Geographies of Poverty and Retail: the Impact of Supermarket Expansion on Food Insecurity in Cape Town

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# Table of Contents

Abstract ........................................................................................................... 3

Acknowledgements .......................................................................................... 4

Chapter I  *Introduction* .................................................................................. 5

Chapter II  *Methodology* ................................................................................. 8

Chapter III  *Literature Review* ....................................................................... 19

Chapter IV  *History of Segregation and Poverty in Cape Town* ................ 38

Chapter V  *Geographies of Retail: The Distribution of Supermarkets* ........ 58

Chapter VI  *Geographies of Poverty: Food Security in the Philippi Township* 81

Chapter VII  *Conclusions* .............................................................................. 99

Appendix .......................................................................................................... 105

Bibliography .................................................................................................... 113
Abstract

The rapid rise in supermarkets in developing countries over the last few decades has resulted in the radical transformation of food retail systems. In the city of Cape Town, the introduction of supermarkets has coincided with rapid urbanization and increasing levels of food insecurity. In the context of a neoliberal approach toward economic development and redistribution, regulatory policies have largely ignored urban problems of food insecurity; therefore, retail modernization has become a largely unregulated market-based solution to improving food access for the poor. However, the introduction of formal food retail formats is often seen as conflicting with the informal food economies established in lower-income neighborhoods of this metropolitan area. Through a mixed-methods approach, this paper assesses the spatial distribution of supermarkets within Cape Town and whether this geography of food retail combats or perpetuates food insecurity, particularly in lower-income neighborhoods. Spatial analysis using Geographic Information Systems at a city-wide scale is combined with a qualitative case study utilizing semi-structured interviews and observational analysis in a township neighborhood in order to develop a more complete understanding of the role of supermarkets in complex, hybridizing urban food environments.
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Chapter I

Introduction

The connection between supermarkets and food security may not be initially apparent. Supermarkets have traditionally been seen as a niche retail format for upper-middle class households primarily in the global North. Therefore, with the rapid expansion of supermarkets into developing countries deemed the ‘supermarket revolution,’ which began in the 1990s, initial development focused on high-income areas of urban locations (Reardon & Berdeque 2002, Weatherspoon & Reardon 2003). However, recent saturation of upper- and middle-class markets has resulted in strategies to reach a lower-income market (Tustin & Strydom 2006), which is making supermarkets increasingly important in the consumption strategies of the poor.

In South Africa, urbanization has contributed to a rapid increase in poverty and the rising population of the urban poor. Sixty percent of South Africa’s population is now urbanized, and this figure is projected to reach 80% by 2050 (Todes et al 2010). As a country which still retains elements of its apartheid past in its spatial distribution of poverty, this trend toward urbanization has exacerbated problems of food insecurity as it relates to the accessibility of affordable foods for people in poorer areas. In Cape Town, the second largest urban area in the country, with a population approaching four million and a growth rate almost 2% higher than the national average (Battersby 2011b), the impact of urbanization is accentuated. This may ultimately result in a growth in the number of food insecure households.

Although urban food insecurity continues to grow, food policy decisions in South Africa have tended to ignore urban areas. For the most part, food insecurity is being tackled through initiatives centered on improving rural livelihoods and increasing agricultural production, while urban communities had been associated with other more distinctly urban problems such as housing, transportation, and crime. This is due to a framing around developmentalist discourse
which pushes economic development and a macro-scale assessment of poverty (Maxwell 1999, Battersby 2011a). Immediate alleviation and market development have been at the core of most policy initiatives developed by the South African government (Battersby 2011b, Crush & Frayne 2011b, Drimie & Ruysenaar 2010, Maxwell 1999), while the retail access problems in urban regions have been sidelined (Abrahams 2010, Weatherspoon & Reardon 2003). This has resulted in a food distribution system in which market-based strategies are given priority in methods for solving food insecurity.

In the context of a rapidly urbanizing South African population, supermarket diffusion into low-income areas has developed within the neoliberal economic environment promoted by the ANC. Supermarkets have often been conceptualized as food outlets with high quality cheap goods and a wide range of options (i.e. Zenk et al 2005, Block & Kouba 2006). In an environment where an Apartheid legacy geography of poverty spatially manifests as growing segregated urbanization and a limited infrastructural capacity to support it, these supermarkets are conceptualized as potentially increasing food distributional capacity. As such, supermarkets are hypothesized to replace the traditional informal markets in lower income areas and formalize the food system in South Africa (Reardon & Hopkins 2006, Reardon et al 2007). Therefore, it is still unclear how effective the diffusion of formal market formats into low income areas is. On the one hand, it appears to be an economically sound market-based strategy backed by the formal sector and government infrastructural development. On the other hand, the informal economy is still a considerable player which many in low-income areas rely on.

In light of the lack of political emphasis on urban food security and contrasting conceptualizations of how to tackle this growing problem in South Africa, the main objective of this research is to develop a clearer understanding of the role of supermarkets in either
perpetuating or alleviating food insecurity in Cape Town. In doing so, it assesses the extent to which this geography of retail either constrains or improves food access by addressing three main research objectives. First, are supermarkets in Cape Town spatially distributed in an accessible format for low-income households? Second, how do supermarkets in low-income neighborhoods influence food access in relation to dynamics between formal and informal economies? And finally, how does the current distribution of supermarkets contribute to our understanding of the high rate of food insecurity in Cape Town?

In order to address these objectives, this thesis has taken a mixed-methods approach in its implementation. Geographic Information Systems (GIS) analysis has been utilized to map the spatial distribution of supermarkets and compare it to the geography of poverty and access in the city in order to develop a better grasp of the spatial manifestation of retail access. Furthermore, a qualitative case study of a neighborhood centered on a supermarket in a township area in Cape Town was conducted to develop a more in-depth understanding of the strategies that households adopt in order to obtain food, and the role that supermarkets take in these strategies.

After a description of the methods used in this research, I will present a literature review which examines three primary bodies of literature: Conceptualizations of food security around production and entitlement, food desert literature on retail organization and structural poverty, and trends in supermarket diffusion in developing countries. Then, this thesis will provide an overview of background information to provide the historical context for this research and identify important terms and definitions. Next will be an account of the two different research approaches taken, how they each contribute toward answering the research objectives, and how the two research formats complement each other. Finally, I will conclude with policy recommendations, limitations, and suggestions for further research.
Chapter 2
Methodology

The research conducted for this thesis is informed by two primary areas of discursive thought—urban political ecology and urban social theories—in an attempt to develop a deeper understanding of urban food insecurity. It is shaped by themes within these discourses such as spatial mismatch, unequal power dynamics across space and scale, structural poverty and inequality, the systems of dependency constructed through participation in a global capitalist economy, the ingenuity of local actors to develop complex livelihood strategies, the role of the elite in constructing landscapes of marginalization, and the agency of different groups at multiple scales. As urban food insecurity is a complex, dynamic, and interdisciplinary topic of analysis, this thesis necessarily takes from a multitude of epistemological standpoints and taps into works in the fields of urban geography, food security, history, economics, and urban political ecology. A perspective taken from urban political ecology recognizes how urban environments are constructed as a spatial manifestation of the power dynamics which shape systems of inequality and social exclusion. As Swyngedouw and Heynen phrase it, “Marxist urban political ecology more explicitly recognises that the material conditions that comprise urban environments are controlled and manipulated and serve the interests of the elite at the expense of marginalised populations. These conditions, in turn, are not independent of social, political and economic processes” (Swyngedouw & Heynen 2003, pg 902) Therefore, research is conducted using a mixed-methods approach with a multi-scalar analysis that ties together a local qualitative case study with a city-wide geostatistical analysis.
Geospatial Statistics: GIS Analysis

Although it is understood that food insecurity is highly prevalent in Cape Town (Battersby 2011b, see Chapters 3 and 4), the role of supermarkets in either perpetuating or alleviating food insecurity is not well known. Therefore, geospatial statistics were used to map the distribution of supermarkets and compare this to proxies for food insecurity and accessibility. The study area was determined as the Cape Town municipality, the area under which the Cape Town city council has political representation and jurisdiction. The Cape Town municipality consists of 24 subcouncils which comprise 111 wards (City of Cape Town, 2012). While census data are not available at the ward scale, sup-place data, which provides a smaller unit of analysis (with a total of 683 sub-places in the Cape Town municipality) does exist and will be used for the purpose of this study.

This analysis was done in Geographic Information Systems (GIS) using ArcGIS 10.1. Since the distribution of supermarkets in Cape Town had not yet been mapped prior to this research, this analysis represents an interesting addition to debates in both food insecurity and supermarket diffusion. Data presented at the sub-place scale uses household-level data for annual household income.

Considering the market dominance by Shoprite, PnP, Woolworths, and Spar, (see chapter 4) this research looks specifically at the spatial distribution of these four stores throughout the greater Cape Town metropolitan area. Each of these corporations has various store formats in order to accommodate different consumer behaviors. In addition to the standard supermarket formats targeted toward middle-income consumers, there were stores targeted toward low-income consumers (i.e. Shoprite’s Usave) and high-income consumers (i.e. Woolworths). All of these different store formats are considered in the data.
Supermarket locations were gathered from online store locators on the websites of Shoprite, PnP, Woolworths, and Spar respectively. This information was cross-referenced using Google maps and standardized into a recognizable format manually. Then, the data was geocoded and converted into a readable shapefile using Batch Geo’s online website (http://batchgeo.com/). Out of the 234 supermarket addresses, three had to be inputted manually, which was done using Google maps’ street view to confirm supermarket location. Once properly geocoded and formatted for use in ArcGIS, the data was inputted into the software for further analysis.

Once geocoded, the locations of the supermarkets utilized in this study were spatially represented in GIS. Then, this data was assessed in relation to two variables: average annual household income and public transportation routes. Average annual household income was used as a proxy for poverty levels, while public transportation addressed the issue of low-income accessibility.

