cf., Hair, Jr. et al., 2010). It provides a set of categories that represent groups of states (or regions) of high and low rates of SNAP usage. Finally, it supplies the dataset necessary for creating a map of regional variations in household participation.

To group the data by states, I identified a common characteristic shared by a group of states—the extent to which a place has higher or lower rates of household participation in SNAP. I then applied Ward’s method of minimum variance to group the states into relatively homogeneous subsets on the basis of the inter-state similarities in the percent of households using SNAP benefits. I also classified the states into groups that demonstrated maximum intra-group homogeneity and inter-group heterogeneity (cf., Abler et al., 1971; O’Sullivan and Unwin, 2003; Hair, Jr. et al., 2010; Rogerson, 2010) (see Table 4-10).

The product of this analysis is a set of categories that represent regions of high and low rates of SNAP usage. Table 4-10 identifies the groupings of two different classification schemes. The columns labeled Cluster 2 and Cluster 4 classify the states according to a two and four cluster solution, respectively. The cell entries contained in these two columns identify each state according to a categorical number.
Table 4-10: A revised data matrix of the original variables shows the presence of two new variables. On the far right, the variables named Cluster 2 and Cluster 4 classify the 50 states and the District of Columbia according to a two and four cluster solution, respectively.

A mapping of the two different solutions shows different patterns of regional variation in household participation. The occurrence of these spatial patterns is important for the development of post-structural interventions in food security. By regionalizing the data, I divide the country up into comprehensible chunks to put conditions of program participation in perspective. These regions transcend state, county, and local political boundaries. Each provides a useful way for beginning to think about the particularities of places and the identities of the people living there (cf., Garreau, 1981).

A map of the two cluster solution shows the states grouped into two regions of high and low SNAP usage (see Figure 4-11). The map included in Figure 4-11 illustrates these regional patterns. It shows the states mapped into two groups with 20 states in one cluster and 30 plus the District of Columbia in the other. The regional class of 20 states registering the lowest rates of participation was limited to five states in the east (New Hampshire, Connecticut, New Jersey, Maryland, and Virginia), a large swath of territory spanning the entire mid-west, the Rocky Mountains, and California on the West coast.
Figure 4-11: A map and graph of the two-cluster solution. This solution groups the states into two regions of high and low SNAP usage.

A second map demonstrates the stability of the lowest-participating states and the characteristics of highly-participating states. Figure 4-12 shows how I broke down the two-cluster solution into four groups of states. Specifically, it shows that the group of low-participating states (Cluster 1) retained all its members. At the same time, it also shows three sub-groups of weak, moderate, and extremely high rates of participation were formed from the states comprising the high-usage group.

![Cluster Diagram]

Figure 4-12: A detailed look at the differences identified by the two- and four-cluster solutions. Notice, the four-cluster solution breaks down the high usage category into three sub-groups.

As in Figure 4-11, I differentiate the groups based on each group’s average rate of household SNAP participation relative to the national average, with the highest trending average representing the most severe category (see Figure 4-13).
Figure 4-13: A graph of the four-cluster solution. I differentiate the groups based on each group’s average rate of household SNAP participation, relative to the national average.


Figure 4-14 shows the more nuanced map of the country’s patterns of SNAP usage. It shows the 20 low-participating states mapped in blue while the other 31 states are shown in 3 subgroups using various intensities of red corresponding to increasing levels of household participation. The regional class of the highest usage places was limited to just 8 states. These
states included Maine in the east, Oregon in the west, and a band of 6 states linking the Mississippi Delta to Southern and Central Appalachia and Washington, DC.

Figure 4-14: A map of the four-cluster solution shows the states break down into four regional categories of participation. States with low rates of participation are shown in blue. States with weakly, moderately, and extremely high rates of participation are represented by an increasing intensity of red.

For the data of SNAP households, the cluster analysis contributes two very useful maps for the period of 2000 to 2011. A map of the two cluster solution shows that there are distinct places of high and low rates of SNAP usage (see Figure 4-11). A map of the four cluster solution corroborates the spatial variety of the factor analysis; it also shows significant regional variation among the member states comprising the high usage group (see Figure 4-14). Collectively, the two maps demonstrate the stability amongst the group of the lowest-participating states and provide a useful way of initiating discussions about local and regional identities.

### 4.3.3 A Space-Time Analysis of Household Participation

In this section I combine the results from the factor analysis and the cluster analysis using a simple scatter diagram and a map. I claim that this combined analysis provides a space-time framework for the data of household participation. Specifically, the factor analysis provides for a summary of the data of household participation in time, and the cluster analysis shows the spatial variation in household SNAP usage.

Figure 4-15 shows a scatter diagram of the factor and cluster data. This diagram plots the four clusters along the horizontal axis. Along the vertical axis, it specifies the factor scores for each state in each cluster. For each cluster, it shows the maximum, minimum, and average factor scores. It also identifies the clusters as rank-ordered variables representing four regional groups of increasingly higher rates of SNAP participation. In fact, this observation is evidenced by the increasing average factor scores from the left to the right side of the graph.
Figure 4-15: A graph showing a ranked order of the states by the four-cluster solution. With the exception of Hawaii, there is no overlap in the clusters. The highest factor score of cluster 1 is lower than the lowest factor score of cluster 2 etc.

Returning to Figure 4-15, it is interesting to note the unique position of Hawaii. With the exception of Hawaii, the highest factor score represented in cluster 1 is lower than the lowest score of cluster 2 and so on. This non-overlapping pattern of factor scores suggests Hawaii may be incorrectly assigned to cluster 3. A comparison of Hawaii to the average values of clusters 2 and 3 through time indicates this is likely the case. A mathematical calculation of Euclidean distance showed that the line representing Hawaii is closer to cluster 2 than 3 by about 1.65 units (see Figure 4-16).

Figure 4-16: A graph showing the average rates of household SNAP participation for clusters 2 and 3, relative to Hawaii’s rate of participation, suggests Hawaii may be incorrectly assigned to cluster 3.

To correct this situation, I have re-assigned Hawaii to Cluster 2. It will remain in this grouping for the rest of the dissertation. Figure 4-17 shows a revised scatter diagram of the factor and cluster data with Hawaii positioned just below the average value of cluster 2. The non-overlapping pattern of the factor scores confirms the validity of the four cluster regionalization with Hawaii grouped into cluster 2.

With Hawaii reclassified, it is interesting to see the variation among the intra-group factor scores. As Figure 4-17 illustrates, there is little variation in the intra-group factor scores of Cluster 2 with less than 1 factor score (0.574) separating Illinois and Delaware, the highest and lowest ranking states. A similarly small intra-group variation may be observed in Cluster 3 with just 0.73 separating Michigan and Oklahoma, the lowest ranking member of the cluster.

It is also interesting to observe inter-group variation in the data. As Figure 4-17 shows, there is a large variation among the inter-group factor scores. In fact, slightly more than 4 factor scores separate Washington DC (the highest ranking state) from Wyoming (lowest ranking state).
Figure 4-17: A revised graph of the states shows a non-overlapping pattern of factor scores. This pattern suggests all the states are now correctly assigned to a cluster.

Figure 4-18 is a variation of the data in the scatter diagram. This map uses colored proportional circles to show the range of factor scores for a particular cluster. It confirms the relatively stable geography of SNAP households through time.

As in Figure 4-17, Figure 4-18 shows that the high factor scores indicating high rates of SNAP participation coincide with the dark red states from the cluster solution. The factor scores decline as the intensity of red declines and is minimized in the group of blue states. Within each group, the range of factor scores shows variations in program participation by state. Of the 20 states in the lowest-participating group, a majority of 18 states had factor scores between -1.5 and -.50. Wyoming ranked the lowest in the group with its score of -1.88; Montana reported a high score of -0.48 (also see Figure 4-17).
Figure 4-18: A map of the states shows the range of factor scores for a particular cluster. It highlights the relatively stable geography of SNAP households through time.


For the data of SNAP households, the factor/cluster analysis shows the patterns of SNAP usage in space and time. By using the data provided by the factor analysis and four cluster solution as input variables, I created a scatter plot and map of SNAP usage for the entire period of 2000 to 2011. These two products show the relatively stable geography of SNAP households.
through time. Each also highlights the differences in SNAP usage amongst the states for the entire period.

4.4 Poverty and Household SNAP Participation

An exchange value approach to food security generally assumes that people are food insecure when they lack money income. It attempts to alleviate this condition through supplying households meeting a pre-determined, minimum income threshold with supplemental cash values. It enables participants to exchange these cash values at local retailers like grocery stores.

A final factor analysis allows me to assess the extent to which food assistance programs are actually working to alleviate poverty. Specifically, this analysis examines the extent to which states’ poverty rates vary in time. Like the analysis of SNAP households, it finds that the data of household poverty rates may be summarized by a single factor representing one definite temporal period. It derives a set of standardized scores to identify places of high and low rates of household poverty. It also yields the dataset necessary for the creation of a series of maps showing regional variations in the states.

Through a series of maps, I highlight two important relationships in the data of contemporary SNAP eligibility rates, usage, and places of persistent poverty. These findings indicate that SNAP is not a sustainable way of resolving poverty. While the program helps many

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27 In this dissertation, I consider SNAP to perform the functions of emergency assistance and capacity building. The program is designed to help eligible people access supplies of food in a relatively short period of time following an emergency situation, like the sudden loss of a job, death of a breadwinner, or a natural disaster. However, the program also performs some capacity building functions as it enables participants to increase their incomes through their participation in the workforce, schools, and job training programs. In this sense, the program ought to be able to reduce poverty rates in the long-term as low-income participants are able to enhance their ability to accumulate additional quantities of income and enhance their future earnings potential. However, it should be noted that SNAP benefits are not usually counted in determining whether a household is above or below the government’s thresholds. Thus, the size of SNAP does not affect the calculation of the poverty rate in any one year.
households to feed themselves, states’ household poverty rates remain about the same from year to year.

As in the previous factor analysis, I make use of an original data matrix. This matrix depicts 51 rows representing each of the US States and the District of Columbia. It also has a series of four columns, each representing a particular moment in time. In its cells, values represent the percent of households reporting an income less than or equal to poverty by state. These values were obtained directly from the US Census Bureau for the census years 1980, 1990, and 2000 (US Census 1990, 2000b, 2011d). In 2010, the decennial census did not question respondents about their poverty status. Accordingly, 2011 data were sourced from the American Community Survey 5-year dataset representing the years 2007-2011 (see Table 4-11).

<table>
<thead>
<tr>
<th>Name of State</th>
<th>FIPS</th>
<th>1980</th>
<th>1990</th>
<th>2000</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>01</td>
<td>19.67%</td>
<td>14.09%</td>
<td>16.67%</td>
<td>17.16%</td>
</tr>
<tr>
<td>Alaska</td>
<td>02</td>
<td>10.14%</td>
<td>6.86%</td>
<td>8.31%</td>
<td>8.06%</td>
</tr>
<tr>
<td>Arizona</td>
<td>04</td>
<td>12.50%</td>
<td>12.47%</td>
<td>11.79%</td>
<td>13.80%</td>
</tr>
<tr>
<td>Arkansas</td>
<td>05</td>
<td>20.10%</td>
<td>15.03%</td>
<td>15.77%</td>
<td>17.70%</td>
</tr>
<tr>
<td>California</td>
<td>06</td>
<td>10.50%</td>
<td>10.07%</td>
<td>11.82%</td>
<td>12.67%</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>55</td>
<td>9.09%</td>
<td>8.36%</td>
<td>8.38%</td>
<td>11.49%</td>
</tr>
<tr>
<td>Wyoming</td>
<td>56</td>
<td>8.82%</td>
<td>9.91%</td>
<td>11.24%</td>
<td>9.78%</td>
</tr>
</tbody>
</table>

Table 4-11: A state-by-state data matrix of household poverty rates

Sources: US Census Bureau (1990; 2000b; 2011d)

An analysis of these data in SAS found that each of the 4 variables correlates with a single factor representing a distinct period of time—a single period in which household poverty rates remain about the same from one year to another over three decades. A table of eigenvalues...
indicates that factor 1 explains about 91.6 percent of the total variance, with the value of the 2nd factor (0.168) explaining less than the variance contained in a single variable. The table of factor loadings shows that all the variables are strongly and positively associated with factor 1 as each variable has a loading value of at least 0.940. Finally, the high values of 0.987, 0.969, 0.950, and 0.927 shown in the communality table indicate that the entire factor analysis successfully explained a relatively large amount of the variance for each of the 4 different variables. Empirically, these results suggest that the data from the years 1979-2011 represent only one period of time; this single period is well summarized by Factor 1.

Like the factor analysis of SNAP households, this analysis also supplied a set of factor scores. Recall, a factor score is a composite measure of the factor computed for each of the states (cf., Hair, Jr. et al., 2010). It represents a reliable guide to a set of data that has remained stable through time. Table 4-12 shows the derived factor scores for the 50 states and the District of Columbia. It shows that the states exist on a continuum of negative to positive values with 0 representing the mean factor score. States with the most positive factor scores (greater than or equal to 1.0) represent the states with the highest household poverty rates. Each of these states has a high rate of households with incomes at or below the poverty line and loads highly on the factor (see Table 4-12).
### Index of States, by Poverty Factor Score

<table>
<thead>
<tr>
<th>Name of State</th>
<th>FIPS</th>
<th>Factor 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>01</td>
<td>1.550</td>
</tr>
<tr>
<td>Alaska</td>
<td>02</td>
<td>-1.258</td>
</tr>
<tr>
<td>Arizona</td>
<td>04</td>
<td>0.160</td>
</tr>
<tr>
<td>Arkansas</td>
<td>05</td>
<td>1.624</td>
</tr>
<tr>
<td>California</td>
<td>06</td>
<td>-0.267</td>
</tr>
<tr>
<td>Colorado</td>
<td>08</td>
<td>-0.675</td>
</tr>
<tr>
<td>Connecticut</td>
<td>09</td>
<td>-1.376</td>
</tr>
<tr>
<td>Delaware</td>
<td>10</td>
<td>-0.923</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>11</td>
<td>1.211</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>West Virginia</td>
<td>54</td>
<td>1.623</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>55</td>
<td>-0.898</td>
</tr>
<tr>
<td>Wyoming</td>
<td>56</td>
<td>-0.726</td>
</tr>
</tbody>
</table>

Table 4-12: A listing of poverty factor scores, by state

Sources: US Census Bureau (1990; 2000b; 2011d)

A map of the poverty factor scores shows the regional variations in household rates of poverty for the entire period of 1979 to 2011. Figure 4-19 provides a map which shows these regional patterns. It shows the states mapped into four subgroups and uses an intensity of blue and red to show the decreasing and increasing rates, respectively, of household poverty (see Figure 4-19).

A majority of the states with low rates of household poverty stretched across the northern section of the country in a single band. The map included in Figure 4-19 uses an increasing intensity of blue to show declining rates of household poverty. Of the 30 states with low-rates of household poverty, 28 were concentrated in a band that stretched from the West Coast across the
interior mountain West across the Central Great Plains and Great Lakes states before reaching northward and southward along the country’s eastern coast.

The remaining 20 states and the District of Columbia, with high rates of household poverty, are concentrated in 2 additional geographic regions. The map included in Figure 4-19 uses an increasing intensity of red to show increasing rates of household poverty. Of these states, a majority are concentrated in the US South. As Figure 4-19 illustrates, places with high rates of household poverty are extensive and widespread in a band of 17 states that stretches from Arizona to North Carolina. This band reaches as far north as Washington, DC and southward into Florida. In fact, this group includes all 8 of the states with the highest rates of household poverty. The remaining 3 states with high rates of household poverty are North Dakota, South Dakota, and Montana. The economic circumstances of Native American households residing in these states help explain the occurrence of this small regional grouping of states (cf., Glasmeier, 2005).
It is interesting to note the strong correlation between poverty factor scores and rates of SNAP eligibility. A state-by-state analysis of these two variables found the strength of the correlation coefficient to be 0.891. Empirically, this suggests many states characterized by historically high rates of household poverty still had high percentages of people eligible for SNAP benefits in 2010 (see Figure 4-20).
Figure 4-20: A comparison of the states’ poverty factor scores and rates of SNAP eligibility (SNAP$_E$).

Sources: US Census Bureau (1990; 2000b; 2011b; 2011d; Cunnygham (2012)
The map included in Figure 4-21 helps show the correlation between poverty factor scores and rates of SNAP eligibility. This figure overlays a map of states with low and high rates of SNAP eligibility on a map of poverty factor scores. States classified as “low” have a rate of eligibility that is less than the median rate of all states. These states are below the line shown in Figure 4-20. Previously, they were placed in the quadrants Q(L,L) and Q(L,H) shown in Figure 4-3.

As Figure 4-21 shows, a majority of the states with high poverty factor scores also have relatively high percentages of individuals eligible for SNAP benefits in 2010. Of the 21 states with high poverty factor scores (or scores greater than 0), 18 were estimated to have high rates of SNAP eligibility in 2010. This group of states was regionally concentrated in the US South. It represented about 85 percent of all states with consistently high rates of household poverty in the past. Finally, it included all 7 of the states with the highest poverty factor scores: New Mexico, Arkansas, Louisiana, Alabama, Mississippi, Kentucky, and West Virginia, as well as Washington, DC.
Figure 4-21: A map of the states illustrates the correlation between the poverty factor scores and rates of SNAP eligibility in 2010

Sources: US Census Bureau (1990; 2000b; 2011b; 2011d; Cunnyngham (2012)

A similar correlation may be seen in the comparison of the poverty and SNAP factor scores. A state-by-state analysis of these two variables found the strength of the correlation coefficient was about 0.722. It suggests that many states characterized by consistently high household poverty rates in the past still have consistently high rates of household SNAP participation since 2000.
The map included in Figure 4-22 shows the correlation between the poverty and SNAP factor scores. This map overlays a map of the states with low and high factor scores on a map of poverty factor scores. Recall, the SNAP and poverty factor scores represent a standardized value. Accordingly, I use the mean score of 0 to differentiate the categories of “low” and “high” scoring states. A state is classified as low if it is represented by a negative SNAP factor score.

As in the previous map, Figure 4-22 shows that a majority of the states with high poverty factor scores also have consistently high rates of household SNAP usage for the entire period of 2000-2011. Of the 21 states with high poverty factor scores, 18 had consistently high rates of SNAP participation since 2000. It is important to note these 18 states were the same states found to have high rates of SNAP eligibility in 2010 (see Figure 4-3).
Figure 4-22: A map of the states shows the strength of the relationship between the poverty and SNAP factor scores.


A state-by-state analysis of household poverty rates helps contextualize the economic conditions experienced by food insecure people. It shows that data representing states’ household poverty rates may be summarized by a single factor representing one definite temporal period for the years 1979-2011. Empirically, this finding suggests that states reporting high rates of household poverty in the past continue to report similarly high rates.
Collectively, my analyses of poverty, SNAP eligibility, and participation show the extent to which the program helps feed people but does little to improve poverty rates. A map comparing the rates of SNAP eligibility and poverty factor scores shows that states characterized by consistently high rates of household poverty rates still had proportionately high rates of people eligible for SNAP benefits in 2010 (see Figure 4-21). A second map compares SNAP participation and poverty factor scores. It shows that states with consistently high household poverty rates in the past also reported high rates of SNAP participation since 2000 (see Figure 4-22).

4.4 Food and a Social Theory of Poverty

I shall now transition from the statistical analyses to a social theory of poverty. Specifically, I summarize my analyses detailed in Chapters 2, 3, and 4. I also relate the implication of these analyses—that it is imperative to engage a discursive framework that recognizes the agency of individual recipients in order to resolve the long-term issues of food insecurity. I will expand upon this theme in the following chapter where I propose a use value theory of poverty (see Chapter 5).

A review of this dissertation shows that I have described the various aspects of the federal government’s efforts to provision poor people with food. Most often, my attention is focused on the government’s flagship program—the Supplemental Nutrition Assistance Program (SNAP). I also engage the concepts of supply and demand in order to examine these efforts (see Chapters 2, 3, and 4).

I began the dissertation with an examination of the supply of food assistance. In Chapter 2, I related a series of successive periods of the federal government’s efforts to provision poor people. I highlighted the extent to which these efforts are deeply entrenched in a complex system.
of political economy. I also demonstrated the need for looking beyond food stamps as this approach to food security is financially unsustainable, politically unstable, and adversely impacts the dignity of recipients.

I followed this analysis with one of consumer demand. In Chapter 3, I constructed profiles of the household recipients of SNAP benefits. These profiles highlighted attributes of class, race, unemployment, gender, family structure, and geographic location. Each also contributed to three particular purposes. First, the statistics provided in the contingency tables revealed the inaccuracies of the prevailing stereotypes of SNAP recipients. Second, it demonstrated the unhelpfulness of the standard social science exercise that engages contingency variables to demonstrate causality. Namely, the analyses suggest that assigning causality to the variables of poverty, unemployment, race, and gender is indicative of a permanent need for food assistance, as the issues of poverty, unemployment, and racial and gender discrimination are enduring elements of American society. The fact is access to nutritious food, particularly for children, is a fundamental human right and is too important to be made vulnerable to questions of unemployment, poverty, and discrimination. Finally, the analysis of contingency tables gave me specific information to direct what I have called “post-structural interventions,” the topic of my fifth chapter. In this chapter, I make the claim that there are no limiting factors to the production of affordably priced, nutritious food in the city. If this argument is correct, then the knowledge provided by the contingency tables affords recognition to those individuals and households who are now recipients of SNAP benefits.

I then extended my examination of SNAP consumers in Chapter 4 through a consideration of the geographic distribution of beneficiary households. Here, I primarily related a space-time analysis of SNAP data at the level of the states. I demonstrated the extent to which the spatial patterns at the state level were essentially stable through time as the entire data matrix collapsed into a single factor. I then engaged a cluster analysis to show macro-regional variations
in the distribution of SNAP households. I overlaid the factor scores and clusters to demonstrate the historical persistence of the state level macro-regional patterns. I also showed the extent to which these patterns correlate with poverty, which itself is regionally persistent.

Collectively, the analyses privilege an exchange value approach to poverty. This approach presumes people are poor and food insecure when they lack money income. While it is important to recognize the truthfulness of this statement in one sense, it is also necessary to acknowledge its inherent limitation—that poor people need money income to climb out of poverty. In this sense, efforts based upon this presumption are holding food security hostage to the resolution of macro-scale issues of employment and discrimination, issues beyond the control of SNAP recipients.

However, analyses also highlight the need for a discursive framework that recognizes the agency of individual recipients in order to resolve issues of food insecurity. Analyses of supply indicate the federal government’s efforts to provision poor people do not represent a long-term, viable solution for resolving food insecurity. Likewise, analyses of demand suggest that at least some of the country’s people will have a permanent need for food assistance benefits.

It is my intent to let the next chapter address these issues. In Chapter 5, I propose an alternate view of poverty, which I refer to as a use value approach. I engage this concept to characterize post-structural interventions in food security. These interventions include the efforts through which ordinary people are reducing poor people’s need for food assistance benefits. I then identify urban agriculture as one such intervention. I develop a case study of Philadelphia, Pennsylvania to examine the extent to which this strategy is valid and feasible.
Chapter 5

Post-Structural Interventions in Food Security

As the previous chapters indicated, the SNAP program includes some serious drawbacks. The program is large and expensive to operate. It is growing at an unsustainable rate. The benefits supplied by the program provide questionable food security and nutrition for recipients. Finally, individuals and households participating in the program are shamed by moral discourses that characterize them as undeserving, burdensome dependents. For these reasons, it is important to seek alternative ways to provide food security to the poor.

With these shortcomings in mind, I focus on Philadelphia as a place where food can be grown locally. I do so for four reasons. First, I want to examine food security in Pennsylvania. Second, Penn State University’s Cooperative Extension has a long-standing relationship with the city’s residents and institutions. Third, several members of the Penn State’s Department of Geography are actively engaged in research in the City; I wish to take advantage of this accumulated supply of knowledge. Finally, Philadelphia has Pennsylvania’s largest number and share of SNAP households. In 2010, an estimated 17.58 percent of the City’s households received SNAP benefits (or 101,040 households) (US Census Bureau, 2010h).

In my examination of Philadelphia, I explore the possibility that SNAP recipients may be able to improve their own food security through sites of urban agriculture. By this, I propose the widespread production and distribution of locally-grown, healthy food in places characterized by high rates of food insecurity and poverty. It is important to note that I do not mean to say that all poor people and/or households living in these places ought to be directly engaged in such efforts.

I also invoke a new social theory of poverty which I alluded to at the end of Chapter 4. Instead of looking at poverty as a matter of little income, this social theory considers a household
poor when it lacks physical access to the basic needs of adequate, nutritious food, clean water, good health, housing, energy, and transport. Instead of always depending on the formal economy to provide jobs and adequate income, this approach highlights the potential for the local production of these basic needs. Consistent with the subject matter of my dissertation, I will focus only on issues of adequate, nutritious food.

I present my arguments in five parts. First, I examine the data of food security and poverty in Pennsylvania. Next, I show the location and distribution of households receiving SNAP benefits in Philadelphia. A third section outlines the concept of the basic needs economy and proposes this as an alternative to present policies of SNAP and poverty. A fourth section identifies and describes a model of bio-intensive agriculture. This is a method of food production that supplies people with affordably-priced, healthy foods while minimizing the amount of land, labor, and capital required for its production. Finally, I identify and characterize the availability of land, labor, and capital for the production of food. I also highlight some of the ways in which ordinary people engage locally-available sources of land, labor, and capital to create affordably priced, healthy food and jobs in the city.

Like previous chapters, this chapter will highlight the particularities of place by examining local people’s food needs and the capacity for providing for these needs locally. While I understand that experiences of food insecurity are influenced by discourses about race, class, gender, and power, I contend that these conceptual categories of structure occur at such high levels of discursive aggregation that ordinary people have little ability to change these categories, especially those who are victimized by these identities. I believe it is necessary to re-theorize questions of poverty and food security at scales in which ordinary people can exercise power. Through this focus, it is my hope that SNAP participants may benefit from the effects of an alternative discourse. Specifically, (1) they will access adequate, nutritious food at affordable
prices; (2) sites of urban agriculture will contribute to additional employment opportunities; and (3) low-income people will no longer be victimized and shamed as welfare dependents.

In theoretical terms, my examination is a post-structural intervention in the community (Gibson-Graham, 2000). By a post-structural intervention, I refer to a food security solution that recognizes the interplay of both social structures and human agency. Specifically, these interventions examine the potential for human agency in food production as a way of transcending the constraints of the larger systems of race, class, gender, age, and other conceptual categories (cf., Yapa, 1996). Food production serves as one example of this type of intervention, as it enables ordinary people who may not have the capacity to easily change larger structures to engage their own agency to reduce or remove the negative impact of these structures.

5.1 Food insecurity and poverty in Pennsylvania

Food insecurity and poverty is an all too familiar experience for many Pennsylvanians. The Food Research and Action Center reported about 16.2 percent of Pennsylvania’s households did not have enough money to purchase adequate food supplies at least once in 2010 (cf., FRAC, 2011). During that same year, an estimated 13 percent of the state’s households reported an income less than the poverty threshold (US Census Bureau, 2011h).

In this section, I first examine the rates of household food insecurity and poverty in Pennsylvania by US Congressional District. I show the extent to which a relationship persists between rates of household poverty and food insecurity for a particular state. Recall, my previous analyses identified the occurrence of such a relationship amongst the states (see Chapter 4). I also identify and characterize the location and distribution of households experiencing very high rates of food insecurity and poverty in Pennsylvania.
Data on household poverty are extracted from the American Community Survey (US Census Bureau, 2010g; 2011g). Food insecurity data on Congressional Districts represent the best estimate of food insecurity that I have been able to find for places within a state.28 These data were collected by Gallup as part of the Gallup-Healthways Well-Being Index on food hardship—a concept that is comparable to that of food insecurity (FRAC, 2011).

As in my previous analyses, I make use of an original data matrix similar to the one shown in Table 5-1. This matrix contains 19 rows representing each of Pennsylvania’s US Congressional Districts in 2010. The values in the column named “Percent of Households in Poverty 2010” relate the estimated percentage of households with incomes below poverty. These values are calculated by normalizing the counts of households with incomes below poverty by the total number of households living in the district as reported in Table B22003 of the 2008-2010 ACS dataset. The values in the column named “Percent of Food Insecure Households 2010” represent an estimated percentage of food insecure households. These values were obtained directly from a 2011 report published by the Food Research and Action Center (FRAC, 2011).

28 Feeding America does estimate the percent of households experiencing food insecurity at the county-level. However, I was not comfortable with their formula for estimating the number of households, as I believe some of its indicators would under-estimate the number of food insecure households in Pennsylvania.
Table 5-1: A data matrix showing the rates of household poverty and food insecurity by Pennsylvania Congressional District. These data are ranked by highest to lowest rates of household food insecurity.

Sources: US Census Bureau (2010g); FRAC (2011)
Figure 5-1 shows the relationship between the two variables of poverty income and household food insecurity with the bolded circles representing Philadelphia’s four Congressional Districts—Districts 1, 2, 8, and 13. It shows these two variables have a strongly positive, linear relationship with a correlation coefficient of 0.924. It suggests that Congressional Districts in Pennsylvania characterized by high rates of household poverty have proportionately high rates of food insecurity. These are similar to the correlations identified at the state-level in Chapter 4. It also indicates that two of Philadelphia’s Congressional Districts (Districts 1 and 2) have the highest rates of poverty and food insecurity in the state with rates exceeding 20 percent of all households (see Figure 5-1).

Figure 5-1: Comparison of household poverty and food insecurity rates in Pennsylvania, by US Congressional District.

Sources: US Census Bureau (2010g); FRAC (2011)
By dividing up the graph, it is possible to organize the Congressional Districts into the two quadrants of \( Q_{(L,L)} \) and \( Q_{(H,H)} \). Returning to Figure 5-1, vertical and horizontal lines divide the graph along the median values of the x- and y-axes. Beginning in the lower left quadrant, \( Q_{(L,L)} \) Congressional Districts had Pennsylvania’s lowest rates of poverty and food insecurity in 2010. In the upper right, \( Q_{(H,H)} \) Districts had the highest rates of poverty and food insecurity in the state with rates exceeding 10.95 percent of all households. These Districts included about 2.3 million of the state’s 4.95 million households in 2010.