Urban food insecurity is a complex, multifaceted problem with a wide array of determinants ranging from price fluctuations in global markets to vulnerability to disease. Unfortunately, an assessment of all variables which influence food insecurity is beyond the scope of this study. Recognizing this limitation, average annual household income is utilized as a proxy for food insecurity because there is a well-documented, direct relationship between the two variables (Sen 1982, Battersby 2012, see Chapter 3). In Cape Town’s urban environments, food production is not necessarily a viable option and is rarely practiced to promote resiliency in food security (Battersby 2011b, Maxwell 1999, Crush & Frayne 2011a). Where the majority of foodstuffs are obtained through cash-based transactions, household income is a crucial
component in food security conversations. Although not fully representative of food insecurity, household income is utilized for its ability to illuminate variation among sub-places.

Although the distribution of supermarkets in relation to the geography of food insecure households is vital in understanding the impact of supermarkets on food insecurity, absolute distance is not always the most appropriate measurement. Food desert literature has repeatedly cited access to transportation as critical in alleviating food insecurity and providing opportunities to acquire higher quality, lower-priced goods (i.e. Páez et al 2010, Whelan et al 2002). Although public transportation admittedly provides fewer options than private transportation, the population of concern is unlikely to have access to these alternative forms. Therefore, an assessment of the proximity of public transportation to supermarkets reveals their accessibility to poorer households.

Data on average annual household income was taken from 2001 city census data. Although admittedly not as current as would be ideal, 2001 data provides the most recent available figures. Data from the most recent census, conducted in 2011, is not yet available to the public. However, a brief preliminary overview has been presented recently (Smith et al 2012). This overview shows that, in comparison to 2001 census data, the Cape Town population has experienced continued growth at an alarming pace. The population has increased from a total of 2,893,249 in 2001 to a substantial 3,740,026 in 2011, resulting in a 29.3% increase. These findings provide evidence of the rapid urbanization experienced in Cape Town, further highlighting the need for more conversation around poverty and urban food insecurity. Additionally, the population composition encountered some transformations, with the colored and white populations’ percentage of the total dropping from 39.9% to 33.6% and 26.5% to 21.8% respectively (as calculated at the household scale). Conversely, the black population’s
percentage of the total increased from 32.3% to 41.6% (with the Asian population remaining at a constant 1.3% and the addition of the category ‘other’ in 2011 comprising of 1.7% of the population percentage). These trends are problematic considering the racially segregated nature of Cape Town; an increase in the black population is likely correlated to an increase in the population of those living in townships where poverty and food insecurity rates are high (see Chapter 4). With regard to the validity of utilizing 2001 data, this preliminary comparison of census data indicates that geostatistical analyses will underestimate the number of households in lower-income areas who are more likely to be food insecure. This must be kept in mind when assessing results in later chapters.

Among the 683 sub-places in Cape Town, 21 of them had no data available from the 2001 census. Therefore, 662 sub-places were considered in this study. (For a list of sub-places with no data, see appendix). A one sample Kolmogorov-Smirnov test (KS Test) was run in SPSS on average annual income data in order to calculate the normality of the distribution. If data are normally distributed, values represent a relatively “even” distribution. However, the KS test found the data to be extremely positively skewed, with a skewness of 2.417 and a significance value so low it was portrayed as 0.000 (see appendix for histogram and Q-Q plots).

In determining a classification system for average annual household income, a quantile breaks method was utilized. A quantile breaks method divides up the data into categories with an equal number of values. Since the data on average annual household income had an extreme positive skew with several outliers three to five standard deviations away from the mean, both natural breaks, which highlights outliers, and equal interval, which is typically utilized for a normal distribution of data, were inadequate classification systems. These alternative methods would have underrepresented the data variability for lower income sub-places. Since the primary
focus of this research lies in areas of low income where food insecurity is more prevalent, the quantile division method was deemed most appropriate (McGrew & Monroe 2009). Additionally, the extreme outliers creating the positive skew were removed (see appendix for number lines representing the data distribution). Values greater than two standard deviations above the mean were removed, as this value tends to encompass 95% of the population for a normally distributed data set (no values were found two standard deviations below the mean). Analysis retaining these outliers would have generalized variations among lower-income categories and utilized sub-places which would clearly have a sufficient level of income to be considered food secure.

After the average annual household income was separated into five categories accordingly, the distribution of supermarkets within these different categories was assessed in relation to areal and serviced population density. Areal density, measured as supermarkets per kilometer, and serviced population density, measured as supermarkets per 1000 households were simultaneously utilized so as to provide a more in-depth analysis of the equity of supermarket distribution.

In addressing the accessibility of supermarkets for public transportation, the three most prevalent forms of public transportation in Cape Town were used: bus, taxi, and train. The data was obtained from the University of Cape Town’s GIS database, with line files for bus and taxi routes and a point file for rail stations. The supermarket data was divided into five categories using a quantile breaks division method with the average annual household income of the sub-place in which the supermarket is situated as a comparative variable. Then, this was compared against the distance of each supermarket to the nearest point along a bus route, taxi route, and rail station. Thus, this analysis assesses both the extent to which annual average household
income influences supermarket accessibility to public transportation and supermarket accessibility to public transportation as a whole.

Due to the complex nature of conceptualizing and researching food security, as well as the scope of available data, there are some limitations in the applicability of this research. In addition to the constraints inherent when using data which could be considered somewhat dated, one limitation involves the supermarkets selected for this study. The four corporations chosen, Shoprite, PnP, Woolworths, and Spar, were chosen due to their dominant position in formal retail market share as well as their relevance to the literature surrounding large-scale retail modernization (i.e. Weatherspoon & Reardon 2003, Tustin & Strydom 2006, Crush & Frayne 2011). However, this does not exclude the importance of other local supermarket chains and independent stores. It is important to recognize that this study specifically maps large national and multinational retail chains, and not all supermarkets. Nevertheless, it is not unreasonable to speculate that other smaller formal retailers likely follow similar market-based distribution strategies and therefore could mirror these trends.

When tackling the issue of food security, it is crucial to recognize the limitations of the scale of analysis. This study was done at a city-wide scale, looking for general patterns that could be determined using sub-place as a base enumeration unit. Therefore, it necessarily fails to distinguish between variations that occur at a scale smaller than the sub-place, such as individual households. Furthermore, since it looks specifically at Cape Town, this study does not encompass a broad enough area to begin studying the urban-rural linkages that often link the city and the countryside together through familial livelihood strategies. However, an attempt to account for this limitation is reflected in the utilization of alternative methods (see below).
Qualitative Analysis: A Case Study in Philippi

In contrast to the city-wide, quantitative analysis of supermarket distribution, the second form of research utilized in this thesis involved a small-scale qualitative case study of a neighborhood in the township of Philippi. Where the previous research method provided a larger-scale picture of supermarket expansion as a market-oriented solution to food insecurity, this next method provides a more in-depth understanding of the relationship of these supermarkets to informal businesses and consumers in low-income areas. This is, therefore, an attempt to address some of the limitations of the geostatistical analysis, namely consumer agency and decision making, and the impact of other retail formats, on how supermarkets influence food security.

Field research was performed around the shopping center located at the corner of Eisleben and Landsdowne Roads. This location was chosen for three main reasons. First, it was revealed as being a relatively low income neighborhood with a low density of supermarkets, and a high prevalence of food insecurity. A survey conducted by the African Food Security Urban Network found 17 percent of residents in Ward 34 to be moderately food insecure, and 71 percent to be severely food insecure (Battersby 2011b). Second, it has a prominent presence of an informal economy. This is relevant because literature on supermarket diffusion has debated over the role of the informal economy in relation to the expansion of supermarkets (i.e. Humphrey 2007, D’Haese & Huylenbroeck 2005, Abrahams 2009). Furthermore, an important question is raised over whether or not the introduction of a supermarket is beneficial or detrimental to the pre-existing economy (see Chapter 3). Finally, this location was chosen recognizing my limitations as a researcher. As a clear outsider conducting in-depth research in
an environment very different from my own, my site choices were necessarily limited for reasons concerning safety, efficiency, and cultural acceptability (Hay 2010).

Semi-structured interviews were conducted with owners and employers at three different informal retail formats. Judgment (or purposeful) sampling was utilized, in which sample participants were chosen through available knowledge of variability and participant significance as derived from discussions with a translator prior to field work (Marshall 1996). Maximum variation and snowball sampling shaped the total sample size, with data saturation determining the sample size at 20 (Hay 2010).

Six interviews were administered with F&V stand workers, three with meat sellers, and eleven with spaza shop owners. Participants were asked in a voluntary format to answer a few questions around their consumption patterns, store practices, and the interactions between different retail formats in the neighborhood around the area of study. The interviews took between half an hour and 45 minutes each.

For the purposes of this research, the informal retail formats that were analyzed will be defined here. Fruit and vegetable (F&V) stands are retailers that present their produce on land which they lack ownership to, in an open-air format with limited infrastructure. They sell predominantly fruits and vegetables, and will typically be operated by one to three workers. Meat stands also operate on public land, but with higher levels of infrastructure. They typically will have the capacity to cook their meat and house a limited number of customers at their stands. Meat stands observed in this case study all had roofed areas for customers to sit in and enjoy their meal. The size and scale of distribution among meat stands varied considerably. Finally, spaza shops are stores which sell commonly purchased products, including food, cigarettes, and “air-time” (phone credits), which are run out of informal dwellings in an area regulated as
residential. Spaza shops also vary widely in their size and business capacity, with larger stores able to sell a larger variety of products.

Since the goal of this research is to provide an in-depth account of the food environment in low-income township areas, participants were chosen due to their spatial proximity to the formal retail outlet, the Shoprite supermarket, found in Philippi. I chose to focus on those store workers and owners who were spatially positioned nearby the supermarket in order to understand the dynamics between formal and informal store formats.

A consent form was utilized in order to ensure that participants were treated fairly and power dynamics were not exploited (see Appendix) as verified in my proposal to Macalester College’s Social Science Institutional Review Board (SSIRB). These consent forms disclosed all parties involved in the research, clearly outlined the purpose of the interview and asked for permission to record. For those subjects who could not read English, a translator was present to verbally relay the information on the consent form. All interviewees knowingly signed the forms indicating their full participation in the research. Furthermore, interviewees participated knowingly and voluntarily.