I use the term “distressed” to reference those regions with the highest rates of poverty and food insecurity—or those Congressional Districts located in \( Q_{(H,H)} \) (see Figure 5-1). Previously, this term was employed by Amy Glasmeier. In her 2005 *Atlas of Poverty*, she defines an economically distressed place as one in which a persistently large share of households are unable to earn an income sufficient enough to pay for the necessities of daily living, such as food, clothing, and shelter. She demonstrates the extent to which these places are concentrated in the country’s most rural and urban counties. She identifies and describes these places as Appalachia, The Mississippi Delta, First Nation Poverty, The Border Region, and America’s Segregated Cities.

By further dividing up the data contained in Figure 5-1, it is possible to characterize the Congressional Districts by severity of economic distress. Figure 5-2 shows the 9 Districts included in \( Q_{(H,H)} \) (see Figure 5-1). It uses another series of vertical and horizontal lines to subdivide this quadrant by its median values. It uses an intensity of red to delimit the severity of distress by Congressional District. Beginning in \( HQ_{(L,L)} \), Districts 9 and 10, representing about 522,964 households, are classified as mildly distressed as these two Districts are shown to have the lowest rates of poverty and food insecurity among all the Districts in this group. Districts 3, 5, 11, and 12, representing about 1.03 million households, are classified as moderately distressed, as these Districts have near median rates of food insecurity and poverty. Finally, quadrant
HQ\(_{(H,H)}\) shows the places of severe distress, as its Districts 1, 2, and 14 have the highest rates of poverty and food insecurity in this grouping. In 2010, these severely distressed Districts included about 751,832 of the 2.3 million households residing in the state’s distressed areas.

Figure 5-2: A breakdown of the data for Pennsylvania’s distressed Congressional Districts

Sources: US Census Bureau (2010g); FRAC (2011)

The map included in Figure 5-3 shows the location and distribution of Pennsylvania’s 9 distressed places by Congressional District and severity of economic distress. It retains the numbering scheme and intensity of red to distinguish the places of mild, moderate, and severe rates of poverty and food insecurity. It shows that the state’s places of economic distress follow the broader patterns identified in Glasmeier’s regions of Rural and Urban poverty in America (cf.,
Glasmeier, 2005). It also shows the most severely distressed places concentrate in the state’s 3 most urban districts, representing Pittsburgh in the west and Philadelphia in the east. In 2010, these severely distressed urban areas included slightly more than one-third of all the households living in the state’s distressed places (or about 15.2 percent of Pennsylvania’s households) (see Figures 5-2 and 5-3).

![Regions of distress in Pennsylvania, by Congressional District (2010)](image)

Figure 5-3: Pennsylvania’s regions of distress, by Congressional District and Severity

Sources: Census Bureau (2010g); FRAC (2011)

Through this examination of household poverty and food insecurity rates, I situate the City of Philadelphia within a regional hierarchy of places that includes the State of Pennsylvania, Congressional Districts, Philadelphia County, and Philadelphia’s Congressional Districts. My
chapter begins with a discussion of Pennsylvania’s households. I identify and characterize the relationship between the household rates of poverty and food insecurity within the state by its Congressional Districts. I engage a series of bolded circles to highlight the location of Philadelphia with respect to the state’s Congressional Districts in Figure 5-1. Likewise, I use a map insert to identify the location of the city’s boundaries, its Congressional Districts, and situate the city within the State of Pennsylvania (see Figure 5-3).

I identify and name the places where post-structural interventions would be most helpful. These include the Congressional Districts characterized by high rates of poverty and food insecurity. Specifically, I demonstrate the relationship between the variables of household poverty and food insecurity for Pennsylvania’s Congressional Districts. I relate the implications of this analysis—that a large share of households located in these places is unable to earn enough money to pay for necessary food. I then relate my findings to Glasmeier’s concept of economic distress. I engage her concept and evidence its utility by breaking down the Districts characterized by the highest rates of poverty and food insecurity into four categories of severity (see Figure 5-2). I also create a map to highlight the places in which to target post-structural interventions in food security. This map shows the location and distribution of Pennsylvania’s regions of economic distress by Congressional District and severity (see Figure 5-3). However, it should be noted that not all households residing in distressed areas are necessarily experiencing economic distress.

I also affirm my decision to focus on the City of Philadelphia as a place in which affordably priced, healthy food can be grown locally. In 2010, the City of Philadelphia included two of the state’s three areas of severe economic distress suggesting a need for research and strategies to improve access to affordably priced, healthy food. As Philadelphia County accounts for nearly 12 percent of the state’s households (cf., US Census Bureau, 2010h), a substantial number of Pennsylvanians stand to benefit from the production of food and jobs created through
intervention efforts. Finally, the City of Philadelphia is surrounded by very food secure places; this suggests that the city ought to have the resources necessary to become food secure as well.

5.2 Poverty, Unemployment, Race, and SNAP participation in Philadelphia

Continuing my analyses, I examine the rates of poverty (P), unemployment (U), race (R), and SNAP participation (S) in Philadelphia, Pennsylvania by Census tract. Here, I show the extent to which these four variables exhibit a similar spatial pattern. I engage the acronym PURS to identify and characterize the nature of the relationship among the four variables. I engage the attributes of this relationship in order to relate the extent to which the four variables impact food insecure people. Finally, I highlight the potential for post-structural interventions to change the ways in which food insecure people experience this relationship.

I start with a data matrix of values extracted from the American Community Survey (cf., Census Bureau, 2011a; 2011f; 2011g). As Table 5-2 shows, this matrix contains 384 rows representing each of Philadelphia’s residential Census tracts in 2011. Of these, 9 rows were found to contain no data for households, and 8 rows were found to contain no data for individuals; these were excluded from the analyses. The four columns of data represent poverty, SNAP participation, unemployment, and race. The values contained in the “Rate of household SNAP participation” column represent the estimated percentage of households receiving SNAP benefits. Similarly, those included in the “Rate of household poverty” column represent the percent of households living at incomes below poverty in the Census tract. The values contained in the “Percent unemployed” column represent the percentage of individuals who are not formally employed, but are seeking work in a particular Census tract. Finally, those included in the “Percent black” column represent the percentage of individuals who identify as black or African
American in a Census tract. Each of these four values is calculated using the total number of households residing in each tract (see Table 5-2).

<table>
<thead>
<tr>
<th>Name</th>
<th>TractNumber</th>
<th>Rate of household SNAP participation</th>
<th>Rate of household poverty</th>
<th>Percent Unemployed</th>
<th>Percent Black</th>
</tr>
</thead>
<tbody>
<tr>
<td>Census Tract 177.02</td>
<td>177.02</td>
<td>68.86%</td>
<td>70.48%</td>
<td>18.49%</td>
<td>20.96%</td>
</tr>
<tr>
<td>Census Tract 383</td>
<td>383</td>
<td>61.45%</td>
<td>52.53%</td>
<td>22.24%</td>
<td>18.84%</td>
</tr>
<tr>
<td>Census Tract 188</td>
<td>188</td>
<td>59.39%</td>
<td>53.09%</td>
<td>7.89%</td>
<td>27.23%</td>
</tr>
<tr>
<td>Census Tract 69</td>
<td>69</td>
<td>58.49%</td>
<td>51.74%</td>
<td>7.92%</td>
<td>93.73%</td>
</tr>
<tr>
<td>Census Tract 176.02</td>
<td>176.02</td>
<td>57.46%</td>
<td>46.12%</td>
<td>13.35%</td>
<td>11.51%</td>
</tr>
<tr>
<td>Census Tract 195.01</td>
<td>195.01</td>
<td>56.27%</td>
<td>56.34%</td>
<td>16.75%</td>
<td>12.27%</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Census Tract 9802</td>
<td>9802</td>
<td>0.00%</td>
<td>0.00%</td>
<td>19.12%</td>
<td>5.20%</td>
</tr>
<tr>
<td>Census Tract 9891</td>
<td>9891</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.08%</td>
<td>71.22%</td>
</tr>
</tbody>
</table>

Table 5-2: Rates of SNAP participation, poverty, unemployment, and race for each of Philadelphia’s Census tracts. These data are organized from highest to lowest rates of SNAP participation.

Sources: Census Bureau (2011a; 2011f; 2011g)

An examination of the two household variables presented in Table 5-2 suggests that Census tracts characterized by a high incidence of poverty also have high rates of SNAP participation. Figure 5-4 shows the relationship between the two variables of household poverty incidence and SNAP participation as a statistical scatter diagram. It shows the two variables have a strongly positive, linear relationship with a correlation coefficient of 0.811. It evidences the persistence of a relationship observed at the level of the states and Congressional Districts.
Figure 5-4: Comparison of household poverty and SNAP participation rates in Philadelphia, Pennsylvania, by Census tract

Source: Census Bureau (2011g)

An examination of all four variables of poverty (P), unemployment (U), race (R), and SNAP participation (S) contributes an added dimension to this relationship. I refer to this dimension with the acronym PURS. This acronym identifies and characterizes a nexus that is created as the variables reinforce each other within a defined segment of space. It also implies that the variables exist in an interdependent, mutually constituted, and overdetermined relationship (see Chapter 2).

Figure 5-5 helps illustrate this relationship. This series of four maps shows the extent to which a remarkable spatial correlation exists among the variables of poverty, unemployment,
race, and SNAP participation. Specifically, the maps indicate that the four variables are correlated in a band that stretches from Cobbs Creek in West Philadelphia across Fairmount Park to include most of North Philadelphia. In 2011, this West-North area was characterized by the City’s highest rates of household poverty and SNAP participation. It included tracts with high percentages of people identifying as black or African American (34.5 to 99.3 percent). It also included high rates of unemployed people with as many as one-quarter of the adults ages 18 to 64 years living in these tracts not employed in the formal economy.
Figure 5-5: A series of four maps shows a remarkable spatial correlation in the variables of poverty, unemployment, race, and SNAP participation in Philadelphia, Pennsylvania.

Sources: US Census Bureau (2011a; 2011f; 2011g)
The PURS nexus may be used to demonstrate the extent to which the variables impact food insecure people residing in this defined segment of space (see Figure 5-5). Specifically, I consider the attributes of overdetermination and interdependence. By overdetermination, I refer to the idea that the variables of poverty, unemployment, and race are invoked as the principle causes of SNAP participation (or food insecurity). By interdependence, I refer to the idea that each of the variables is discursively constructed with the meaning of each impacting all the others.

The attribute of overdetermination limits the extent to which food insecure people residing in the locations identified by the maps included in Figure 5-5 are able to improve their own physical circumstances. This attribute implies that the food insecurity experienced by the people residing in this defined segment of space is caused by their poverty, unemployment, and race. It indicates that no permanent solution to their problem of food insecurity exists in the absence of solutions to their poverty, unemployment, and race. In overdetermined systems such as these, it is important that local people recognize how they can improve their own food security now without also having to tackle all the bigger issues in the PURS nexus.

The attribute of interdependence provides for the continued stigmatization of food insecure people residing in the locations identified by the maps in Figure 5-5. This attribute indicates the ideas, attitudes, and understandings ascribed to the people represented by the variable for SNAP participation acts to impact the identity ascribed to the people represented by the other three variables of poverty, unemployment, and race. In this case, it suggests the attitudes of exclusion, stigma, and condescension afforded to SNAP recipients (see Chapter 3) mutually reinforce the attitudes that society has toward the poor, unemployed, and racial minorities. As this process occurs within a tightly defined segment of space, it may also be referred to as the “spatial construction of the dependent other.”

Collectively, the attributes of the PURS nexus suggest there is no feasible, conventional way out of this discursive-material formation. This implication is evidenced in the work of other
social researchers. As an example, most economists agree that some minimal level of unemployment is necessary for the functioning of a capitalist economy. Likewise, critical race scholars argue racial discrimination is an ordinary and normal outcome of social relations; they show the ways in which contemporary institutions such as the legal systems and police facilitate racism (see Harris, 2012 for a review of this literature).

Accordingly, it is important to engage post-structural interventions such as local food production because these strategies change the way in which food insecure people experience the elements comprising the PURS nexus. Rather than attempting to increase poor people’s income through jobs, which is not feasible, strategies of local food production help reduce poor people’s cost of living by providing them direct access to affordably priced supplies of food. Such strategies reduce the need for higher incomes while at the same time creating some job opportunities in food production, distribution, and processing. This also reduces the material impacts of racism; while racial prejudice may still exist, the perpetrator is unable to deny the victim access to material resources thus limiting the full adverse impact of discrimination.

5.3 The Basic Needs Economy

In order to develop a post-structural approach to food security, I shall turn to a concept called the Basic Needs Economy. Previously, this concept was developed in the works of Yapa (2013a; 2013b). It also overlaps with themes about the household, community, and diverse economies detailed in the works of J.K. Gibson-Graham (cf., Gibson-Graham, 2006).

The Basic Needs Economy draws upon a particular understanding of poverty. This understanding differs from prevailing ideas about poverty that emphasize a household’s lack of money income. Instead, it presumes a household experiences poverty when it lacks physical access to its basic needs. By basic needs, I refer to the most basic things of use value necessary
for living an enjoyable life. This includes a variety of tangibles and intangibles, such as adequate food, clean water, health, housing, energy, nutrition, and warmth (cf., Yapa, 2013a; 2013b).

Upon this premise, the Basic Needs Economy supplies an economic vision. It proposes the creation of particular spaces within the existing market economy. It identifies and describes these spaces as sites in which poor people and their advocates perform two related efforts. First, poor people engage in the production of their own basic needs first. Second, they acquire these basic needs at affordable prices (cf., Yapa, 2013b).

The articulation of this economic vision is important. It diagnoses the problems of poverty as the underproduction of basic needs (and not a lack of money income). At the same time, it supplies people and organized groups a practical way for resolving the issues of poverty (Yapa, 2013a). This method is realistic, manageable, and attainable. It engages the particularities of place. It can be implemented immediately. It has the potential to reduce people’s cost of living and create jobs that cannot be outsourced. It engages the substantive competencies and knowledge of any one person who is interested and willing to make a contribution. It also enables poor people to improve their own wellbeing and live a life of dignity.

Drawing upon these ideas, I identify the space of urban agriculture as a possible contributor in the Basic Needs Economy. Sites of urban agriculture produce basic needs first. Community gardens, urban farms, community supported agriculture projects (CSAs), and farmers’ markets enable interested and willing poor people to engage in entrepreneurship (cf., Feenstra et al., 1999; Kaufman and Bailkey, 2000) and/or food production (cf., Vitiello and Wolf-Powers, 2014). Sites of distribution located in low-income urban neighborhoods improve poor people’s access to fresh, nutritious food supplies and reduce their cost of living (cf., Evans et al., 2012; Blair et al., 1991; Ratcliffe et al., 2011; Corrigan, 2011). Finally, organized efforts to grow and distribute food have the potential to improve the economies of states and localities by creating jobs (cf., Otto and Varner, 2005; Hughes et al., 2008; Regional Economic Studies Institute, 2011). A 2011 report published by the Union of Concerned Scientists indicated that
“[M]odest public funding for 100 to 500 otherwise-unsuccessful farmers markets a year could create as many as 13,500 jobs over a five-year period” (O’Hara, 2011: 3).