Additionally, in order to understand differences between Shoprite and spaza shop products, a price comparison analysis was conducted between the prices at Shoprite and those at spaza shops that were interviewed. Since a more in-depth analysis through a larger sample size was beyond the scope of this project, data collected through this method must be understood as limited in their relevance beyond the immediate study area. Spaza shops varied widely in their availability of products, although it was found that in general prices were relatively similar between stores. However, this price comparison analysis should not be considered representative
of all spaza shops or of all Shoprite stores. Rather, it conveys the price relationship between these two store formats within the specified research area.

The limitations of this study lie in its lack of replicability and inability to be representative of all low-income, food insecure neighborhoods in Cape Town. The case study’s location was chosen specifically because of an interest in studying an area in close proximity to a supermarket; most township residents do not live as close to such a large formal food retail outlet as those who were interviewed. Therefore, responses would be expected to be different in other locations. Moreover, the composition of informal economies is not uniform throughout township environments; the form, distribution, and presence of various store types are contingent on local conditions. However, as a small-scale qualitative study, the findings of this research are not meant to be replicable. Rather, they are an attempt to provide information on how formal and informal economies interact in a particular context, and how this influences food insecurity and consumption patterns in that area (Hay 2010). It is a study intended to contrast the impersonal statistical assessment of the GIS research with on-the-ground, personal interactions which illuminate the complexity and variability that necessarily comes with social research.
Chapter 3
Literature Review

The Evolution of Food Security Conceptualizations

The first international discussions around alleviating problems regarding food access were catalyzed by food shortages in the 1940s. Acknowledgement of the very real possibility of widespread hunger led to the construction of a UN Food and Agriculture Organization tasked with ensuring global hunger alleviation. After a meeting with 44 representatives in 1943 in Hot Springs, Virginia, an official first session was held in 1945 in Quebec (FAO 1945). In the Report of the Conference, hunger alleviation initially took the form of humanitarian food aid and expansive agriculture centered on increasing food output. In the introduction, it is stated that “In agriculture as in nutrition some of the most urgent problems are in the less developed countries, especially the densely populated ones. FAO can serve the immediate needs of these countries with information on seeds, fertilizers, pesticides, machines, and hand tools, and with help in developing extension services to advise farmers and demonstrate better methods” (Ibid)

This was mirrored by the US PL-480 food aid program, which advanced three objectives: selling agricultural commodities to other national governments, providing such commodities as humanitarian aid utilizing multilateral and intergovernmental organizations as a medium, and providing financial support through grants to be used for ‘economic development’ (FAS 2008). These early initiatives toward global hunger alleviation illustrated a focus on immediate aid, increased agricultural production, and national economic development. From the outset, in both the FAO and PL-480 initiatives hunger alleviation was framed in international policy as a problem of availability at the national scale, to be solved with food aid and increasing agricultural productivity, within the model of free trade in a neoliberal global economy.
In response to widespread famines occurring during the 1960s and 1970s food security was first identified as a global international issue at a United Nations World Food Conference held in Rome in 1974. 135 state representatives attended this conference, as well as multilateral institutions such as the Food and Agriculture Organization and the International Monetary Fund. At this conference, the “Universal Declaration on the Eradication of Hunger and Malnutrition” was adopted, which stated that “every man, woman and child has the inalienable right to be free from hunger and malnutrition in order to develop fully and maintain their physical and mental faculties (FAO 1975).” However, the declaration still framed food insecurity as a production-oriented problem, as the “availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices” (Ibid). Furthermore, the document stated that “it is a responsibility of each State concerned, in accordance with its sovereign judgment and internal legislation, to remove the obstacles to food production and to provide proper incentives to agricultural producers (Ibid).” The narratives around solutions constructed development-oriented policies and incentives which focused on specialized food production at the expense of access-based alternatives.

This brief history illuminates the prevalence of a Malthusian epistemology which pervaded political discourse around hunger and famines. Such a theoretical standpoint which assumes a direct relationship between population and national food availability reinforces supply-side solutions which ultimately promote large-scale agricultural advancements, intensification, and free trade. Furthermore, it simplifies the solution to a one-to-one relationship between food production and population size. This discursive framework stems from a narrow definition of famines: they were caused by a distinct environmental event or transformation, such
as a drought, which created food shortages, resulting in hunger, starvation, and death (Devereux, 2001). Therefore, the solution would be to increase production, aid, and resiliency. Working at only one scale of analysis, this political discourse promotes an ecological fallacy; availability at the national scale was assumed to equate to availability at smaller community and household scales as well.

In 1981, Amartya Sen published his seminal work, *Poverty and Famines, an Essay on Entitlement and Deprivation* (Sen, 1981) which provided an alternative framing of food security. Pointing out the uneven, socio-politically determined distribution of starvation patterns present during famines occurring between the 1940s and 1970s, Sen critiques the national-scale production-oriented approach as failing to recognize influential factors beyond agricultural productivity. Sen proposes an alternative discourse of food security as a failure of entitlements. Defining entitlements as “the set of alternative commodity bundles that a person can command in a society using the totality of rights and opportunities that he or she faces,” (Sen 1984, p 497) this framework recognizes food access as a multi-scalar issue linked to both larger socio-economic structures and household livelihood strategies. Sen’s entitlement approach divides all methods of obtaining food into four categories: production-based entitlements, trade-based entitlements, own-labor entitlements, and inheritance and transfer entitlements, and shows that individuals or groups can face starvation when these entitlements decline, such as during price increases, employment loss, or drought.

Important to note here is the distinction made between food security and food availability. Food availability refers to the supply side of hunger relief, being defined as “the availability of sufficient quantities of food of appropriate quality, supplied through domestic production or imports” (WFS 1996). Food security, however, is “all people, at all times, have physical and
economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (Ibid). Therefore, food availability is just one determinant of food security, which also involves economic, cultural, spatial, and political access to food on a community, household, or individual scale. As Sen states, the “focus of analysis has to be on the ownership patterns of different classes and occupation groups and on the exchange possibilities – through production and trade – that these groups face” (Sen, 1992, pg 452).

Sen’s entitlement approach as a theoretical framework toward understanding famines has been heavily critiqued over the last three decades. Early critiques of Sen criticized his approach for understating the significance of food availability shortage, and overstating the importance of exchange entitlements (i.e. Bowbrick 1986, Nolan 1993, de Waal 1990). More recent critiques have emphasized theoretical loopholes and areas in which the entitlement approach fails due to discursive inconsistencies. For instance, Devereux (2001) critiques Sen on four processes which the approach fails to adequately describe: human agency in choosing starvation for the sake of protecting assets, the potential for starvation to be a symptom of non-famine related disasters such as disease or conflict, incompatibility with certain scales of analysis and political definitions of ownership, and instances in which famine is utilized as a tool to obtain “extra-entitlement transfers” (Devereux 2001, pg. 259) for political and social gains.

**Political Approaches and Conceptual Understanding of Food Security**

Despite many of the recognized limitations of Sen’s approach, it must be recognized as a crucial step forward in understanding the complex, multi-faceted nature of food security. Moving past the definition first offered in the 1974 UN conference, Sen’s work has helped expand our understanding of food security beyond a Malthusian lens. Contributions to this
discourse beginning with Sen can be seen to have permeated into policy, as seen in the 1996 World Food Summit, where food security was said to exist when “all people at all times have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.” (FAO 1996).

Unfortunately, this definitional transformation has not been complemented with a change in structural approaches toward tackling food insecurity. Large international development organizations continue to perpetuate a neoliberal trade and production focus. For instance, a 2006 report by the Committee on World Food Security (CFS) took on a twin track response to food security which emphasized immediate alleviation in the form of food aid or social safety nets, and increased development in the agricultural sector and rural economy (Crush & Frayne 2011). This was paralleled by the 2008 FAO report on The State of Food Insecurity in the World and the 2008 UN High Level Taskforce’s Comprehensive Framework for Action (ibid).

In Sub-Saharan Africa, where urbanization and rising urban food insecurity are particularly severe, this trend is clearly present. The SADC’s (South African Development Community) Regional Indicative Strategic Development Plan promotes a multi-scaled approach at food production, particularly looking toward small farmer agricultural output (Crush and Frayne 2011b). The SADC directorate responsible for food is housed in the Food, Agriculture and Natural Resources pillar. Specifically, they look at “agricultural information management, crop development, livestock development, natural resources management, environment and sustainable development, and agricultural research and development” (Crush & Frayne 2011b, p 531). Missing from this food security focus is any mention of accessibility or food insecurity in the urban context.
In South Africa, the focus on rural solutions combined with a lack of recognition of the importance of access is clearly apparent in government policies and development goals. Although it defines food security as “Physical, social, and economic access to sufficient, safe, and nutritious food by all South Africans at all times to meet their dietary and food preferences for an active and healthy life” (Drimie & Ruysenaar 2010), policies addressed this through a narrow focus. In 2002, the government produced an Integrated Food Security Strategy (IFSS) document highlighting the importance of food security issues. However, the organizational structure was such that the Department of Agriculture was primarily in charge of directing and coordinating solutions.

“The Minister of Agriculture and Land Affairs should convene and chair meetings of core Ministers that lead and are core members of food security and nutrition programmes. They will provide political leadership to the IFSS and its programmes; set policy; direct and control operations; establish strategies, set institutional arrangements and organisational structures; set the norms and standards of service delivery…”

(Department of Agriculture 2002)

This was further reinforced by the framing of food security in the ANC’s 2009 Election Manifesto:

“In particular, our Manifesto reflects on the major challenges facing our society - high unemployment, poverty, deepening inequality and rural marginalisation. As a response to these challenges our Manifesto identifies the following five priority areas of the ANC government in the next five years:

• Creation of decent work and sustainable livelihoods;
• Education;
Although recognizing issues such as high unemployment and poverty, they are conceptualized as distinct and separate from food security. Food security is expressed as an issue linked with rural marginalization and therefore combated with land reform and food production (Crush & Frayne 2011b).

Urban food insecurity has largely been ignored in South African political environments for a number of reasons. First, measurement of food insecurity in urban areas is much more difficult than in rural areas (Moseley 2007). While rural households tend to have the capacity for some food production, this is much more constrained in urban areas, where the majority of food is purchased. However, food monitoring and famine early warning systems tend to focus on production statistics for practicality reasons (Moseley & Logan 2002). Second, it is not as easy to clearly associate urban hunger problems with a discrete event, as is the case of natural disaster-based famines in rural areas (Maxwell 1999). Rather, urban hunger issues often arise from price fluctuations determined by larger national and international changes in the market. Finally, food insecurity, hunger, and famine had traditionally been rural-based problems, and the rapid urbanization of poverty which has occurred more recently has not been followed as swiftly by policies to accommodate for the change (Moseley 2007, Battersby 2012, Maxwell 1999).

The lack of policies targeting food access in cities will become increasingly problematic as current trends in urbanization result in larger urban populations and the further concentration of poverty. Agricultural trends promoting commercialization and conglomeration are resulting in greater numbers of jobless rural residents, many of whom are migrating to cities in order to
reconstruct household livelihood strategies through alternative employment opportunities (Battersby 2012). However, since these are the poorest, most marginalized individuals, they tend to find problems exacerbated in urban environments (Moseley & McClusker 2008). As this migration continues the concentration of unemployed, impoverished households and individuals will increase, reinforced by a lack of jobs and upward mobility. Furthermore, a transition from rural to urban lifestyles often results in declining resiliency, as food production opportunities decrease, and the cost of living rises (Ibid).

Moving beyond the rural bias, the macro-scale production-oriented approach has been criticized as ineffective at addressing food insecurity in both urban and rural communities (Battersby 2011b, Maxwell 1999, Crush & Frayne 2011b). The macro-scale approach which focuses on producing enough food per person reflects a Malthusian outlook which abstracts and de-spatializes communities and households in order to conform to the dominant narrative of the global political economy. It simplifies the relationship between people and food to a binary, where as long as there is enough food, people will be able to access and consume it. This is problematic because it fails to recognize factors that could inhibit access, such as income levels, price fluctuations, household dynamics, and spatial access.

Food Deserts: Incorporating the Geography of Retail and Access

Within the context of Sen’s entitlement failures, as well as more recent literature on food security (i.e. Pothukuchi 2004, Reynolds 2009, Crush & Frayne 2011) one necessary component is a framework for tackling larger structural issues which prevent access to healthy, affordable, and appropriate foods. Work in this direction has taken the form of a ‘food desert’ conceptualization which views food insecurity through the lens of spatial and economic access.
First developed in the United Kingdom as a way of recognizing the disparities associated with people’s ability to access healthy food in urban areas (Wrigley 2002), this notion of urban food deserts is derived from an epistemology of food security that emphasizes the importance of spatial awareness in the distribution of food retail. Food deserts are areas where access to nutritious, affordable food is lacking, due to limitations stemming from the geographies of poverty, transportation, and food distribution. There have been many case studies done in both the United Kingdom (i.e. Whelan et al 2002, Wrigley et al 2002, Wrigley 2002) and the United States (i.e. Zenk et al 2005, Block & Kouba 2006, Moore & Diez Roux 2009) which have looked at food deserts at the neighborhood and household scales.

Studies done on food deserts have consistently emphasized the correlation between poverty, hunger, and food access. Often expressed through the lens of social exclusion, poverty is conceptualized as a “process of marginalization and deprivation” (Laderchi et al 2003) that excludes people from the socially defined communities in which they live. This means that people who are impoverished do not only lack the financial materials necessary for an adequate, comfortable lifestyle, but lack access to the basic social interactions and exchanges which ground them in a community. This reveals not only the limitations of a macro-scale outlook, but the extent to which the household scale also fails to fully accommodate for the underlying determinants of poverty. In a sense, poverty is a product of structural issues going beyond the individual or household scale, as spatial, political and cultural manifestations. An approach at understanding poverty should therefore recognize not only the financial limitations of poverty, but also the limitations promoting a lack of access to choice and opportunity. Consequently, food security should recognize the systemic linkages which reinforce spatially-defined patterns
of access limitation. The traditional focus on individual households is, while effective for quantifying insecurity, limiting in its reductionism and inflexibility (Ibid).

Due to this epistemological stance on defining poverty, food desert literature has developed a particularly strong focus on relating food insecurity to the distribution and pricing within food retail systems (i.e. Block & Kouba 2006, O'Dwyer & Coveney 2006).

Predominantly (although not entirely) utilized in urban environments where exchange entitlements (taking the form of disposable income to trade for food stuffs) account for a much greater proportion of a household’s food entitlements than ownership entitlements (i.e. food production utilizing own land and/or labor), this lens emphasizes the centrality of spatial accessibility to entitlement transfers. In this way, food retailers represent modes of facilitating entitlement transfers and work as discrete, geographically representable units to which accessibility can be measured.

A large number of definitions for food deserts exist. One definition utilized by the USDA sees them as “low-income census tract[s] where either a substantial number or share of residents has low access to a supermarket or large grocery store. (Ver Ploeg et al 2009).” Another by Laurence (1997) defines them as “those areas of inner cities where nutritious food is virtually unobtainable. Car-less residents, unable to reach out-of-town supermarkets, depend on the corner shop where prices are high, products are processed and fresh fruit and vegetables are poor or non-existent.” These definitions indicate the particularly prominent role of supermarkets in this literature as a proxy for access to healthy, affordable food (also see Leete et al 2011). Supermarkets are typically seen as providing a wide range of choices at the most competitive prices, with lower prices than any local stores, fast food restaurants, or gas stations in the area (Block & Kouba 2006). Furthermore, a large diversity of goods presents alternative selections to
accommodate for the dietary patterns of a greater variety of people than the more restricted selective opportunities of smaller-scale retail. However, since supermarket distribution is often influenced by market-based factors, they disproportionately locate in higher-income neighborhoods to capitalize on a more profitable consumer base. In this way, impoverished communities find supermarkets less accessible, resorting to shopping in stores with fewer healthy choices, lower quality goods, and higher prices (Ibid).

Poverty, however, is not the only factor which determines the geography of food deserts. Zenk et al (2005) assessed the relationship between poverty and race, and how these two factors simultaneously influence supermarket distribution. What they found was that in addition to a heavy correlation between income levels and supermarket prevalence, those neighborhoods with higher proportions of African Americans were significantly further away from supermarkets. These problems become exacerbated as spatially disadvantaged communities are also less likely to have the disposable income necessary to obtain consistent access to private transportation.

In addition to quantitative geostatistical analysis, qualitative methods have recently started being employed to develop more in-depth analyses of the factors contributing to food desert environments. For instance, Whelan et al (2002) conducted focus groups in Seacroft and Whinmoor in order to determine how prioritization featured in food desert environments, illuminating a lack of uniformity in experiences among individuals. Mothers with younger children were found to be more heavily influenced by food cost, whereas older participants found their actions less determined by economic access. Studies like this show that a deep understanding of the relationship between supermarket distribution and food accessibility involves much more than a geospatial statistical analysis of distribution. Rather, it involves a
multi-scale analysis recognizing both the larger geography of retail and individual and household food consumption strategies.

Although supermarkets have been framed as the dominant outlet of healthy, affordable food, this assumption is currently being contested. Cummins and Macintyre (2002), for instance, conducted a study looking at the relationship between retail format and the pricing and availability of different foods within the Greater Glasgow area of the UK, which found that while store type was the most effective indicator of product pricing and availability, store location did not present a clearly segregated spatial pattern. Furthermore, it was found that foodstuffs were occasionally cheaper in low-income areas, albeit energy-dense, high fat foods being disproportionately cheaper than healthier alternatives (Cummins & Macintyre, 2002).

The food desert literature highlights the complex, multi-faceted nature of food systems. In urban environments, simply looking at producing enough food is not sufficient in alleviating problems of hunger and starvation. Instead, a multi-scalar approach must be adopted which combines household scale analysis with a broader understanding of structural determinants as they are spatially organized. In addition to household income and spending capacity, access to retail, and particularly access to supermarkets has to be acknowledged in understanding urban food environments.

**Retail Modernization and the Expansion of Supermarkets**

Since the early 2000s, a large body of literature has developed around the recent growth of supermarkets in developing countries (Tschirley 2007). This ‘supermarketization’ trend has been understood as a multifaceted process with wide-ranging consequences. Retail modernization has been significant not only in the economic growth of incoming multinationals,
but across entire food systems that they position themselves in. Traditional food suppliers, wholesale distributors, retailers and consumers are all impacted, sometimes positively, but often negatively as well.

Supermarkets expanded into developing countries due to lax regulations of multinational corporations as a result of the World Bank’s Structural Adjustment Programs (SAPs) in the 1980s. These policies, required in order for loan approval from the International Monetary Fund (IMF), required the opening of international markets and promoted free-trade policies. With market barriers dissolved, supermarkets initially, capitalized on the upper-middle class market. As these markets become increasingly saturated, they began expansion into lower-income regions (Tustin and Strydom 2006). This means that the former niche retail format is becoming increasingly accessible to low-income households. However, the question of their significance in the daily consumption patterns of the urban poor still remains.

A Sweeping Tide of Supermarkets: The Traditional View of Formal Retail Development

Much of the early literature on supermarket expansion has argued that the introduction of multinational, formalized large-scale retail has radically transformed local economies in the global South, resulting in food supply chain formalization, conglomeration of small farms, and the exclusion of small local retail through competition and economies of scale (Reardon et al 2007, Reardon & Berdegué 2002, Reardon & Hopkins 2007, Weatherspoon & Reardon 2003). Reardon et al (2007) viewed this success as the result of a high level of foreign direct investment (FDI), internationally and nationally reinforced FDI liberalization in developing countries, and technological innovations supporting global food supply and distribution systems. Retail modernization in the global South is seen as detrimental, radically altering food economies at a
rate unseen in the preceding initial growth of large modern retail. Small retailers in traditional economies are incapable of matching the low-prices and product diversity of large modern retailers, subsequently going out of business, which negatively impacts poor households who had previously relied on these traditional retailers for their consumption strategies (Ibid).