A good way to help poor people improve their own food security is to increase the sites of urban agriculture, especially in those places of economic distress. By this, I advocate for the widespread production and distribution of locally-grown, healthy food in distressed places. However, I do not mean to say that all poor people and/or households living in these places ought to be directly engaged in such efforts.

5.4 Bio-Intensive Agriculture

I base my argument upon a model of agriculture that is different from “conventional” industrial American agriculture. The alternate model is known by various names, such as biointensive farming, SPIN farming (small plot intensive farming), or simply urban farming. In the discussion to follow, I draw on the 40 years of work performed by Jeavons in Willits, California (cf., Jeavons, 2002). This model is ideal for food production in low-income, urban areas. It has the potential to feed four times the number of people per unit of land while requiring one-half or less of the water, purchased nutrients, and energy per pound of food produced relative to that of conventional agriculture (Jeavons, 2001). By conventional agriculture, I refer to the kind of production that is associated with monocultures, heavy equipment, chemical sprays, and synthetic fertilizers.

Bio-intensive agriculture (BIA)\(^{29}\) is characterized by a system of regenerative agriculture. This system focuses on obtaining maximum yields of basic, healthy foods such as fruits and vegetables. Typically, it is practiced on a relatively small scale using a minimum amount of land. It is designed to make efficient use of locally-available inputs such as soil, water, compost,

\(^{29}\) Bio-intensive agriculture may also be referred to as biointensive mini-farming, biointensive gardening, or intensive organic gardening (cf., University of Kentucky Cooperative Extension, 2011; Beck and Quigley, 2001).
fertilizer, and energy. It promotes long-term improvements in natural ecosystems and human
health (cf., Beck and Quigley, 2001; Jeavons, 2002; Bomford, 2009; University of Kentucky
Agriculture Extension, 2011).

Contemporary systems of bio-intensive agriculture draw from two practices of
horticulture. These include the French intensive technique and the biodynamic approach (cf.,
Jeavons, 2001; 2002). Collectively, these two practices evidence the possibility and potential for
growing a large quantity of diverse foods in a very small space using readily available, local
inputs.

The French intensive technique represents the primary system of agriculture used by 19th
Century market gardeners living in France (cf., Coleman, 2009). This practice shows the extent
to which intensive plantings on raised beds offer the potential for high yielding crops using a
minimum of land, equipment, and only locally-sourced manure for fertilizer. It also demonstrates
the extent to which glass frames can be used in conjunction with composting manure and/or plant
materials to generate heat and continue food production during the winter months (cf., Beck and
Quigley, 2001; Jeavons, 2001; 2002; Coleman, 2009). During the 19th Century, Parisian
gardeners’ application of these techniques enabled them to grow over 100 pounds of produce
each year for every person in the city (Beck and Quigley, 2001). They accomplished this in plots
that were on average 1 to 2 acres each (Coleman, 2009).

Elements of the biodynamic approach also characterize the system of bio-intensive
agriculture. While many of its spiritual practices are controversial (cf., Chalker-Scott, n.d.), its
discourse affords attention to the practice of farming in a holistic, ecological system (cf.,
Biodynamic Association, 2014). It highlights the importance of a soil ecosystem that has a
balance of nutrients and trace minerals to support plant health and limit insect problems. Its
practitioners demonstrate that synthetic pesticides and fertilizers are unnecessary in the
production of food (cf., Jeavons, 2001; 2002).
The collective application of these approaches results in sites of food production identifiable by at least five shared attributes. These attributes include raised beds, amended soils, mixed cropping, close planting patterns, and an absence of inputs widely used in modern agriculture, including heavy equipment, chemical sprays, and synthetic fertilizers. Briefly, I identify and characterize these attributes as follows (see Table 5-3).
## Table 5-3: A brief description of the 5 primary attributes of bio-intensive agriculture

<table>
<thead>
<tr>
<th>Name of Attribute</th>
<th>Description</th>
<th>Advantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raised beds</td>
<td>Areas of soil that have been loosened and raised above the surrounding site. Usually, 3-4 feet wide and a minimum of 6-12 inches deep. Beds may be shaped seasonally or permanently defined by landscape timbers, bricks, boards, or other materials.</td>
<td>Improve soil drainage; Reduce soil compaction; Natural weed control; Warmer soil temperatures in spring; Ease of access; Reduced soil erosion</td>
</tr>
<tr>
<td>Amended soils</td>
<td>Soils that have been amended with a variety of non-synthetic materials, especially compost. These materials may be organic or inorganic. Examples of organic materials include compost, manure, wood chips, and straw. Greensand, potash, pea gravel, and sulfur are a few examples of inorganic materials.</td>
<td>Increase productivity; Improve vigor; Enhance soil ecosystems and structure, outcomes vary by soil type and type and amount of amendments</td>
</tr>
<tr>
<td>Mixed cropping</td>
<td>The planting of two or more species in the same site of production in the same year and in part at the same time. Usually, this arrangement incorporates crop rotation and cover crops. Crop rotation refers to alternating the location of plantings each year between heavy feeders (most vegetables), soil-building crops (nitrogen-fixing legumes), and light feeders (most root crops). Cover crops refer to soil-building plants that are incorporated back into the soil to improve fertility.</td>
<td>Increases overall productivity; Improves biodiversity; Reduces risk of crop failure; Natural pest control; Enhances soil fertility and moisture; Suppresses plant diseases; Provides additional ecosystem services, outcomes vary by type and variety of species planted</td>
</tr>
<tr>
<td>Close planting pattern</td>
<td>Close spacing of plants in a bed. Often, this pattern includes intercropping—the planting of two or more different plant species in the same area of the bed. It may also include companion planting—the planting of species in synergistic combinations.</td>
<td>Reduces soil temperatures; Enhances soil moisture; Natural weed control; Intercropping enhances species variety and diversity Companion planting can offer more delicate plants shelter from prevailing weather conditions</td>
</tr>
<tr>
<td>Absence of inputs used in conventional agriculture</td>
<td>The production of food using methods that do not require the use of large, heavy pieces of equipment or the application of synthetic fertilizers, herbicides, and pesticides.</td>
<td>Relatively inexpensive; Low start-up costs; No need for special training; Decreased reliance on petroleum reserves; Decreased risk of adverse effects to human health, natural ecosystems, and the health of beneficial plants, insects, animals, and soil organisms</td>
</tr>
</tbody>
</table>

Sources: USDA Natural Resources Conservation Service (1998); Beck and Quigley (2001); Jeavons (2001; 2002); Ramert and Lennartsson (2002); Starbuck (2003); Cornell University Cooperative Extension (2004); Machinga (2007); Davis and Whiting (2013);
Figure 5-6 helps illustrate the key attributes of a bio-intensive system. It shows the Ohlone College’s Outdoor Classroom and Laboratory located outside of San Francisco, California. This garden incorporates high-density, mixed plantings in a series of twenty-one raised beds. It uses certified organic compost generated from locally-sourced food wastes and tree trimmings to enhance soil fertility and available nutrients with no additional synthetic fertilizers. It employs a drip irrigation system to supply water to the plants while minimizing the amount of water lost to evaporation and runoff. The garden’s synergistic planting of crop combinations, rotations, and cover crops helps enhance its yields, improve soil fertility, and limit erosion. Surrounding the main garden, a butterfly habitat provides a home for predator insects such as ladybugs and praying mantises, pollinators, and beneficial birds. Along with natural forms of pest control, gardeners spray a variety of low-toxicity insecticidal soaps as needed to keep away additional unwanted pests such as cucumber beetles. These soaps are made from a combination of inexpensive household products, such as vegetable oil, chili peppers, garlic, and liquid dish detergents (cf., Ohlone College, 2014a).
I view the system of bio-intensive agriculture as a feasible post-structural intervention whereby ordinary people can actually contribute to their food security. By this, I mean ordinary people can establish and sustain a system of bio-intensive agriculture. Their efforts recognize the constraints imposed by the larger socio-economic structures. At the same time, they create opportunities that enable poor people to more easily access affordably priced, healthy food and jobs in urban areas.

5.5 Post-structural Interventions: Urban Agriculture in Philadelphia

A post-structural intervention that engages a system of bio-intensive agriculture enables ordinary people to create change by applying their own competencies and resources in a system
of farming. It affords agency to anyone interested and willing to help poor people access healthy, basic foods (cf., Yapa, 1996). Among thousands of possible contributors to a system of bio-intensive agriculture are farmers, food retailers, agriculture extension agents, soil scientists, filmmakers, school children, entrepreneurs, city water departments, waste management companies, public transit employees, food banks, taxi cab companies, farmers’ market coordinators, churches, community centers, gardening enthusiasts, goat rental companies, networks of family and friends, and many others.

By definition, the attributes of any one particular intervention engaging a system of bio-intensive agriculture is contingent upon the particularities of place. This is because systems of bio-intensive agriculture are designed to make use of locally-available supplies of land, labor, and capital—the three most basic things required to produce and distribute food. By land, I refer to all the elements of nature required for plants to grow and produce food, especially sunlight, temperature, water, and nutrients. By labor, I refer to all the human effort exerted in the processes of food production and distribution. By capital, I refer to all the human-created tools used to facilitate the processes of production and distribution, like rototillers, hand tools, high tunnels, irrigation systems, and also credit and investment funds.

In this final section, I discuss the feasibility of urban farming in Philadelphia by examining the availability of the three factors of production: land, labor, and capital. For each of these factors, I relate its importance for sites of bio-intensive agriculture. I identify and describe the local sources of supply. I also highlight some of the ways in which ordinary people and organized groups are employing the factor of production at sites of bio-intensive agriculture to make available affordably priced, healthy food and jobs in Philadelphia. Throughout this entire section, my working hypothesis is that there are no factors of production limiting the production of food in the City of Philadelphia.

Purposefully, I selected examples of current and ongoing efforts to construct this model of urban agriculture. These examples help showcase some of the creative ways in which the
city’s people and organized groups work to create change here and now (Gibson-Graham and Roelvink, 2010). In addition, case studies highlight the extent to which these efforts are working to create jobs in order to insure the long-term sustainability of these urban systems of food production and distribution.

5.5.1 Land in Philadelphia

Land is an important factor in food production. Land refers to all the components of nature required for plants to grow and produce food, which includes sunlight, temperature, moisture, and nutrients. The collective performance of these elements enables local people to make available affordably priced, healthy food in distressed areas.

In this section, I identify and characterize Philadelphia’s available land. This includes its vacant parcels, parklands, and buildings. I distinguish these sites on the basis of its land attributes as well as the presence and availability of readily accessible supplies of irrigation water for plants. Vacant parcels represent the largest number of uniquely organized sites at street-level; these parcels also lack city water service. Parklands represent the largest acreage of street-level sites; these areas may include some access to city water, but access is highly variable and sporadic. Building sites represent the largest acreage of available land; these sites include well-developed, useable systems of fresh, clean water supplies.

5.5.1.1 Vacant Parcels

Vacant parcels are unmanaged tracts of land that lack readily accessible supplies of irrigation water for plants, except natural forms of precipitation. These tracts may also be referred to as “empty lots”. Figure 5-7 shows two examples of vacant parcels in Philadelphia.
Vacant parcels represent the City’s largest number of potential sites located at street level. The map included in Figure 5-8 shows the location and distribution of Philadelphia’s known vacant parcels by regions of SNAP participation and household poverty rates. It shows that vacant parcels are located throughout the City with a majority concentrating in its economically distressed areas. In 2012, about 32,926 of Philadelphia’s 42,440 vacant parcels were located in these areas. These vacant parcels accounted for about 1,665 acres. In other words, about 40 percent of all the vacant parcels potentially available for food production are in close proximity to those who are most in need of food.
Figure 5-8: Distribution of vacant parcels in Philadelphia, Pennsylvania by regions of household SNAP participation and poverty rate

Sources: Census Bureau (2011g); City of Philadelphia Planning Commission (2013)
While vacant parcels are readily available, legal aspects of ownership may make it difficult for ordinary people to use these parcels as sites of food production. In Philadelphia, vacant parcels are owned by at least 6 different entities. These included individuals, for-profit businesses, and four different divisions of city government—the Philadelphia Redevelopment Authority, the Department of Public Property, the Housing Development Corporation, and the Housing Authority (cf., Public Interest Law Center, 2013c; Gillen, 2010). Owners have different goals for these parcels; they also maintain varying concerns about liability. Individuals and businesses that are tax delinquent may be unwilling to sell their property if the value of its owed taxes exceeds that of its assessed value (Gillen, 2010). Absentee landowners may be difficult to find for the purposes of securing a lease (cf., Public Interest Law Center, 2013e). Finally, city government officials are limited in their ability to insure vacant parcels are redeveloped. In 2010, government officials engaged in disjointed efforts to manage land. They lacked the resources necessary to either engage in widespread foreclosures or hold individuals and businesses accountable for the maintenance of tax delinquent properties. They were also obligated to uphold existing local, state, and federal policies governing the use and sale of publicly-owned vacant parcels (cf., Gillen, 2010).

A 2013 city ordinance is designed to enable individuals and organized groups to more easily and quickly secure access to vacant parcels (cf., Philly Land Bank, 2013). This ordinance has led to the creation of the Philadelphia Land Bank which is expected to be fully operational by the end of 2014. The Land Bank is a single governing body that manages the city’s supply of vacant parcels (cf., Vargas, 2014). It has the authority to purchase tax-delinquent properties. It also has the ability to sell publicly-owned properties with a flexible pricing scheme to encourage its use for community-beneficial purposes (Philly Land Bank, 2013).

While this ordinance may help improve people’s access to land, individuals and organized groups will still need to insure that these parcels are suitable for food production. Parcels used as illegal dumpsites will require the disposal of garbage and potentially hazardous
materials, like tires and batteries. Parcels will also need to be assessed for invisible sources of soil contaminants, especially heavy metals. A 2009 *New York Times* article indicates hazardous amounts of lead have been found in the native soils of Philadelphia’s backyard and community gardens. It advises treating sites with large quantities of compost and lime which change the soil’s chemistry and reduce the likelihood of lead being absorbed by plants and the human body (Murphy, 2009). Greensgrow Philadelphia Project’s urban farm uses raised beds situated on a three-foot layer of concrete to insure plants are grown in soils free of any of the chemicals that may remain on their former Superfund site (see Section 5.6.1.4.1 for more details about Greensgrow Farm).

5.5.1.2 Parklands

While vacant parcels supply the greatest number of organized tracts of land at street-level, parklands include a much larger acreage. In 2012, the City’s parklands were nearly twice that of its vacant parcels. These sites accounted for about 7,894 acres of the City’s entire landmass.