The typical process of retail modernization is seen as a linear, unidirectional progression, the rate of which is determined by the capacity of the Trans-National Corporations (TNCs) involved, the structure of the traditional wholesale system, and the time period in which supermarket growth became substantial in the country (Reardon & Hopkins 2007). The relative strength of the traditional system and the policies promoting liberalization determine the rate at which supermarkets are able to expand. Although this rate of expansion may vary from place to place, this transformation ultimately results in tensions between supermarkets and their suppliers. Suppliers who had traditionally been able to sell produce for both formal and informal local markets find that they have to shift their production processes to accommodate the stringent standards of modern retailers. As these modern retailers increasingly dominate the market, suppliers are faced with higher costs and reduce profits in order to meet more industrial standards. Since many of these suppliers work at a smaller scale, they cannot cope with the new regulations, and are displaced by larger businesses working at higher economies of scale. Isolation from these transforming food systems is also self-destructive, as entire markets and supply chains are formalized through industrialization and conglomereration. Without the appropriate policy measures to curb this trend and provide for a manageable environment that promotes cooperation between modern and traditional food systems, supermarketization, it is argued, will reformat all levels of the food system in developing nations at the expense of small farmers and traditional retailers (Ibid).
There is a rapid shift away from a distinct local market separate from the larger food economy. As the “local market niches with low standards are disappearing under the pressure of this [supermarket] wave, and the distinction between the global/export market and the local/domestic market is disappearing” (Reardon & Berdegue 2002, pg. 385) it becomes increasingly difficult for small, local players to hold on to their autonomy. Supermarkets become increasingly dominant not only as local players but as economic and cultural conduits to the global economy, shifting socio-cultural conceptions of the standards of consumption. Therefore, standardization and industrialization are promoted through both business practices and cultural aspirations.

Weatherspoon and Reardon (2003) assess retail modernization and its sweeping influence on food systems in sub-Saharan Africa. The rise of supermarkets in Southern and Eastern Africa marks a shift away from a niche market for the rich toward a player in lower income household consumption patterns. This greater presence of supermarkets in the food economy has negative implications for small farmers. Weatherspoon and Reardon claim that stores like South Africa’s Shoprite and Pick n Pay are requiring farmers to adhere to conditions which support larger scale producers and force small farmers out of competition, resulting in consolidation and industrialization in agricultural production methods. For instance, these supermarkets require larger volume transactions, quality regulations, product standardization, and certifications, all of which require greater costs for the farmer.

Other authors such as D’Haese and Huylenbroeck (2005) also recognized a shift in consumption patterns toward a greater reliance on supermarkets. In two villages in the Transkei area of South Africa, D’Haese and Huylenbroek found that the introduction of supermarkets, while providing a larger diversity of selection at lower prices, was driving local competitors out
of business. This is seen as extracting wealth out of the local economy at the detriment of local growers and entrepreneurs.

The critical lens of the traditional view on supermarket expansion sees local economies as victims in these economic transformations. Large multinationals are radically transforming economies in a way that not only negatively impacts businesses across the entire supply chain, but promotes other positive feedback loops, such as increased rural-to-urban migration and the reduction of alternative resilience strategies that would otherwise exist in more informal environments (Reardon & Hopkins 2007). Moreover, as local economies are formalized, poor households witness an economic mismatch, still lacking the means to fully participate within a formalized economy, resulting in greater food insecurity.

*Complex Market Patterns and the Informal Economy: An Alternative Framing of Retail Modernization*

Other academics have countered the view of retail modernization as a linear progression from an informal to a formal economy as well as the consolidation and standardization which accompanies it. A more cautious view has been posed in which the complexity and historical and cultural significance, as well as the resilience of traditional economies are recognized, and the supermarket revolution while significant is not an all consuming trend (Abrahams 2009, Humphrey 2007, Crush & Frayne 2011, Tustin & Strydom 2006, Strydom 2011).

The process of food system modernization is seen to be a complex transformation that involves multiple stages and sectors that are influenced differently by the introduction of supermarkets. Humphrey (2007) shows that supermarkets have particular difficulty in controlling the fresh food sector. Since controlling decentralized supply systems is much more
complicated for fresh food, it becomes difficult for supermarkets to offer lower prices than traditional stores. In fact, in some cases supermarkets were unable to offer the same prices as informal markets (Goldman et al. 2002, Humphrey 2007). Rather than viewing the process as a simple linear progression, Humphrey (2007) argues that there are many factors, such as the state of the existing market and trade policies, which influence the format and extent of this transformation.

The resilience of the informal economy addresses the impact of supermarket growth on income levels and employment opportunities. Rising unemployment rates negatively impact households because it decreases their spendable income and ability to invest in future safety nets. Particularly in an urban context where food production for self-sufficiency or diet supplementation is not as feasible, a cash income is a crucial component of a household’s livelihood strategy (Oldewage-Theron et al. 2006). Therefore, retail formalization, while potentially providing benefits to many consumers, could have the adverse effect of making local businesses unprofitable and excluding them from the local economy. However, in South African cities, studies found that rather than complete conversion to buying only from formal retailers, households often utilize a multitude of diverse income sources in order to promote resiliency (Crush & Frayne 2011). Additionally, households reported particular instances when reduced access to food, either from price fluctuations, inconsistent revenue streams, or family illness, that they would alter consumption patterns, often utilizing informal markets as a coping mechanism.

The resilience of informal and traditional food economies in the face of retail modernization has been well documented. Although supermarkets hold a 50-60% share of total food retail in South Africa, in lower income areas the informal economy still plays a significant role in food distribution (Abrahams 2009). This is partially due to the consumption patterns and
infrastructural constraints in these regions, but it is also because of the resilience strategies that informal traders develop. Many informal retailers will formalize their food supply chains, increasing efficiency while still maintaining the same traditional market look (Ibid). By connecting to formal suppliers, they improve the price competitiveness of their business. Furthermore, they often develop personal relationships which create loyal customers who maintain business due to familiarity, benefits, and discounts (Battersby 2011).

The dichotomized framing of formal and informal sector activities masks the complex mutualistic relationship between the two. Many informal trade vendors will use the opening of a new supermarket to their advantage, using the new market center as a location to set up shop and attract a larger consumer market (Crush & Frayne 2011). Additionally, some informal retailers have claimed that they will often buy from supermarkets and resell these products after repackaging at different quantities (Ibid). Moreover, supermarket expansion into township areas can provide employment opportunities of their own (Strydom 2011), which can be capitalized upon as additional revenue streams for households.

The full impact of retail modernization on food security has been difficult to wholly comprehend and quantitatively calculate. The responses of traditional food systems to supermarket expansion are context-specific and cannot be generalized across countries or even across cities. Much of the research cited above indicates that supermarkets have yet to completely overrun traditional food economies in developing countries. However, this does not necessarily refute the argument that a linear process of formalization is not occurring. There are many examples of supermarkets and the informal economy operating within the same environment and accessing similar markets (i.e. Abrahams 2009, Oldewage-Theron et al 2006, Tustin & Strydom 2006), but this does not necessarily represent a climax state. Informal markets
are restructuring themselves in creative and innovative ways, constructing a niche for themselves which capitalizes on the disconnect between large, standardized formal retail and the diverse, variable consumption patterns of many low-income households (Abrahams 2010). It remains to be seen whether this niche development is a temporary or permanent state of development.

The literature on supermarketization and retail modernization provides an alternative framing from that seen in food desert literature of the role of supermarkets in urban food security. Rather than assuming that supermarket placement corresponds with greater food security, this perspective critiques the influence of supermarkets through a multi-scalar analysis taking into account the diverse consumption strategies of the poor. Supermarkets are critiqued as agents of neoliberal invasion rather than conceptualized as providers of diverse food selection. Contrasts in these areas of literature must therefore consider the local context in which their discourse is contextualized.
Urban Geography of Segregation: The Apartheid City

Much of the structural poverty that perpetuates urban food insecurity in Cape Town stems from a history of urban segregation in South Africa. National and local government policies, as well as their methods of implementation both contributed to segregation, spatial inequalities, and widespread poverty during a period of rapid urbanization. While blacks continued to migrate to Cape Town and other urban centers starting in the 1800s, they were systematically constrained to the city’s peripheral townships. These townships were often denied an adequate amount of investment, subsequently becoming overcrowded while lacking appropriate housing, employment, and infrastructural services to accommodate the growing black population. This caused widespread disparities between races, which can still be seen today in the geography of retail and access.

Although the period of Apartheid in South African history is often blamed as the realization of social tensions culminating in a spatial separation along racial lines, the seeds of segregation were present long before the official implementation of apartheid politics (Schneider 2003, Turok 2001). Apartheid should rather be viewed as one step in a continuation of attempts to construct social order through spatial isolation from imagined “others.” Although it represents a radical shift in government policy, Apartheid reflected relationships derived from a colonial era understanding of social order and a fear of those with political and economic influence losing their power (Keegan 1996). Colonial preconceptions of a racial hierarchy with a superior white race at the apex fostered conflicts resulting in the disposition of many native groups from their traditional lands. Justification of military conquest and subsequent restructuring of ownership
rights lay in an ideology of social Darwinism, compounded by notions of societal difference equating to inferiority.

The racially charged ideologies justifying colonial conquest were further reinforced through an attempt to differentiate between the spaces of the “elite” and those of the “other.” This geographical differentiation was most prominent at the national scale through the implementation of the Natives Land Act of 1913. Said to be one of the cornerstones of what would eventually become the apartheid system, the Natives Land Act delineated the boundaries of African reserves and restricted the ability of Africans from acquiring land outside of these constructed territories (Feinberg 1993). This act severely restricted black mobility, displacing many communities to marginal, environmentally unproductive lands. Furthermore, it represented a direct attack on black ownership rights, leaving the African population with only 7% of the Union-controlled land, and disrupted many cultural connections to a self-defined home territory. High density occupation of these disproportionately small reserves led to poor agricultural productivity, soil erosion, and general strain on an environmentally marginal landscape (Ibid). Although the act was not implemented in the Cape Province, it still represented a significant attempt to politically rationalize marginalized displacement for South Africa as a whole and therefore involves an important landmark in segregation ideology.

Beyond national level policy, the 1900s saw expanded industrialization in both urban centers and rural agricultural systems. As the mechanization of agricultural systems and the 1913 Natives Land Act displaced many Africans from their lands, rural-to-urban migrations increased job demand in urban industrializing centers, resulting in a convergence of push and pull factors (Tomlinson 1990). As the urban black population expanded, notions of a greater need for social control raised tensions in many urban settlements. Paradoxically, as those in
power faced growing fears of an expanding urban black population, they grew increasingly
dependent on the labor that it provided. Therefore, the solution to this spreading “social chaos”
was segregation. One example of this can be seen in the arrival in the Cape of the bubonic
plague in 1900. The plague was used as a rationalization to promote the distancing of non-white
groups (particularly blacks) from the urban center. Through the use of the Public Health Act, the
Cape government justified the forced removal and subsequent displacement of a black
community into the more marginal Cape Flats region (Swanson 1977). This reflects just one
example of reorganization of space to promote social distancing, and the racially-charged
ideologies which reinforced a geography of separation.

Many of these beliefs were voiced in an ideology called Stallardism. Stallardism, a
colorless concept developed by the Transvaal government in the Stallard Commission of 1922, is the
position that urban areas should be the domain of whites. The presence of African natives in
urban areas was thought to be acceptable only when it was for the purpose of providing services
to the white population (Lemon 1991). This conceptualization of urban space is reflected in the
1923 Natives (Urban Areas) Act, which supported the demarcation of segregated land for black
occupation. (Ibid). This was the first government attempt to develop exclusionary influx control
policies that would spatially separate blacks from whites.

During the 1940s, as urbanization increased, the quantity and density of squatter
settlements followed suit. Found in the periphery of urban centers, non-white (mostly black)
populations faced rapidly worsening conditions (Tomlinson 1990). Since these settlements
lacked the infrastructure to support its population, there was a severe shortage of housing.
Furthermore, as blacks were primarily limited to employment in white-zoned areas,
transportation became a further complication in the segregated city.
The Group Areas Acts, which were enacted in 1950 and 1966, represented the fundamental building blocks of the apartheid city. They resulted in a major reorganization of urban areas to accompany unprecedented levels of spatial differentiation and racial segregation. Based on a Stallardist ideology that reducing contact between politically determined ethnic groups would result in the least possible conflict, interactions between groups were kept to a minimum (Tomlinson 1990, Lemon 1991). Through racial zoning, communities were isolated from one another as much as possible, with cross-border travel only acceptable for employment purposes.

In its essence, the Group Areas Acts defined ten kinds of areas, which were to be occupied exclusively by one group. People were arbitrarily placed in different “ethnic groups” which were spatially re-distributed throughout the city (Lemon 1991). During this process, government control of property ownership and transaction was strengthened, as local authorities attempted to re-draw the geography of the city. For whites, this often did not require much change, as lands zoned for whites tended to be those already occupied predominantly by a white population. The acts did however prove destructive for many blacks and coloreds, who were uprooted from communities that they identified with and forced to relocate. By 1980, 28,829 colored and 1465 Indian families had been moved, compared to only 248 white families. (Dewar 1980 in Lemon 1991)

One of the biggest impacts this had was on conceptualizing identity and community. Isolation from other groups meant that communities were imagined along racial lines, reinforced by the geography of segregation, and perpetuated by widespread, evident inequalities. As communities were artificially constructed through the Group Areas Acts, people became less knowledgeable of other groups, becoming more inclined to develop a perception of these groups
as inherently different. Therefore, conceptual boundaries and notions of “the other” contributed to an increasingly divided society (Turok 2001).

For blacks and to some extent coloreds, daily commutes into white areas for employment highlighted the inequalities present in living conditions. This furthered an ideology of difference fueled by notions of inequality. Whites, however, seldom ever entered the peripheral townships. They therefore tended to be ignorant to the stark disparities across racial lines (Lemon 1991, Lemanski 2004). This lack of interaction made it that much more difficult for appropriate conversation around housing, employment, and infrastructural issues to occur. This shows that the Group Areas Acts both constructed segregated spaces and the social constraints to reinforce them.

These acts led to a radically altered urban geography in what Davies (1981) has labeled the ‘Apartheid City’ (see figure 1). Based off of Hoyt’s Sector Model of urban development, Davies’ model contains a white-dominated CBD with sectors of white residential suburban development expanding outward in sectors toward environmentally desirable lands. Rather than being situated near employment opportunities, colored and black residential areas were located in peripheral locations, either near industrial environments, or on undesirable lands. Buffer zones were also created in order to separate black and colored neighborhoods from white ones.

In Cape Town, the oldest urban settlement in the country, the history of apartheid led to the most drastic spatial restructuring in South Africa. In 1953, the Western Province Land Tenure Advisory Board drew up boundary proposals which separated out different ethnic groups, with whites being allocated land from the Southern Suburbs to Wynberg which was previously all mixed-housing (Lemon 1991). This pushed the colored population further east into the Cape
Figure 1 (from Lemon 1991, in reference to Davies 1981)

Flats region, away from the more built environment containing accessible transportation, city services, and private investment and into more marginal territory.

The Cape Flats region, where most coloreds and blacks were relocated, is an environmentally marginal location on the eastern periphery of Cape Town (see figure 2). With a flat, low-lying topography, poor sandy soils, a high water table, and high wind speeds, the location is prone to flooding during the rainy winter months and fires during the dry summer
months (Moseley & McCusker 2008). This is exacerbated by fairly unresponsive emergency relief, and the informal nature of most housing means low levels of resiliency. Even more so than today, the area during times of displacement faced not only environmentally marginal conditions, but was found on the periphery of urban development, lacking the built infrastructure meant to sustain the higher density of an urban population.

The massive displacement project during apartheid resulted in the necessity of housing for the urban poor. Since private investment in housing was lacking due to the poverty-stricken nature of the area, displaced families were reliant on a local government with insufficient resources to keep up with housing demand (Tomlinson 1990). As housing became an increasingly pressing issue coupled with the pressure exerted by squatter settlements, development (both formal and informal) in Cape Town expanded further east into steadily more distant, marginal lands in the Cape Flats, further away from the economic growth, employment, and wealth found in the CBD (Lemon 1991). This decentralization not only reinforced the ways of imagining community, it led to urban sprawl which exacerbated issues around transportation and access.

The remnants of this history of decentralized, segregated urban development manifest themselves in the geography of the Cape Flats in the present. Today, the Cape Flats are still made up of predominantly black and colored townships, including Philippi, Khayelitsha, and Mitchell’s Plain. In the 2001 census, townships were described in this fashion:

Historically, ‘township’ in South Africa referred to an urban residential area created for black migrant labour, usually beyond the town or city limits. Reference is sometimes made to ‘black township’, ‘coloured township’ and ‘Indian township’, meaning that these settlements were treated for these population groups. (Statistics South Africa 2004)
Although a restrictive definition, this gets at the nature of townships; they are a material artifact of apartheid and pre-apartheid policies which still influence the form of urbanization today. Townships are still marginalized, dominated by a particular racial class, and predominantly informal in nature. Many of the residents of these township environments face high rates of poverty and unemployment, as well as a lack of access to education systems.

The history of apartheid and the enabling of the Group Areas Acts led to a radical restructuring of the city of Cape Town. The impacts were felt disproportionately by non-white populations, who were for the most part relocated to peripheral areas, with the majority being pushed into the Cape Flats. This resulted in a spatial mismatch between jobs and housing, a lack of infrastructure to support the high-density communities after relocation, and inadequate investment in poor township regions, exacerbating deep, structural poverty in these communities.

**Post-Apartheid Poverty and the Neoliberal Approach to Development**

At the end of apartheid in 1994, the new ANC government promised its citizens it would address the segregation and inequalities facing South Africa (Hassim 2009, Mubangizi & Mubangizi 2005). Recognizing the widespread poverty caused by a radically unjust system of reorganization, the new democratic government has prioritized the need to address poverty in the national agenda. This can be seen in new measures for social security, public works programs, and poverty alleviation projects (PAPs) (Mubangizi 2008). Poverty has continuously been reiterated as a national problem which the government is fighting with all its capacity. For instance, during his 2005 New Year’s message, former President Mbeki stated, “all of us must renew our pledge to do everything in our power to create jobs and fight poverty, to give renewed hope to millions in our country that 2006 will be a happy and prosperous year for them as well,”
for the goal of “building a new South Africa that truly belongs to all who live in it.” (GCIS 2005). This message was reinforced in the 2013 State of the Nation Address by President Zuma, who asserted that “The NDP [National Development Program] contains proposals for tackling the problems of poverty, inequality and unemployment” and provided evidence of this commitment through programs like the Job fund, through which “three billion rand has been approved for projects that will create jobs” (Zuma 2013).

Unfortunately, statistics on poverty and inequality in South Africa paint a different picture. South Africa’s Human Development Index (HDI) has declined from a high of 0.644 in 1995 to 0.619 in 2011 (UNDP 2011). Additionally, the Gini coefficient, a value which measures inequality encountered minimal change, from a value of 0.596 in 1995 to 0.578 in 2011 (Mubangizi 2008, UNDP 2011). Such a high Gini coefficient indicates a drastically unequal distribution of income. These measurements of inequality and social development portray a lack of improvement in the conditions facing South Africa’s poor. Although the government has continually reiterated its emphasis on relieving South Africa of its overwhelming poverty, efforts appear to have been relatively unsuccessful.