Parklands are managed pieces of land which may also be referred to as “recreational areas”. As Figure 5-9 shows, these sites may include open spaces, forested areas, water features, and/or elements of the built environment, like buildings, walkways, and statues. Sites are maintained by local volunteers and individuals employed by organized community groups and governments. Each may include some access to water supplies for irrigation but access is highly variable and sporadic.
Philadelphia’s parks offer tremendous potential for the production of vegetables, fruits, and herbs in economically distressed places without impinging on existing amenities. The map included in Figure 5-10 shows the location and distribution of existing parklands, excluding cemeteries by regions of household SNAP participation and poverty rates. The text and arrows highlight four of the City’s parks with potential for food production in economically distressed areas which I conservatively estimate to account for nearly 40 percent of the City’s parklands (or about 3,034 acres). Starting from the lower left, the City’s Cobbs Creek Park includes a 107 acre tract which forms the outer boundary of the City’s West and Southwest neighborhoods. Next, a 1,429 acre tract of Fairmount Park connects the neighborhoods of West and North Philadelphia—two of the City’s largest poverty areas. In Northeast Philadelphia, Tacony Creek and Pennypack Park abut several low income areas; these two parks have a combined landmass of about 1,497 acres (cf., City of Philadelphia Parks and Recreation, 2013).
Figure 5-10: Distribution of parklands in Philadelphia, Pennsylvania by regions of household SNAP participation and poverty rate

Sources: Census Bureau (2011g); City of Philadelphia Parks and Recreation (2013)
Like the city’s vacant lots, legal aspects of ownership make it difficult for ordinary people to simply engage in efforts of food production. Typically, parklands are owned by the City of Philadelphia. Individuals and organized groups are expected to get permission from the City prior to gardening on its parklands (cf., Public Interest Law Center, 2013d). They are required to be organized as a non-profit group to secure a lease agreement (cf., Public Interest Law Center, 2013h). They must obtain an approved insurance policy and any necessary licenses and permits (cf., Public Interest Law Center, 2013d; 2013h). They are also required to follow established laws governing parklands, livestock, buildings, food safety, and sales (cf., Public Interest Law Center, 2013f; 2013h).

Gardeners will also need to test the native soils for heavy metals. In 2014, a Temple University master’s student found higher than expected concentrations of lead throughout the city’s Fairmount park system. This included parklands with no known history of industrial and/or residential use (cf., Benshoff, 2014).

5.5.1.3 Buildings

In addition to the vacant parcels and parklands, the City includes many buildings. Buildings are characterized by rooftops, patios, windows, walls, interior rooms, basements, sidewalks, and impermeable materials, like concrete and asphalt. Each includes a well-developed, useable system of fresh, clean water for irrigation. It also includes additional aspects of basic urban infrastructure, like electricity.

Like the city’s parks and vacant lots, Philadelphia’s buildings offer numerous, creative opportunities for the production of fresh vegetables, herbs, honey, and fish. As Figure 5-11 shows, rooftops may be fitted with raised bed plantings and urban apiaries with larger rooftops supporting high tunnels and greenhouses (cf., Mandel, 2012b; Stadd, 2012). Rooftop downspouts enable gardeners to capture the earth’s precipitation for irrigation purposes (cf., Lebanon County
Conservation District, n.d.). Vertical walls, fencing, and trellis may be used in the construction of green walls and hanging gardens (cf., Bucknum and Sokoloff, 2012; bayleaf + beijinhos, 2011). Greenhouses attached to residential buildings may draw upon the home’s heat to increase its temperatures (cf., Kass, 2014). Vacant buildings may be occupied with indoor hydroponics and/or aquaponics projects (cf., Lee, 2013). By hydroponics, I refer to the process through which produce is grown in a liquid nutrient solution (Shrestha and Dunn, n.d.). By aquaponics, I refer to a process through which produce and fish may be produced together in an indoor water ecosystem (cf., Diver and Rinehart, 2010).
Figure 5-11: Philadelphia’s buildings offer numerous opportunities for the production of food. On the left, a man tends aquaponic plants in a formerly vacant building in West Philadelphia. In the center, workers tend the Sofitel Hotel’s rooftop garden and beehives in Central City. On the right, a vertical edible garden on display at the 2012 Philadelphia International Flower Show.

Sources: Schaefer and Inquirer Staff Writer (2012); Ostapkovich (2014); Koehn (2012)
The most recent GIS data from PASDA suggests that buildings are the City’s largest potential source of land for food production. A look at these data shows that Philadelphia’s developed sites included about 162,582 buildings in 2007. It also indicates these building sites represented a landmass of about 16,000 acres (cf., City of Philadelphia Water Department, 2007).

The map included in Figure 5-12 shows the location and distribution of the developed sites with buildings by regions of SNAP participation and household poverty rates. It overlays the City of Philadelphia’s Water Department’s 2007 buildings data by regions of SNAP participation and poverty. An examination of these datasets using ArcGIS software indicates that building sites are primarily located in the distressed areas of the city. Specifically, the data show slightly more than 43 percent of the city’s available rooftop acreage was located in areas of economic distress. In 2007, this acreage represented a landmass of about 6,934 acres (see Figure 5-12).
Figure 5-12: Distribution of buildings in Philadelphia by regions of household SNAP participation and poverty rate

Sources: Census Bureau (2011g); City of Philadelphia Water Department (2007)
Relative to the vacant lots and parklands, buildings may initially be more expensive to use as sites of food production. Older buildings may need to be renovated to insure that gardening locations are easily accessible and structurally sound. Large containers situated on elevated patios need to be filled with soil-less mixes to reduce the weight of the materials supported by the structure. Compost may not be generated on site and must be acquired and transported from elsewhere in the city. Existing infrastructure may also have to be redesigned to incorporate areas of food production; for instance, a building’s water system may need to be outfitted with a new exterior water spigot to irrigate garden soils.

However, buildings are useful for stimulating plant growth in the event of adverse growing situations. As an example interior spaces may be modified through the use of plant lights, fans, timers, and containers to grow plants throughout the winter months. Likewise, rooftops and walls fitted with suitable containers may be used to grow plants in places where native soils are inaccessible.

### 5.5.1.4 Gardens and Farms in Philadelphia

Gardens and farms represent the two most common ways in which ordinary people use land to make available affordably priced, healthy foods in the city. Gardens and farms may be located on vacant lots, parklands, or buildings. Each enables plants to access the necessary components for the production of food. Each may also be modified to expand and/or limit the extent to which plants are able to access these components through the use of such equipment as irrigation systems, shade cloth, and high tunnels (similar to unheated greenhouses).

Philadelphia’s gardens and farms operate much like sites of bio-intensive agriculture. Gardens and farms are relatively small in area. Sites incorporate high-density, mixed plantings of crops in raised beds that reflect locally-specific knowledge, tastes, preferences, and cultures.
Often, sites make use of compost generated from locally-sourced food and yard wastes to enhance soil fertility and remediate existing environmental contaminants. Systems of irrigation make use of rain barrels and drip irrigation to supply water to the plants while minimizing the amount of water lost to evaporation and runoff. Synergistic planting of crop combinations, especially foods and flowers, helps provide homes for predator insects, pollinators, and beneficial birds. At many sites, plants are grown without the application of synthetic chemical fertilizers, pesticides, and/or herbicides (personal observations).

Figure 5-13 shows photographs of two of Philadelphia’s organized farms and gardens. These sites are operated by the Greensgrow Philadelphia Project and the Schuylkill River Park Community Garden. Although each site of production maintains a distinct mission and goals, they share the common practice of transforming undeveloped sites into safe and functional places that make available affordably priced, healthy food in the city (cf., Greensgrow Philadelphia Project, 2014; Schuylkill River Park Community Garden, n.d.b).

Figure 5-13: Two of Philadelphia’s gardens and farms. On the right, a farm operated by the Greensgrow Philadelphia Project. On the left, the Schuylkill River Park Community Garden. Sources: Greensgrow Philadelphia Project (n.d.); Schuylkill River Park Community Garden (2009b)
5.5.1.4.1 Greensgrow Philadelphia Project Farm

The Greensgrow Philadelphia Project’s farm is located on a 0.83 acre parcel in the Kensington neighborhood (Public Interest Law Center, 2013b). This parcel is a former Superfund site. By a Superfund site, I refer to an unmanaged, vacant parcel that includes quantities of hazardous waste with the potential to impact local ecosystems and/or human health (cf., EPA, 2014).

Although this farm sits at street-level, it resides atop an impermeable layer of concrete. This concrete separates the farm’s soils from those of the surrounding area. This concrete barrier was installed as a part of the remediation of the site. In 1993, the United States Environmental Protection Agency (EPA) led efforts to excavate and backfill the vacant parcel to limit the extent to which existing soil contaminants posed a threat to human health (cf., EPA, 2013) (see Figure 5-14).
Figure 5-14: The Greensgrow Philadelphia Project’s farm sits on a remediated Superfund site. On the left, workers excavate and backfill the vacant parcel to limit the extent to which existing soil contaminants posed a threat to human health. On the right, an image of the remediated site prior to its development as a farm.

Sources: Greensgrow (1995); Greensgrow (1998)

As the native soil is inaccessible to plants, the farm is organized as a series of large, contained raised beds. As Figure 5-15 shows, these raised beds are located outdoors and inside high tunnels which are unheated greenhouses covered with plastic (cf., Greensgrow Philadelphia Project, 2014).
Figure 5-15: Greensgrow’s farm is organized as a series of large, contained raised beds. The left image shows a detailed view of the exterior beds. On the right, tomatoes, arugula, and peppers are planted in raised beds located inside a high tunnel, which is an unheated greenhouse.

Sources: Greensgrow (2006); Poses (2010a)

Raised beds are filled with a contaminant-free soil sourced from nearby New Jersey (Poses, 2010b). As Figure 5-16 shows, each bed is supplemented with at least two farm-produced soil amendments. These include compost and vermicompost, which is an organic amendment consisting of worm castings (or worm scat). Raised beds filled with flowers and ornamental plants are also amended with compost supplied by the farm’s toilet facilities (cf., Greensgrow Philadelphia Project, 2014).
Figure 5-16: Raised beds are filled with a contaminant-free soil and amended with compost and vermicompost, which is an organic amendment consisting of worm castings. Surplus worm castings are also made available for purchase by the general public.
Sources: looseends (2008); Greensgrow (2013c).

The farm’s large, raised beds are supplied water by a system of irrigation. This system consists of a series of living roofs, water gardens, drip irrigation lines, and rain barrels. Each component in the series is designed to reduce the amount of water lost to evaporation and runoff. The farm’s living roofs and water gardens capture precipitation hitting the earth’s surface and reduce the amount of water flowing off its foundation and into the city’s storm drains. As Figure 5-17 shows, a system of drip irrigation lines supplies water to plants while reducing the amount of water lost to evaporation. Likewise, a series of rain barrels captures and stores the earth’s precipitation until it is needed by plants in times of drought (cf., Greensgrow Philadelphia Project, 2014) (see Figure 5-17).
The quality and yields of the plantings are enhanced by the farm’s habitat for beneficial insects and pollinators. The farms’ integrated pest management strategy controls pests in a way that reduces its need for chemical pesticides. Its living roofs and ornamental container gardens attract beneficial insects and wildlife. As Figure 5-18 shows, its rooftop beehives located in an adjacent parcel help facilitate processes of pollination and supply the farm with additional edible products, including honey and honeycomb (cf., Greensgrow Philadelphia Project, 2014).
Through the implementation of these practices of bio-intensive agriculture, Greensgrow Farm is able to harvest, process, and distribute a large quantity and variety of crops. In 2013, the farm harvested more than 20 different varieties of fresh produce. It distributed more than 2000 pounds of this produce through its three markets and a community supported agriculture program, serving as a pre-paid subscription program for produce (cf., Greensgrow Philadelphia Project, 2014). Overall this shows much promise, employing 34 local people and producing gross sales in excess of $1.2 million dollars (Greensgrow, 2012).
5.5.1.4.2 Schuylkill River Park Community Garden

The Schuylkill River Park Community Garden is located on a 1.01 acre parcel in Center City (Public Interest Law Center, 2013g). This parcel is located on parkland. It is owned by the City of Philadelphia, Fairmount Park Commission, leased to the Center City Residents’ Association, and managed by an organized steering committee comprised of participating gardeners (Schuylkill River Park Community Garden, n.d.b).

The garden sits on the former site of a brickyard and railroad station. In the early 1980s, it was remediated by an organized group of local people. These individuals removed debris, installed raised beds and irrigation systems, and remediated the site with large quantities of compost and top soil. During the mid-1980s, it was further renovated by the City of Philadelphia. Since this time, it has been largely maintained by participating gardeners (see Figure 5-19) (cf., Schuylkill River Park Community Garden, n.d.b).

Figure 5-19: The Schuylkill River Park Community Garden resides atop a former brickyard and railroad station. On the left, the visual depicts the site before its use as a garden. On the right, organized groups of local people remediated the site in the early 1980s.

Sources: Schuylkill River Park Community Garden (1980; n.d.a)
Like Greensgrow, the garden is organized as a series of large, raised beds. As Figure 5-20 shows, these raised beds are located outdoors. Each is filled with some combination of top soil and/or compost that is generated at the site and freely available. Raised beds incorporate high-density, mixed plantings of vegetables, herbs, and other plants. Each is supplied water by a system of irrigation that employs drip irrigation and rain barrels to reduce the amount of water lost to evaporation and runoff. The quality and yields of the raised bed is enhanced by a surrounding habitat where beneficial insects and wildlife live. In 2010, the site was certified as a Wildlife Habitat by the National Wildlife Federation (cf., Schuylkill River Park Community Garden, n.d.b; 2011b; 2013b).

Figure 5-20: The Schuylkill River Park Community Garden is organized as a series of raised beds. These beds incorporate high-density, mixed plantings of vegetables, herbs, flowers, and other plants.

Sources: Schuylkill River park Community Garden (2008; 2011a)
However, the management of these raised beds is a bit more complicated. Each raised bed is assigned to a local person and/or household, often a resident of the surrounding neighborhood. It is managed by this assigned gardener, who agrees to perform some basic administrative and maintenance tasks, follow a set of rules, and pay an annual fee for the use of the bed. It may be renewed on an annual basis for a period of up to six years. Following this period, it is re-assigned to a new gardener, and the previous tenant is placed on a waitlist for a different bed (cf., Schuylkill River Park Community Garden, n.d.c; 2009a; 2013b).

The unique management of the garden may contribute to localized differences in growing conditions. Although plants are protected by a set of basic, formal rules, rules do not regulate the most basic performances of gardeners, including the practices through which the local people manage the availability of sunlight, temperature, water, and nutrients. In 2014, plants were managed by at least 70 different local people with different knowledge and experiences. Plants were not required to be grown in ways that renew and improve soil biology. Plants were also not formally protected from the localized application of chemical fertilizers, herbicides, and pesticides (cf., Schuylkill River Park Community Garden, n.d.c; 2009a; 2013b).

Despite the possibility for variations in growing conditions, plants are still able to grow a large variety and quantity of food. In 2013, this food was made available to local people through networks of family and friends. In addition, a total of 862 pounds of produce was distributed through the Pennsylvania Horticultural Society’s City Harvest Program—a nonprofit job training program that supplies community gardens with vegetable plants, then distributes the food produced by these plants to the city’s soup kitchens and food pantries (cf., Schuylkill River Park Community Garden; n.d.b; 2013a).

While the garden does not yet employ any local people, its efforts contribute several important, supportive functions in the local economy. The garden provides opportunities for gardeners to develop and practice skills necessary for employment at sites of food production and
distribution. Through its participation in City Harvest, the garden supports the persistence and expansion of existing job training programs and employment in the local nonprofit sector (cf., Schuylkill River Park Community Garden, n.d.b). Further, it is likely at least some of its gardeners financially benefit from the sale and/or barter of their produce. A 2009 study of Philadelphia’s community gardens and farms found evidence of community gardeners participating in informal and formal economic exchanges, such as selling produce at farmers markets and restaurants (cf., Vitiello and Nairn, 2009).

The Greensgrow Philadelphia Project and Schuylkill River Park Community Garden represent just two organized projects that embrace the ideas of bio-intensive agriculture. These two sites maintain unique missions, goals, and practices. However, each engages in activities of urban agriculture to transform vacant parcels, parklands, and buildings into safe and functional places that make available affordably priced, healthy food in the city (cf., Greensgrow Philadelphia Project, 2014; Schuylkill River Park Community Garden, n.d.b).

**5.5.2 Labor in Philadelphia**

Labor is another important factor in food production. Labor refers to all the human effort exerted in the processes of food production and distribution. This includes both physical strength and intellectual ability. The collective performance of labor shapes the extent to which sites are able to make available affordably priced, healthy food in the city.

In this section, I identify and characterize the city’s largest source of labor. These include its unemployed workers and non-workers. I distinguish these two groups on the basis of cost of acquisition and its availability. Unemployed workers represent a relatively inexpensive source of labor. These workers are readily available and want to contribute to the day-to-day operations of an employer in the formal economy. Non-workers represent a slightly more
expensive source of labor. These workers are not actively seeking a job in the formal economy. They also may not be available or interested in contributing to the day-to-day operations of a potential employer.

5.5.2.1 Unemployed Workers

For existing sites of food production, unemployed workers represent a relatively inexpensive source of labor. Unemployed workers are workers who are actively seeking to contribute to the day-to-day operations of an employer in the formal economy. They are willing and available to make these contributions. Usually, they are aged 16 years and older.

Unemployed workers are easily accessed for work without the need for expensive employment agencies, classified advertisements, and head hunters. In 2010, unemployed workers numbered about 87,660 of the city’s 687,687 workers between the ages of 16 and 64 years, including those residents who are unemployed as well as those employed in the government, civilian industries, and the US military, representing about 12.74 percent of Philadelphia’s residential workforce (cf., Census Bureau, 2010k).

They are concentrated in the distressed areas. Table 5-4 shows a breakdown of Philadelphia’s unemployed workers by regions of household SNAP participation and poverty. It shows that unemployed workers are unevenly distributed across the city with the largest number living in the distressed areas. In 2010, about 49,611 of Philadelphia’s 87,660 unemployed workers lived in these tracts.
### Count of Philadelphia’s unemployed workers by regions of household SNAP participation and poverty

<table>
<thead>
<tr>
<th>Rates of Household Poverty</th>
<th>High Household SNAP Participation</th>
<th>Low Household SNAP Participation</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>49,611</td>
<td>3,450</td>
<td>53,061</td>
</tr>
<tr>
<td>Low</td>
<td>6,003</td>
<td>28,596</td>
<td>34,599</td>
</tr>
<tr>
<td>All</td>
<td>55,614</td>
<td>32,046</td>
<td>87,660</td>
</tr>
</tbody>
</table>

### Percent Distribution of Philadelphia’s unemployed workers by regions of household SNAP participation and poverty

<table>
<thead>
<tr>
<th>Rates of Household Poverty</th>
<th>High Household SNAP Participation</th>
<th>Low Household SNAP Participation</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>56.59%</td>
<td>3.94%</td>
<td>60.53%</td>
</tr>
<tr>
<td>Low</td>
<td>6.85%</td>
<td>32.62%</td>
<td>39.47%</td>
</tr>
<tr>
<td>All</td>
<td>63.44%</td>
<td>36.56%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Table 5-4: Counts and percentages of Philadelphia’s unemployed workers by region of household SNAP participation and poverty rates.

Sources: US Census Bureau (2010k; 2011g)
As the city’s sources of available land are also concentrated in these tracts, it may be said that more than half of all Philadelphia’s unemployed workers live near potential sites for food production. The map included in Figure 5-21 helps illustrate the location of the city’s unemployed workers. It uses circles of increasing size to show the percentage of all unemployed workers by Census tract. It shows this map atop a map of the Philadelphia’s regions of high and low SNAP participation and household poverty rates. It shows that the percentage of workers seeking a job varies widely throughout the city from a low of 0 to a high of 39.95 percent of workers living in a Census tract. It also shows the places with the highest rates of unemployment represented by the largest circles concentrated in the distressed areas.
Figure 5-21: Distribution of Philadelphia’s unemployed workers ages 16 to 64 years, by regions of household SNAP participation and poverty rate.

Sources: US Census Bureau (2010k; 2011g)
Non-workers

A second source of labor supply is the city’s non-workers. Non-workers include all the residents who are neither working nor actively seeking to contribute to the day-to-day operations of an employer in the formal economy. These individuals have opted out of the labor force by choice and/or personal circumstance. They include caretakers, disabled people, homemakers, students, retirees, prisoners and other institutionalized people, and discouraged workers. By discouraged workers, I refer to unemployed workers who do not have a job and are not actively seeking a job for reasons related to their perceptions of work availability, their educational credentials, discrimination in hiring, and/or prior failures in their job search (cf., BLS, 2014).

Relative to unemployed workers, non-workers represent a slightly more expensive source of labor. Non-workers are not actively seeking a job in the formal economy. They also may not be available or interested in contributing to the day-to-day operations of a potential employer. They may be legally restricted from working on the basis of their age and/or institutionalization. Finally, their commitments and reasons for staying at home may limit their ability to be easily accessed by potential employers.

Despite these shortcomings, non-workers interested in growing and distributing food represent an important supplementary source of labor. Non-working customers of gardens and farms have the ability to generate enthusiasm and interest for their products. Non-worker youth and adult volunteers and community service members contribute energy to the work at hand. All non-workers interacting with the growers and distributors of food have the ability to contribute their insights and knowledge. They can also use their knowledge to help establish a positive image of the site and its employees in their neighborhoods (cf., Merril, 2005).

They are also concentrated in those areas with large amounts of available land for food production; these include distressed areas. Table 5-5 shows that non-workers are unevenly
distributed across the city, with the largest number and share living in areas characterized by the highest rates of poverty and food insecurity. In 2010, about 206,427 non-participating individuals resided in these tracts. These individuals represented more than half of all of the people aged 12 to 64 years who live in the city and do not participate in the labor force.\(^{30}\)

**Count of Philadelphia’s nonparticipating individuals aged 12 to 64 years by regions of household SNAP participation and poverty**

<table>
<thead>
<tr>
<th>Rates of Household Poverty</th>
<th>High Household SNAP Participation</th>
<th>Low Household SNAP Participation</th>
<th>No Household Data</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>206,427</td>
<td>26,269</td>
<td>-</td>
<td>232,696</td>
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<tr>
<td>Low</td>
<td>24,824</td>
<td>119,491</td>
<td>-</td>
<td>144,315</td>
</tr>
<tr>
<td>No Data</td>
<td>0</td>
<td>0</td>
<td>7,385</td>
<td>7,385</td>
</tr>
<tr>
<td>All</td>
<td>231,251</td>
<td>145,760</td>
<td>7,385</td>
<td>384,396</td>
</tr>
</tbody>
</table>

**Distribution of Philadelphia’s nonparticipating adults aged 16 to 64 by regions of household SNAP participation and poverty**

<table>
<thead>
<tr>
<th>Rates of Household Poverty</th>
<th>High Household SNAP Participation</th>
<th>Low Household SNAP Participation</th>
<th>No Household Data</th>
<th>Total</th>
</tr>
</thead>
<tbody>
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<td>6.83%</td>
<td>-</td>
<td>60.54%</td>
</tr>
<tr>
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<td>31.09%</td>
<td>-</td>
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<td>0.00%</td>
<td>1.92%</td>
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</tr>
<tr>
<td>All</td>
<td>60.16%</td>
<td>37.92%</td>
<td>1.92%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Table 5-5: Counts and percentages of Philadelphia’s nonworking people aged 12 to 64 years by regions of household SNAP participation and poverty

Sources: Census Bureau (2010c; 2010k; 2011g)

Figure 5-22 helps illustrate this view. This map shows the location and distribution of individuals who are neither working nor actively seeking a job in the formal economy. It uses circles of increasing size to show the percent of all non-workers by Census tract. It displays this map over the top of a map of the city’s regions of high and low SNAP participation and

\(^{30}\) Data exclude youth ages 15 years. Data for youth ages 12 to 14 years presume unemployment on the basis of age.
household poverty rates. It shows that the percentages of individuals who are neither working nor seeking a job vary widely throughout the city, from a low of 6.19 percent to a high of 100 percent of residents. It also shows the places with the highest rates of non-workers are concentrated in the distressed areas.
Figure 5-22: Distribution of Philadelphia’s non-workers ages 12-64 years by regions of household SNAP participation and poverty rate

Sources: Census Bureau (2010c; 2010k; 2011g)
Collectively, Philadelphia’s unemployed and non-workers have the potential to produce and distribute food. Unemployed workers can gain employment at existing sites of food production and distribution. Individuals neither working nor actively seeking a job in the formal economy may also contribute through learning, volunteerism, community service, barter, and other forms of direct engagement with the growers and distributors of food.

However, it is likely that many of the city’s potential workers will lack formal training and experience in agriculture. In 2013, USDA researchers estimated that hired farmworkers constituted less than 1 percent of all the country’s wage and salary workers (Hertz, 2013). The low percentage of farm workers in Pennsylvania is consistent with that of the country as a whole, with jobs in agriculture and food products accounting for only about 2.93 percent of Pennsylvania’s jobs in 2013 (Pennsylvania Department of Labor and Industry, 2013). It is even lower for the Philadelphia metropolitan area, with only about 0.7 percent of all the region’s jobs in the industries of farming, fishing, and forestry in 2013 (BLS, 2013b). In addition, existing figures for employment primarily measure agricultural employment in terms of industrial agriculture; employment in urban-based, bio-intensive agricultural systems is a very different issue, and one that has not attracted much research thus far.

5.5.3 Capital in Philadelphia

Capital is the third factor in food production. Capital refers to all the human-created elements used by the individuals and organized groups participating in processes of food production and distribution. This includes all the capital goods and financial capital engaged in the day-to-day operations of sites of food production and distribution. The collective performance of these forms of capital shapes the extent to which sites are able to make available affordably priced, healthy food and jobs in the long-term.
In this section, I examine the supply of capital in Philadelphia. This includes its capital goods and financial capital. I distinguish between these two groups on the basis of their availability and cost. Capital goods are relatively easy to access and inexpensive. These include all the items used by individuals and organized groups engaged in the day-to-day operations of a site of food production that yield utility over time. Often financial capital, which includes all the money used by people in the day-to-day operations of a food production site, is more costly to obtain and more difficult to access.

5.5.3.1 Capital Goods

Capital goods needed for bio-intensive agriculture include all the items used by individuals and organized groups engaged in the day-to-day operations of a site of food production that yield utility over time. These items may be large or small in size. Usually, these items are easily constructed and highly functional. Each has a lifespan of several years. Some capital goods used at sites of food production include u-bars, high tunnels, compost sifters, seedling flats, hand tools, rain barrels, and seeds. U-bars are large spading forks, a kind of manual plow used to deeply aerate the soil. Compost sifters are a type of screened pan mounted over a wheelbarrow, used in the creation of large amounts of sifted soil and compost for seedling flats. Seedling flats are wood or plastic containers that provide seedlings the chance to develop in a well-draining, nutrient-rich environment. Hand tools include all the equipment typically found in a garden such as hand forks, dibbers, dibble markers, trowels, flat spades, spading forks, shovels, action hoes, and rakes (cf., Jeavons, 2012). Rain barrels are storage containers that collect rain water from downspouts (see Figure 5-17) (Philadelphia Water Department, 2014). Finally, seeds are the propagating part of a plant that can grow into a new plant of the same type.
For this dissertation, I consider seeds to be a form of capital, as they result from a human-
managed process of nature (cf., McMullan and Livsey, n.d.).

Capital goods are relatively inexpensive and easily acquired by individuals and organized
groups. Such items as compost sifters, high tunnels, u-bars, and seedling trays may be
constructed using relatively inexpensive building materials (see Jeavons, 2012 for a list of plans
and materials). Used hand tools may be purchased at yard sales and/or retailers such as the
Habitat for Humanity’s Re-store, which sells used building materials and tools in good, working
condition. Specialty goods such as rarely used power tools, rain barrels, and seeds are also made
available to local people through their participation in a locally-organized group or event. For
instance, individuals and organized nonprofits, after paying a small, annual fee, are able to access
the West Philly Tool Library’s collection of 3,500 tools suitable for gardening, plumbing,
construction, and basic repairs (West Philly Tool Library, 2014). Through their participation in a
one-hour workshop, the Philadelphia Water Department affords residents free access to rain
barrels (Philadelphia Water Department, 2014). The Philadelphia Seed Exchange supplies local
people access to free heirloom varieties of seed (Philadelphia Seed Exchange, 2014).

These goods are also accessible to those living in distressed areas. Figure 5-23 shows the
location of a few places from which ordinary people may obtain affordably priced capital goods
including tools, building materials, and seeds/plants. This map is atop a map of the city’s regions
of high and low SNAP participation and household poverty rates. It shows that many of the free
and/or affordably priced sources of capital reside in locations proximate to the city’s distressed
places. In 2014, approximately 2 out of every 3 sources mapped were located within 0.5 miles of
a tract characterized by the highest rates of poverty and food insecurity. This includes 65 percent
of the City’s farmers markets that enable SNAP recipients to purchase seeds and/or food
producing plants.
Figure 5-23: Locations of Philadelphia’s affordably priced sources of capital by regions of household SNAP participation and poverty rates.

Sources: US Census Bureau (2011g); West Philly Tool Library (2014); Philadelphia Seed Exchange (2012a; 2012b); City of Philadelphia Community Partnership Program (n.d.); Resource Exchange (2014); Habitat for Humanity Philadelphia (2014); City of Philadelphia Department of Public Health (2013)
5.5.3.2 Financial Capital

A second source of capital is financial capital. Financial capital includes all the money used by people in the day-to-day operations of a food production site. It includes the sum of all the owners’ contributions, borrowed sums of money such as bank loans, and any cash-on-hand. It is used to fund the site’s operations. It may also be used to purchase and acquire capital goods.

Relative to capital goods, financial capital may be more expensive and less easily acquired by individuals and organized groups. Grant applications require individuals to spend time researching, contacting funders, and writing applications that may not even result in funds. Organized events may supply individuals and organized groups ready access to cash, but each may require the use of existing funds to pay for food, beverages, activities, speakers, and other features of the event. Fundraising campaigns require individuals to commit time and money to project management, advertisements, and networking with possible donors. Bank loans require repayment, and some banks are unwilling to lend organized groups and individuals small sums of money.