The discrepancy between government attempts to address the legacy of Apartheid and the continued perpetuation of poverty in South Africa is problematic. Critiques of the ANC’s ineffective poverty alleviation methods have criticized the market-oriented, neoliberal approach toward development that has been adopted as national development policy (Mubangizi 2008, Mubangizi & Mubangizi 2005, Turok 2001). After shifting away from the Reconstruction and Development Program (RDP), a central component of the ANC platform prior to the 1994 election, the government has utilized the Growth, Employment, and Redistribution (GEAR) strategy (Alence 2004). This strategy, which is based on a neoliberal premise that development
should aspire to “transformation towards a competitive outward-oriented economy,” (Department of Finance 1996 pg 1) promotes liberalization through tax-incentives, increased trade and investment flows, and relaxation of foreign exchange controls (Department of Finance 1996, Mubangizi 2008). Unfortunately, adopting a supply-oriented economic policy fails to address the structural problems which perpetuate poverty that are ultimately tied to the country’s history of segregation.

A lack of emphasis on this structural inequality has left many problems unresolved, replacing a political apartheid with an economic alternative (Schneider 2003). Township environments still retain much of their apartheid era nature and hardly any progress has been made to reintegrate white neighborhoods. Attempts to return lands to Africans through land reform initiatives have also been incredibly limited in their success (Moseley & McCusker 2008), failing to provide a means to prevent continued rural-to-urban migration. In Cape Town, while investment has been considerable as a whole, it has tended to focus on specific economic centers, with the Eastern Cape Flats region largely ignored (Turok 2001).

Data taken from the 2001 census display this point in the maps below. (see figures 2, 3, 4 and 5). Not only does the distribution of households tend to segregate along racial lines, but there tends to be a high correlation with average annual household income. A regression analysis using annual average household income as the dependent variable and percent of population which identifies as white as the independent variable resulted in a directly proportional relationship with an r-squared value of 0.399 and a p-value less than 0.001 (see appendix for regression). This signifies that 39.9 percent of the variability in the percentage of the population that identifies as white can be explained by average annual household income with a higher percentage correlated to a greater proportion of the wealth in Cape Town.
Figure 2—Major Regions of Cape Town by Average Annual Household Income,

Cartography by Stephen Peyton, Data from 2001 Census
Figure 3—Percent Population White by Sub-place,

Cartography by Stephen Peyton, Data from 2001 Census
Figure 4—Percent Population Black by Sub-place,

Cartography by Stephen Peyton, Data from 2001 Census
Figure 5—Percent Population Colored by Sub-place,
Cartography by Stephen Peyton, Data from 2001 Census
The neoliberal stance taken by the ANC government has been limited in its extent to alleviate the persistent problems of inequality and poverty. A supply-side macro-scale approach fails to recognize the underlying structural issues that perpetuate the problems faced by the urban poor. Recognition of the fundamentally unequal spatial distribution of services and investment and direct measures to accommodate for this discrepancy is needed. However, the liberalization promoted by GEAR primarily emphasizes market-oriented strategies and although Cape Town’s Metropolitan Spatial Development Framework (MSDF) does point to some targeted investment (Turok 2001), most of the work is left up to the invisible hand of the market.

**The Interaction of Formal and Informal Economies in Cape Town**

The trade liberalization and private development promoted by ANC’s GEAR strategy supported the expansion of large-scale corporate entities in South Africa. Large formal food retailers, finding favorable economic conditions, were able to expand rapidly in Cape Town, quickly saturating markets in higher income areas (Humphrey 2007). Eventually, these retailers began developing supermarkets in lower-income neighborhoods reflecting a market-oriented strategy to promote growth and address food insecurity in low-income areas.

In South Africa, unlike many other African countries, local corporations dominate the supermarket business. South Africa’s supermarket sector is dominated by four main corporations: Shoprite, Pick n Pay (PnP), Spar, and Woolworths, of which the two larger chains (accounting for approximately 40% of the sector each), Shoprite and PnP, are South Africa-based (Weatherspoon & Reardon 2003). Although supermarkets account for less than 2% of the total number of food stores, they account for between 50 and 60% of the total share of national
food retail (Ibid), a significant hold on the retail system in South Africa. However, this formalization is unique in that it is locally-driven rather than externally-determined.

The expansion of large formal retailers in Cape Town has been well noted (i.e. Battersby 2011b, Strydom 2011, Tustin and Strydom 2006, Weatherspoon & Reardon 2003). Where they have been constructed, it appears that they have been incorporated into shopping malls as anchors for development. The South African Cities Network claims that poor rural and township areas would benefit from the construction of retail centers as a method of spurring development and assimilation into the formal economy (NDP 2010). Furthermore, since supermarkets are seen as offering a wide range of foodstuffs that are affordably priced and of higher quality than other retail formats, this expansion is claimed to provide poor households with the opportunity to become more food secure (see Chapter 3). However, in many developing countries supermarket introduction has not simply translate to a clear shift away from participation in traditional markets (i.e. Abrahams 2009, Tustin & Strydom 2006, Strydom 2011). Due to the constraints of market-based solutions to fully address the needs of those facing social exclusion from a formal economy (Battersby 2011, Crush & Frayne 2011a), the informal economy continues to contribute heavily to the consumption strategies utilized by the urban poor.

The informal economy in South Africa includes a diverse collection of economic activities, which range from financial services to food retail. Although a correct definition for the informal economy has been contentiously debated due to the complexity and variety present in informal sector activities and formats, it is generally recognized that this sector encompasses “all currently unregistered, and often unrecorded, economic activities that contribute to the gross domestic product” (Ligthelm 2005 pg 200). For the purpose of this paper, we shall utilize this definition, recognizing that the food retail formats in this study fall within this category.
Due to the nature of the informal economy, it is difficult to precisely measure its monetary value, but Ligthelm (2006) estimated its annual value at R51.7 billion, or 6.3% of total household cash expenditures. Within the informal economy, food-related businesses were estimated to account for R19.3 billion (R10.4 billion for street markets and R8.9 billion for Spaza shops). Therefore, informal food retail plays a noticeably prominent role in the South African economy, particularly in township environments.

The collision of small-scale informal and large-scale formal market systems in previously neglected townships marks an interesting stage in the transformation of food access. This evolution of food retail represents a shift toward formalization at a period in time when households still find themselves locked into a cycle of structural poverty and exclusion from formal markets. Complete formalization seems incompatible with the deeply embedded nature of the informal economy in a socially and economically marginalized environment. However, supermarket introduction does provide an avenue into formal economy participation. How has this affected patterns of food consumption?

In 2008 the African Food Security Urban Network (AFSUN) conducted a survey that assessed food insecurity in southern Africa through assessment of multiple factors including household income, household composition, and consumption patterns (Battersby 2011a, Crush & Frayne 2011a). This survey sampled households in 11 different cities, of which Cape Town was one of them. In Cape Town, it sampled households from Ocean View, Ward 34 (Brown’s Farm, Philippi) and Ward 95 (Enkanini and Kuyasa, Khayelitsha) (Battersby 2011b). It illuminates interactions between lower-income consumers and the retail systems they accessed, both formal and informal.
The AFSUN survey found that sampled neighborhoods in Cape Town over 80% of households were either moderately or severely food insecure (Battersby 2011a). In addition to overall caloric food insecurity, households were found to have limited dietary diversity. The three most commonly consumed food types were fats, sugar/honey, and ‘other’ (tea or coffee) (Ibid). This indicates some type of access limitation, which would either take the form of a lack of spendable household income or inability to reach retail outlets. In either case, it is clear that there is a market failure limiting access to an adequate food supply.

The AFSUN survey illuminated complex patterns in sourcing food for households in lower income neighborhoods. Households that were more food insecure were more likely to rely on informal systems, but this does not mean that they completely disregarded the formal retail sector (Crush & Frayne 2011a). In fact, supermarkets tended to be utilized by a higher percentage of households. While 66% of households surveyed in Cape Town used the informal market, 94% used supermarkets (Ibid). The high patronage for supermarkets indicates that this retail format has become an important contributor to food sourcing patterns.

Frequency of patronage between supermarkets and informal traders illuminates the different reasons for shopping at each. 65% of surveyed households in Cape Town said that they sourced food from supermarkets approximately once a month compared to only 7% for informal shops (Crush & Frayne 2011a). This speaks to both the successful integration of supermarket retail formats into low-income regions and the active benefits they must have in relation to the informal market. However, at higher levels of frequency, the informal market was seen to be more preferable. 36% of households shopped at informal sources at least once a week while only 23% of households shopped at supermarkets at least once a week (Ibid). Therefore,
informal shops are seen to provide advantages making them more preferable for higher frequency visits. This speaks to the capacity for niche creation by informal retail formats.

These consumption patterns are the result of a combination of structural poverty stemming from segregation practices, supermarket limitations, and household-based strategies. Food insecurity is highly prevalent in specific locations of Cape Town. However, due to profit maximization strategies, supermarkets tend to locate to higher income areas, which make them spatially difficult to access for township residents (Tustin & Strydom 2006). Furthermore, supermarkets appeared most desirable for bulk shopping, which is problematic in terms of both consistent affordability and refrigeration (Battersby 2011b). With many low-income households lacking proper refrigeration, buying in large quantities for many goods (i.e. fresh produce) becomes unfeasible (Ibid).

The continued significance of informal markets in Cape Town indicates that supermarkets have not yet fully penetrated low-income areas. The issues expressed in the AFSUN survey indicate that the relationship between supermarkets and informal stores is not straightforward. Both informal and formal retail seem to have benefits and constraints which are mediated accordingly by consumers in these township environments. Structural issues stemming from a long history of racial discrimination and segregation continue to impact the ways in which supermarkets are able to influence food insecurity in Cape Town.