Despite these shortcomings, some forms of capital are relatively easy for local people and organized groups interested in starting sites of production to access. A network of 7 micro-lenders supplies small sums of $400 to $2.5 million dollars to entrepreneurs, organized nonprofits, and small businesses, especially those sited in low-income areas (Philadelphia Retail Marketing Alliance, 2014). The Enterprise Center’s Food Innovation Loan Fund targets financing to food-related businesses operated by women, racial and ethnic minorities, credit challenged individuals, low income people, and businesses residing in low-income areas (The Enterprise Center, 2014). Philly Stake offers micro-grants of up to $1000 to local people and organized groups engaged in community building projects (Philly Stake, 2014). Larger, virtual organizations such as Kickstarter offer local people and organized groups the chance to secure
access to cash through crowd-sourcing opportunities. In 2012, Philadelphia’s Mastery Charter School’s Green Club used crowd-sourcing to obtain a sum of $1,575 dollars to erect a vertical garden in a vacant lot near their school in South Philadelphia (see Figure 5-24) (Ashley, 2012a).

Figure 5-24: Philadelphia’s Mastery Charter School’s Green Club used crowd-sourcing to secure money to erect a vertical garden in a vacant parcel in South Philadelphia.

Sources:  Mastery Charter School’s Green Club (2012); Ashley (2012b)

In addition, many locally-organized groups offer affordably priced loans and/or free assistance to help local people garner these forms of capital. The Philadelphia branch of SCORE (Service Corps of Retired Executives), Women’s Business Development Center, Women’s Opportunities Resource Center, and the Temple and Wharton Small Business Development Centers offer start-up and small business owners advice, counseling, workshops, and information regarding potential sources of financial capital (cf., City of Philadelphia Business Services, 2009). Penn State University Extension makes available information and assistance to those interested in

5.5.3.3 High Tunnels in Philadelphia

High tunnels represent one of the most noticeable ways in which ordinary people use capital goods and financial capital to make available affordably priced, healthy food in the city. High tunnels are located at sites of food production. High tunnels are inexpensive plastic greenhouses that help to extend the growing season by a few weeks in the late fall and early spring. I consider high tunnels a form of capital as each is a human-created element engaged in the day-to-day operations of a site of food production, yielding utility over time. Generally, each is also the result of an outlay of financial capital like that described in the USDA’s high tunnel cost-sharing program (cf., USDA Natural Resources Conservation Service, 2011).

As Figure 5-25 shows, high tunnels are fixed or moveable structures located at sites of food production. These structures are built on a frame, usually metal pipe or wood. Each consists of a set of walls and a roof of plastic sheeting. Normally, at least one side wall may be rolled up or down to control the interior temperature. Generally, structures are designed with no electrical heating and/or ventilating systems (cf., Pennsylvania State University, 2011; 2012a).
Philadelphia’s high tunnels are incorporated into its sites of bio-intensive agriculture. This process occurs in a variety of ways. High tunnels may be used to support the growth and development of seeds. Alternatively, high tunnels include a series of raised beds for high-density, mixed plantings. Seed trays and raised beds make use of compost generated from locally-sourced food and yard wastes. Humidity domes and row covers help maintain temperatures of plants, especially in the spring and winter months. Drip irrigation lines and hoses supply water to plants while minimizing the amount of water lost to evaporation. Synergistic plantings provide homes for insects and other pollinators. Carefully planned cover cropping and rotation schemes support
healthy soil in spaces that have the potential to be used almost continuously (personal
observations).

Many locally-organized nonprofit groups acquire high tunnels through their participation in a local high tunnel alliance. This high tunnel alliance is an organized network of farms and gardens anchored by Penn State University’s Department of Horticulture and Philadelphia County Extension Educators. It includes at least 11 organized nonprofits that use existing supplies of land and labor to make available affordably priced, healthy food in the city (cf., Pennsylvania State University, 2011; 2012a).

Penn State University’s Department of Horticulture and Philadelphia County Extension Educators anchor the alliance. These educators supply organized nonprofit groups with university educators, researchers, and volunteer Master Gardeners who have formal training and expertise in urban gardening. They help interested nonprofit groups secure USDA grants and other sources of funding for their purchase and/or construction of high tunnels. They also support nonprofits in their construction, operation, and production of food in high tunnels (cf., Pennsylvania State University, 2011).

Organized nonprofit groups form the membership. These groups commit land and labor to the project. Each works with extension educators to secure grants and additional financing for their purchase and/or construction of the high tunnels. Each also works with educators, researchers, and volunteer Master Gardeners to ensure the successful performance of high tunnel operations (cf., Pennsylvania State University, 2011).

Figure 5-26 shows one of the sites operated by a participating member of the alliance. This site is operated by the Philadelphia Self-Help and Resource Exchange (SHARE). SHARE is an organized nonprofit that works to provide affordable, wholesome food to those willing to contribute volunteerism (cf., SHARE, 2013). Its rooftop garden and nursery consists of 6,000 square feet of wheelchair accessible raised beds, 14 beehives, two high tunnels, and a greenhouse.
In 2013, it harvested more than 6,000 pounds of chemical-free vegetables over a 10-month period. Of these vegetables, half were donated to local soup kitchens and the remainder sold on site or included in its Farm to Families packages, which are affordably priced, pre-packed boxes of produce (cf., SHARE Food Program, 2014; Mandel, 2012a; Cities of Service, 2014).

Figure 5-26: The Philadelphia Self-Help and Resource Exchange (SHARE) is a member of the Philadelphia’s high tunnel alliance. On the left, cherry tomato plants and eggplants grow in one of its two high tunnels. On the right, SHARE’s Nice Roots farm sits atop an 180,000 square foot building located in Upper North Philadelphia.
Sources: Phillips (2011); Pennsylvania State University (2012c)

Neighborhood Foods CSA represents a second member of the alliance. Neighborhood Foods is an organized nonprofit that engages urban farming to build wealth in the neighborhood through employment, education, and social cohesion (cf., Neighborhood Foods, 2013). It raises produce on a series of raised beds and high tunnels on 3 different vacant parcels. In 2012, its cumulative production and distribution exceeded 21,000 pounds of produce; its gross sales totaled
$47,699. It employed 11 members of the surrounding neighborhoods (Urban Tree Connection, 2012a) (see Figure 5-27).

![Image of high tunnel]

Figure 5-27: Neighborhood Foods CSA is a member of Philadelphia’s high tunnel alliance. On the left, farmers examine the high tunnel’s raised beds. On the right, workers use the high tunnel for supplementary summer plantings and season extension.

Sources: Urban Tree Connection (2012b; 2012c).

Through their collective efforts, Penn State University educators and organized groups of local people are working together to change vacant parcels, parklands, and buildings into safe and functional places that make available affordably priced, healthy food in the city. They are also creating jobs and growing the local economy. The map included in Figure 5-28 shows the location and distribution of the high tunnels operated by the members of the Penn State Extension’s High Tunnel Alliance. During the first four months of 2012, Penn State Extension estimated that the high tunnel members grew over 8,000 pounds of food and infused about $1.75 per pound into Philadelphia’s economy (Pennsylvania State University, 2012b).
Figure 5-28: Locations of high tunnels operated by the members of the Penn State High Tunnel Alliance, July 2014

Sources: Census Bureau (2011g); L. Yapa (personal communication, April 21, 2014); T. McCann (personal communication, July 15, 2014)
5.6 Exercising Agency in Post-structural Interventions

Throughout this chapter, I invoked a social theory of poverty to examine how food production by ordinary people can help the food insecure reduce their reliance on SNAP. I identified and described the extent to which Philadelphia’s people experience problems of poverty and food insecurity. I showed the extent to which issues of poverty, unemployment, race, and SNAP participation contribute to the spatial construction of the dependent other in Philadelphia. I detailed the feasibility of food production in the city. I also explored the strategy of food production as a way for poor people and their advocates to improve poor people’s quality of life at their existing levels of income.

My examination highlights the need for a new theory of production. This theory of production establishes a new relationship between the factors of land, labor, and capital. It argues that land may be used by labor to produce basic goods with minimal capital inputs, and it is supported by my detailed discussion of bio-intensive agriculture.

It also suggests poor people can exercise agency by directly participating in food production. Specifically, my examination characterizes the availability of land, labor, and capital in the city. It shows the extent to which each of these factors does not hinder the production of food. It also identifies ordinary people as the source of labor.

Fortunately, Philadelphia has many local institutions committed to helping people exercise their agency in food production. The following section relates four vignettes of individuals finding agency through food production with some support from well-established local institutions. For each profile, I provide the name of a person and supply some basic details about him/her and the site at which he/she earns a wage. I then identify and characterize some of the activities he/she performs in a typical day. Finally, I discuss the extent to which his/her performance helps make available affordably priced, healthy food in the city.
It is important to note that the individuals profiled do not represent any one particular person working in Philadelphia’s system of urban agriculture. Instead, the attributes of profiled individuals were constructed through the concatenation of several sources of data, including online materials, reports, books, and my own personal experiences working at sites of food production and/or distribution in Pennsylvania, Maryland, and Washington, DC. As such, a single profile may actually represent the characteristics and contributions of several different people.

Keeping this in mind, it is important to note that all local institutions included in the profile are real, organized groups of people participating in the city’s system of urban agriculture. These data were collected through online materials, newspaper articles, tax returns, books, and related materials. The sources for these data are cited in the text.

5.6.1 Jennifer (50-years old; farm manager)

Jennifer is a farm manager at a site located in a poor, food insecure area of West Philadelphia. While she has a college degree, it is not a requirement for her position. She works on a full-time, year-round basis on a site operated by A Little Taste of Everything, Inc. (ALTE)—a community-based nonprofit group. She is assisted by one other full-time worker, a seasonal intern, high school youths employed through a leadership development program, and hundreds of neighborhood volunteers (ALTE, n.d.; ALTE, 2012b). In exchange for her efforts, Jennifer receives a monthly salary, subsidized health insurance, and ample quantities of fresh produce (cf., ALTE, 2012a).

Jennifer oversees the daily operations of a small farm situated on a formerly vacant lot of just 0.5 acres in size (cf., Corr, 2014). Like many of the city’s other growers, Jennifer engages methods of bio-intensive agriculture. She incorporates high-density, mixed plantings. She
amends beds with a variety of organic soil amendments as well as a supply of on-farm composted materials generated from the farm’s raw food wastes. She irrigates beds using a system of rain barrels and drip irrigation lines that may be filled at no cost by the local fire department during times of drought. While this operation is not certified organic, it produces food without the application of synthetic chemical fertilizers, pesticides, and herbicides (cf., ALTE, 2014).

Jennifer’s typical activities are highly varied and seasonal, with most occurring at irregular times during the spring, summer, and fall months. She plants, harvests, weeds, and prunes crops by hand. She visually inspects crops for insect damage and disease. She unfurls and lays drip irrigation line to irrigate the soil. She applies compost tea, a liquefied form of compost. She lifts and carries baskets of harvested crops. She cleans produce and packs it into boxes. She transports produce to sites of distribution, including a farmers’ market and on-site produce stand. She coordinates the delivery of donations to the Philadelphia Horticultural Society’s City Harvest program, which supplies the city’s emergency food cupboards with seasonal produce. She writes grant applications to garner additional supplies of financial capital. She resolves such day-to-day problems as equipment failures, unsatisfied customers, and labor shortages.

The collective efforts of the farm’s workforce helps transform the city’s vacant lots into sites of food production while making available affordably priced, healthy food in the city. In 2012, workers at Mill Creek Farm actually harvested about 3,600 pounds of produce. Of this, they donated about 1,200 pounds to local food cupboards as part of the City Harvest program. They sold the remaining produce to more than 665 customers, generating about $6,000 in sales (ALTE, 2012b).
5.6.2 Henry (67-years old; seasonal farmers’ market retail associate)

Henry is a seasonal farmers’ market associate at a site located in a high poverty and food insecure area of West Philadelphia. While he has a high school diploma, relevant work experience is the only requirement for his position (cf., The Food Trust, n.d.). During the months of April through November, he works and participates at this site organized and operated by The Food Trust, a nationally-recognized nonprofit group. He spends 20 hours per week at the site and the remainder of his time in retirement. In exchange for his efforts, he receives a wage of $9 per hour. He also barters with market vendors to obtain quantities of produce, eggs, and other foods.

Henry oversees the daily operations of a 12-stand, outdoor farmers’ market retail site. This site operates twice per week during the summer and once per week the remainder of the year. Its producers distribute locally-grown supplies of seasonal produce, dairy products, eggs, meats, and value-added products such as breads, honey, and dried herbs. Its vendors all accept WIC and Senior FMNP vouchers, coupons supplied to income-qualified women with children and senior citizens for the purchase of Pennsylvania grown fresh fruits and vegetables. Its vendors also accept SNAP benefits; for every $5 customers spend using these benefits, they receive a $2 Philly Food Bucks coupon that can be used to purchase additional quantities of fruits and vegetables (cf., The Food Trust, 2012a; The Food Trust, n.d.).

On a typical market day, Henry’s activities are highly varied. He walks around the market talking with customers and vendors. He collects refuse. He troubleshoots and mediates any problems arising between vendors. He uses wireless point-of-sale terminals to process food stamp transactions. He makes sure vendors are selling according to the rules of the farmers’ market governing organization. He coordinates at-market promotional events, such as cooking demonstrations. He also maintains market records and completes relevant paperwork (cf., The Food Trust, n.d.).
Through the collective efforts of individuals like Henry, The Land Trust makes available affordably priced, healthy food and jobs in the city. In 2012, the organization enabled about 150,000 people to access supplies of affordably priced, healthy food (Karpyn, 2013). Its Philly Food Bucks program helped SNAP recipients purchase 40 percent more locally-grown fresh fruits and vegetables (The Food Trust, 2012b). Its network of 30 farmers’ markets enabled local farmers and retailers to garner about $20,000 in sales income (Karpyn, 2013).

5.6.3 Mike (27-years old; incarcerated person)

Mike is serving time in a Philadelphia facility for a parole violation and is preparing for his release. While incarcerated, he works at a greenhouse and garden operated on the campus of the city’s jail in Far Northwest Philadelphia. In exchange for his efforts, he gets access to physical exercise, exposure to the outdoors, horticultural training, the chance to grow plants from seed to harvest, and information about food preparation and bodily health. He will be able to continue his work following his release.

Mike participates in the Roots to Reentry Program. This program is operated by the Pennsylvania Horticulture Society. It enrolls a small group of nonviolent offenders preparing for parole or work release (cf., Smith, 2008). It supplies them support and training in areas of personal health and wellness, work readiness, horticulture, and landscape management. It engages them in the processes of growing seedlings and harvesting food for distribution to such locally-organized nonprofit groups as community gardens, soup kitchens, and food cupboards. It also connects them with networks of prospective local employers following their completion of the program (cf., Smith, 2008; Todd, 2014; Philadelphia Horticulture Society, 2014).

On a typical day, Mike’s activities are highly varied and contingent upon his progression in the program. He listens to classroom teachers. He practices solving basic math and science
problems. He tastes food and participates in cooking demonstrations. He shares knowledge in workshops about health and job-readiness. He learns about plant biology and species identification. He plants, weeds, and harvests crops by hand. He amends beds with compost. He irrigates the soil. He packs produce into boxes. He pushes wheelbarrows and digs holes. He also performs other, related activities necessary for the production and distribution of food at sites of bio-intensive agriculture.

The collective efforts of the program’s participants make available affordably priced, healthy food in the city while maximizing the chances of future employment by former offenders. Since 2006, Roots to Reentry participants have grown and distributed about 106 tons of fresh produce to the city’s emergency food providers. In addition, 63 of the program’s 72 completers have gone on to gain formal employment in the past 4 years (or about 87.5 percent) (cf., Todd, 2014).

5.6.4 Matie (16-years old; non-working youth)

Matie is a non-working youth who attends a local high school. She lives at a youth shelter. She has a diagnosed learning disability and struggles in school. She participates in a year-round afterschool program for three hours every day at the Friends Neighborhood Guild in North Philadelphia. In exchange for her efforts, she gets physical exercise, horticultural training, a chance to learn about different jobs, and leadership and life skills practice. She also gets to engage in hands-on entrepreneurial activities, such as selling the produce she has helped grow at a seasonal farm stand.

Matie participates in the Teens 4 Good Program. This program is operated by the Federation of Neighborhood Centers—a locally-organized nonprofit group. It engages at-risk youth in agriculture, enterprise, and service learning activities. Through their engagement, it
supplies them support and training in the areas of leadership, life skills, career exploration, science education, horticulture, art, entrepreneurship, and community building. It also involves them in the processes of growing healthy food and distributing it through a network of seasonal farm stands, farmers’ markets, a community supported agriculture program, locally organized nonprofit groups, and grocery stores (cf., Teens 4 Good, 2014; Terlik, 2013; Bilger, 2013).

On a typical day, Matie’s activities are highly varied and seasonal. She starts seeds in the farm’s high tunnel. She listens to guest speakers. She participates on field trips to local sites, such as corner stores. She prepares local produce and participates in cooking activities. She shares meals with local senior citizens. She practices life skills, like good communication and leadership. She helps develop and market new products. She tills the land. She picks up trash on neighborhood clean-up days. She manages finances. She sells produce to customers at farm stands. She helps deliver food to off-farm sites of distribution, including local grocery stores and organized nonprofits.

The collective efforts of the program’s youth helps transform the city in three different ways. Such efforts transform the city’s vacant lots, parklands, and buildings into sites of food production. They improve opportunities for youth employment in the formal economy and positive decision-making. They also make available affordably priced, healthy food in the city (cf., Teens 4 Good, n.d.). Since 2005, Teens 4 Good has established six urban farms across Philadelphia. It was estimated these farms distributed more than 8,000 pounds of produce to the residents of 25 low-income neighborhoods during the 2013 growing season (cf., Bilger, 2013).

These profiles represent just four of the many different ways in which ordinary people are engaging in efforts of bio-intensive agriculture. Through their participation, people like Jennifer, Henry, Mike, and Mattie are helping decrease poor people’s cost of living by providing them direct access to affordably priced supplies of food. They are limiting the material impacts of racism while reducing the extent to which perpetrators are able to fully exercise acts of
discrimination. They are converting vacant parcels, parklands, and buildings into safe and functional places. They are transforming themselves with their positive efforts. In so doing, they are also shifting the ways in which ordinary people perceive and experience the space of West-North Philadelphia.

5.7 Conclusion

This issue of food insecurity is all too familiar for many residents of Philadelphia. In 2011, the Food Research and Action Center reported half of Philadelphia’s 4 Congressional Districts reported rates of food insecurity nearing 20 percent or higher. In fact, its 1st District had Pennsylvania’s highest rate of food insecurity (31.2 percent) and the 4th highest rate in the country (see Figures 5-1 and 5-3).

For many years, the US government has enacted policies to help food insecure households get access to food. These policies fund programs that supply people with food assistance benefits. Each directs funds to low-income people, especially those living in the country’s most distressed regions—these include the country’s most rural and urban places in which a persistently large share of households are unable to earn an income sufficient to pay for such necessities of daily living as food, clothing, and shelter (cf., Glasmeier, 2005).

While these efforts are helpful, the federal government’s programs are not sustainable in the long-term. As Chapter 3 demonstrated, food assistance programs are very big and expensive. The ability of these programs to provision people is hostage to the vagaries of political fortune. In addition, program participants are caught up in a politics of race and class where frequent claims regarding welfare dependency, entitlement mentality, and poor work ethic disrespect them and rob them of their dignity.
Given the current situation, this chapter examined the extent to which food production may be used by ordinary people to help the food insecure reduce their reliance on SNAP. It highlighted the need for a theory of production that establishes a new relationship between the factors of land, labor, and capital. It also identified and characterized some of the ways in which poor people can exercise their agency to transform themselves and their communities in positive ways.
Chapter 6

Conclusion

For many years, the US federal government has intervened in the economy to help poor and food insecure households get access to food. These interventions are designed to alter the effects of poverty necessarily experienced by some of the people living in an economy that privileges exchange values (or money income) over basic use values, which include all the basic necessities of a household. These interventions include programs that supply households meeting a pre-defined, minimum income threshold with agricultural commodities, hot meals, and/or cash values in the form of an electronic benefit, which is like a debit card for food aid.

While these efforts are helpful and necessary, the federal government’s programs are not sustainable in the long-term. In their current form, federal food assistance programs are very big and expensive. The ability of these programs to provision people is hostage to the vagaries of political fortune. Program participants are caught up in a politics of race and class where frequent claims regarding welfare dependency, entitlement mentality, and poor work ethic disrespect them and rob them of their dignity.

I investigate food stamp use in the US in the context of a new theory of poverty. This theory argues for a use value perspective on poverty and food stamps. Instead of asking why people do not make more money or proposing to give them money in the form of food stamps, I looked at the potential for direct production of food in the city by poor people. What matters in the end is not whether people have enough money but whether they have enough to eat and are physically healthy. I did not call for discontinuance of food stamps. I simply wanted to look at alternative and complementary ways of getting nutritious food to the poor. I argued that given the knowledge we now possess on the productiveness of bio-intensive agriculture that land, labor and
capital are not limiting factors of production for gaining food security. I contend that household problems of food security may be resolved through the production of affordably priced, basic foods in proximity to poor people. I recognize that individual recipients can exercise agency and engage in efforts to resolve the country’s issues of food insecurity. I suggest that one good approach to helping poor people improve their own food security is to actually increase the number of places that grow food in the city, especially in places characterized by high rates of food insecurity and poverty.

Summary of research. I argue for a complementary and alternative way of providing for food security. My arguments are presented in four chapters. Chapter 2 analyzes the US federal government’s efforts to supply food to poor people. Chapter 3 identifies and describes the current recipients of the country’s flagship food assistance program—the Supplemental Nutrition Assistance Program (SNAP). Chapter 4 evaluates the geographical distribution of recipient households and relates the extent to which this geography of households has changed over time. A final examination evaluates the feasibility of post-structural interventions in food security (see Chapter 5). By post-structural interventions, I refer to efforts through which we transcend the structural issues of race, class, and unemployment so that ordinary people living their daily lives can reduce the need for food assistance benefits by employing locally-available supplies of land, labor, and capital to produce food.

I begin with an examination of the US federal government’s efforts to supply food to poor people (see Chapter 2). Through a series of textual and linear regression analyses, I identify and characterize a series of successive periods of the federal government’s efforts to provision poor people. I highlight the extent to which the federal government’s efforts are deeply embroiled in a complex system of political economy. I also suggest a need for looking beyond interventions grounded in an exchange value approach to poverty—interventions that presume people are food insecure because they lack money income.
I follow this analysis with one of consumer demand. In Chapter 3, I engage a series of statistical analyses to identify and characterize the socio-economic attributes of households participating in the country’s flagship food assistance program—the Supplemental Nutrition Assistance Program (SNAP). I suggest a need for a critical engagement of contingency tables as devices for building social theories. I demonstrate the extent to which the attributes that people think characterize a group of SNAP recipients represents a social stereotype. I also distinguish the shared attributes of recipient households in order to identify who, exactly, experiences difficulties securing food in order to focus efforts of post-structural intervention.

I continue my analysis of consumer demand in Chapter 4 with an examination of the geographic distribution of recipient households. I engage a series of spatial and temporal analyses to demonstrate the depth and persistence of regional patterns of household participation through time. I highlight the extent to which statewide patterns of household participation correlate with poverty, which itself is regionally persistent. I also suggest that while the federal government’s food assistance efforts help ensure poor people get food, the program does little to improve statewide poverty rates.

Collectively, these first three analytical chapters work within the exchange value approach to poverty and food security (see Chapters 2, 3, and 4). These chapters identify and characterize a program grounded in the conventional wisdom, which is the idea that people are poor and food insecure because they lack money income. Although it is important to recognize that money income is an important means through which individuals acquire food in a capitalist economy, it is also necessary to acknowledge the limitations of efforts which privilege this approach. This includes the idea that poor people require money income to climb out of poverty and achieve food security.

Through my critical engagement of the exchange value approach, I highlight a need for a discursive framework that recognizes the agency of recipients in order to resolve long-term issues
of food insecurity. My analyses of supply indicate that the federal government’s efforts are not socially, financially, and/or politically sustainable in the long-term. Likewise, my analyses of demand indicate that at least some of the country’s people will have a permanent need for food assistance benefits.

I next examine the feasibility of interventions in food security that engage the agency of ordinary people, which I refer to as post-structural interventions in food security. In Chapter 5, I relate a case study of food security in the City of Philadelphia to demonstrate one strategy of a post-structural intervention. I engage this case study to demonstrate that locally-available supplies of land, labor, and capital are not limiting factors for post-structural interventions in agriculture by the city’s residents and organized groups. This includes efforts of food production and distribution located in Philadelphia’s most poor and food insecure neighborhoods. I also identify and describe a few of the ongoing efforts through which Philadelphians are exercising agency to reduce poor people’s need for food assistance benefits.

Summary of findings. Through my series of examinations, I find that the federal government’s food assistance programs are implicated in a system that privileges exchange values over use values. This finding implies that food assistance programs are both a useful and necessary part of insuring every person has enough food to eat. However, it also suggests food assistance programs are not sustainable in the long-term for two reasons. First, food assistance programs are caught up in divisive debates about the ways and extent to which the federal government ought to intervene in the country’s capitalist economy. Second, individuals using benefits in this context are associated with longstanding ideas about race and class that rob them of their dignity.

My analyses of SNAP consumers found a strong correlation among the variables of race, unemployment, poverty, and SNAP usage (see Chapter 3). While this finding is typical of other social science analyses, it was not meant to demonstrate the causes of food insecurity. Instead, it
was meant to identify and prioritize sites for post-structural interventions. A simple reading of these analyses as a demonstration of causality does not help us resolve the problem of food insecurity as issues of race, unemployment, and poverty in the US are far more intractable than that of attaining food security.

In Chapter 4, the maps of household SNAP participation showed some interesting and useful spatial patterns. Like the analyses of consumers, these spatial correlations were meant to highlight the places of greatest stability and need for post-structural interventions in local food production. A factor analysis revealed that the regional patterns of SNAP usage were remarkably stable over the years. A spatial distribution of the states showed the occurrence of definite regional clusters. Finally, an analysis of SNAP participation and poverty showed that the remarkably stable regional clusters of SNAP usage were highly correlated with the larger spatial patterns of poverty.

Collectively, my findings suggest the persisting issue of food insecurity is a problem of socially constructed scarcity. This situation arises from the federal government’s own efforts to provision its poor people in a system of capitalism that privileges exchange values over use values. It is facilitated by the program’s inclusion in a nexus of poverty, unemployment, race, class, and fractional politics. It implies a need for food assistance will persist, even if austere policy measures de-fund the federal government’s efforts to provision poor people.

As a problem of socially constructed scarcity, however, my findings indicate the issue of food insecurity can be resolved. This can be done by reversing the privileging of exchange value over use value. It is realized through efforts to supply poor people with affordably priced, basic goods. It is performed by ordinary people and/or organized groups. It engages the particularities of place. It incorporates the substantive competencies and knowledge of any one person who is interested and willing to make a contribution. It also enables poor people to live a life of dignity.
Contributions. Through my examination of interventions in food security, I contribute a critique of the exchange value approach to poverty. This approach is based upon the universal consensus that all our basic needs will be obtained from the economy in the form of commodities. It follows that people are poor and experience food insecurity because they lack money.

I propose an alternative use value approach to poverty. This approach is based upon the idea that a person experiences problems of poverty such as food insecurity when s/he lacks physical access to basic needs. It purports that individuals and organized groups are able to resolve problems of food insecurity without an a priori need to eradicate poverty.

I engage a use value approach to articulate a method through which ordinary people can act to resolve issues of poverty and food insecurity. I refer to this method as a post-structural intervention in the community. This method recognizes the limitations of such social structures as poverty, unemployment, race, and class. At the same time, its application enables local people and organized groups to exercise agency to transcend the rigidities of these structures.

I demonstrate the validity of post-structural interventions through a case study of Philadelphia. This demonstration occurs in two forms. First, I engage in the act of writing to demonstrate the extent to which the method may be engaged by scholars working to resolve issues of poverty and food insecurity. Through my writing, I also show the extent to which the method may be engaged by ordinary people and/or organized groups. Specifically, the case study I use identifies and describes the availability of local resources including land, labor, and capital. I detail the extent to which local people are able to access and use these resources. I draw upon the concept of bio-intensive agriculture to demonstrate that Philadelphia’s existing supplies of resources are not limiting factors in their production and distribution of local food, including those efforts located in the City’s poor and food insecure neighborhoods.

Practical implications of use values. While its theoretical contributions are important, it is also necessary to recognize the practical implications of privileging use values over exchange
values in everyday life. Specifically, individuals and households privileging use values are able to more easily prioritize issues of bodily health, nutrition, and life quality. They are also poised to think creatively about all the different ways in which they may act to resolve problems of food insecurity without an *a priori* need to increase their money income.

As a demonstration of the practical outcomes afforded by this line of thinking, I close this dissertation with a brief description of my own household. This description highlights the ways in which my household privileges use values over exchange values. It also demonstrates some of the ways in which my household has sought to improve its food security without substantially increasing its money income. I recognize that my situation is different from that of most low-income people. I am an educated person with no children. When I finish school I hope to secure an academic position.

As a graduate student I have lived in a low-income household, working multiple low-wage jobs, with an income supplemented by a male partner earning a similarly low wage. After I finished my financial eligibility in graduate school I received no additional financial support from outside sources. In 2012, my household received SNAP benefits for a period of about 14 months. During this time, I used our benefits to purchase basic items such as rice, flour, spices, yeast, dairy products, oils, meat, and eggs. But, today we no longer need these benefits. This is because my partner recently accepted a position at a farm located in a metropolitan county on the east coast. As a farm worker, my partner not only produces for the farm owner, but we are also able to use the land to produce some items for ourselves such vegetables, eggs, chicken, and milk. We also heat the house with firewood available on the farm.

Through this brief story, I have set forth some of the ways in which my household has worked to improve its food security while still operating in a wider market economy. While my story may not be generalizable, I believe it provides a useful starting point for thinking about some of the methods through which urban farms may help low-income people improve their
livelihoods and reduce their need for government assistance. I do not wish to hold up my household to the poor as a site of virtue and economic independence. I simply want to recount the case that my household’s participation in the production economy directly brought at least a small degree of independence.
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