The findings of the AFSUN survey are crucial to the themes addressed in this thesis. It provides the foundations upon which research for the next two chapters were conducted. However, as it sampled from three targeted wards in Cape Town, it does not acknowledge the spatial distribution of supermarkets. Furthermore, while it provides insightful view into household consumption patterns, it is missing the perspective of the informal business retailers.
Therefore, the next two chapters will attempt to fill this void through mapping and geostatistical analysis of supermarket distribution, and a qualitative case study on the interactions between informal retailers, low-income households, and a supermarket in a township in the Cape Flats.
The previous chapters have laid out the fundamental theory and history behind urban food insecurity in Cape Town. Utilizing Sen’s entitlement approach, we can understand this food insecurity as stemming from underlying issues tied to global neoliberal markets and national determinants of entitlement. Therefore, we recognize that food insecurity is often linked to the social, political, cultural, and economic forces which spatially manifest themselves in a geography of poverty. This poverty, a structural issue resulting in marginalization shapes the ways in which people are able to access food. In South Africa, this widespread poverty took on both a spatial and a racial component, with roots going back to the early colonial period. A history of segregation, culminating in the Group Area Acts and the Apartheid City left behind a legacy of inequality in access to basic goods and services, a lack of private investment, and unequal racially defined communities. Recognizing the need for reform, the ANC in the post-Apartheid era has taken a very neoliberal approach toward the redistribution of wealth. Although often criticized for its inadequacies and neglect of both urban and rural poor, the ANC’s GEAR policy has promoted expansion in private investment.

In the context of this decentralized economic environment, supermarkets have developed as a dominant player in food systems and a major element in debates around food insecurity. Supermarkets in food desert literature have been presented as a mechanism to alleviate food insecurity by providing a retail system with a much cheaper, healthier, and diverse selection of products than other retail formats. Literature on the supermarket revolution of the 1990s in the global South has claimed a recent diffusion of the large retail outlets into poorer, more food insecure neighborhoods. Many academics have critiqued this expansion as a problematic linear development toward formalization, with supermarkets taking over food economies at the expense
of local farmers and retailers. This is even speculated to harm the low-income urban consumer as informal economic opportunities become increasingly restricted. Nevertheless, findings from an extensive survey conducted by AFSUN concluded that at this moment, households tend to have creative and flexible spending patterns which actually utilize both the formal and informal economy. With this survey supporting evidence of a high rate of food insecurity in Cape Town’s townships (up to 80% moderately or severely food insecure), some academics promote supermarketization as a market-based approach toward alleviating food insecurity.

With Cape Town facing high levels of food insecurity in a state of rapid urbanization, how does the distribution of supermarkets influence food accessibility? Is the high prevalence of food insecure households related to a lack of supermarkets as a market option? Before we can speculate as to the impact of supermarkets on consumers, we must understand the current distribution of supermarkets in the city in order to determine their accessibility. Therefore, this chapter assesses the spatial organization of supermarkets in Cape Town and in so doing attempts to answer these three questions:

1. How are supermarkets distributed in relation average annual household income?
2. Are supermarkets spatially organized in relation to public transportation?
3. How do these findings speak to the larger picture of food insecurity in Cape Town?

In order to address the first question, the distribution of supermarkets is compared against average annual household income by sub-place, a unit of analysis utilized in the 2001 census. Average annual household income is used as a proxy for measuring relative poverty in the area. Since the concept of a global or national poverty line, or even an absolute poverty line in and of itself is critiqued as providing an inaccurate representation of social means (Laderchi et al 2003),
a strict poverty line was not utilized in this study. Rather, incomes were compared relative to each other, with an emphasis on the extent of equity in supermarket distribution across income levels. It is important to note, however, that in 2001 the minimum household subsistence level was determined to be R1,600 per month, or 19,200 per year. Although this value isn’t explicitly utilized in this study, it is relevant in that it classifies 52 sub-places as having an average annual household income below the minimum subsistence level, accounting for 22.46% of households.

For the second question, the placement of supermarkets was compared with the organization of bus routes, taxi routes, and train stations in order to determine whether or not supermarkets are accessible to public transportation systems. This analysis is crucial, as it recognizes the role of transportation systems in people’s consumption patterns (see Chapter 2). Since supermarkets are sometimes located at distances unfeasible to walk to, the distribution of public transportation is essential in determining limitations to retail access.

Finally, the third question synthesizes the findings of the first two, asking the fundamental question, so what? What does this geography of retail actually mean for food insecurity? Do lower-income households have an appropriate level of access to supermarkets? If they do not, what can we say about food insecurity in low-income neighborhoods? If they do, then what role do supermarkets play in the debate? In attempting to answer these questions, this chapter will lay the foundations of a macro-scale analysis, to be complemented by a more in-depth case study in Chapter 6.

**Supermarket Distribution and Average Annual Household Income**

The distribution of supermarkets was compared with average annual household income with the intent of determining whether or not there was a relationship between the two variables.
In effect, the goal was to establish whether or not high income regions had greater access to supermarkets. Therefore, supermarket distribution was measured primarily as a unit of density. The number of supermarkets per kilometer was calculated by dividing up the total number of supermarkets by the total area of each category in order to determine an average—R\textsubscript{1,454.62} to R\textsubscript{43,197.89} as category 1, R\textsubscript{43,261.85} to R\textsubscript{78,504.71} as category 2, R\textsubscript{78,521.88} to R\textsubscript{122,188.25} as category 3, R\textsubscript{122,418.13} to R\textsubscript{188,895.03} as category 4 and R\textsubscript{188,914.92} to R\textsubscript{350,711.77} as category 5. Additionally, supermarkets per 1000 households were also calculated using the same categories as supplemental data on distributive equity (see Chapter II for a more detailed description of the methods).

In addition to assessing the organization of supermarkets as a whole, two supermarket formats, targeted toward different consumer groups, were assessed individually. Usave, a Shoprite-owned retail format with low-price bulk goods, was developed specifically to target the poor, opening up Shoprite’s access to a new consumer market. On their website, Shoprite claims that “The Usave chain’s focus is the lower income groups. Customers who are serious about saving and do not need the expensive frills and spills of regular shopping centers, are invited to put Usave to the test (see website, www.shopriteholdings.co.za).” Thus, Usave represents a supermarket with the specific intention of improvement in low-income food access, effectively an intentional market-based solution toward alleviating food insecurity.

On the other side of the spectrum we have Woolworths, a supermarket well known for its high-quality, high priced, organic goods. Woolworths is targeted specifically toward upper-middle class spenders and emphasizes quality as their main draw (see website, www.woolworths.co.za). The distribution of this supermarket was also calculated in order to provide contrasting data on the targeted distribution of a supermarket associated with quality and...
These two formats, one promoting high-quality produce and the other promoting food access for low-income consumers, provide two specific marketing strategies undertaken by supermarket companies.

A total of 234 supermarket retail outlets were found in the Cape Town metropolitan area. Shoprite has 99 stores, PnP has 59, Woolworths has 56, and Spar has 20. This includes supermarket and hypermarket formats but excludes convenience and liquor stores such as Spar’s Kwikspar or Shoprite’s Liquorshop. Due to the tendency for conglomeration in shopping center complexes, these numbers include stores with overlapping points at the same address.

This study found that the distribution of supermarkets in Cape Town is largely driven by market-based factors constraining investment decisions and limiting equitable diffusion. Therefore, the distribution of supermarkets follows spatial patterns of uneven dispersion throughout the city. As indicated in figures 6 and 7, the majority of supermarkets are located in the southern suburbs, northern suburbs, City Bowl, and Atlantic Seaboard areas. Figure 6 portrays the full extent of the Cape Town municipality, while figure 7 provides a larger-scale map for a more detailed view of discrepancies near the urban center. Since the discrepancies between the Cape Flats and the Suburbs and CBD are the focus of this analysis, later maps will utilize just the larger-scale extent. Those areas with fewer supermarkets appear to be the Cape Flats townships as well as the more rural communities found north of the Northern Suburbs. Residents in these areas are of predominantly lower income levels.

Analysis was conducted using the metropolitan statistical area of Cape Town as the borders of the analysis. Therefore, figures presented reflect data incorporating the more rural sub-places found above the Northern Suburbs. Although these areas are more rural, they were included in the study since an arbitrary determination of which sub-places should be considered
Figure 6—Distribution of Supermarkets in Cape Town, Full Metropolitan Area,

Cartography by Stephen Peyton, Data from 2001 Census
would be framed in a false dichotomization between urban and rural. However, it must be
recognized that density figures (supermarket per kilometer) take more rural areas into account,
necessarily skewing the data. Therefore, data on supermarkets per 1000 households is utilized as a complementary form of measurement.

Findings from the analysis of supermarkets per kilometer found that supermarkets were most common in middle-class neighborhoods, with category 4, encompassing sub-places with an average annual household income between R122,418.13 and R188,895.03 enjoying 0.338 supermarkets per kilometer (see figure 8). This value surprisingly declines in category 5, with an average annual household income ranging between R188,914.92 and R350,711.77, to a rate of 0.164 supermarkets per kilometer. However, it is the lower three categories, and particularly category 1, encompassing the lowest income range (R1,454.62 to R 43,197.89) that face the lowest ratios of supermarkets per kilometer. Category 1 faces a dismal 0.021 supermarkets per kilometer, followed by a rate of 0.096 supermarkets per kilometer in category 2 (R43,261.85 to R78,504.71) and 0.112 supermarkets per kilometer in category 3 (R78,521.88 to R122,188.25). When comparing categories 4 and 1, you find that the supermarket density of category 4 is more than sixteen times the supermarket density of category 1 (Table found in the appendix).

![Supermarkets per Kilometer](image)

Figure 8—Supermarkets per Kilometer by Income Category
Assessment of supermarkets per 1000 households also found discrepancies between categories, but portrayed a different relationship between categories (see figure 9). Category 4 was again found to contain the largest ratio of supermarkets to households, with a value of 0.567 supermarkets to every 1000 households. However, unlike the previous density measurement, category 5 was relatively similar, with 0.561 supermarkets per 1000 households. Additionally, category 3 appeared to have a relatively high ratio, with 0.477 supermarkets per 1000 households. On the other hand, the lowest categories displayed a death of supermarkets, with 0.063 and 0.297 supermarkets to every 1000 households respectively. The extremely low value of category 1 in particular should be noted, as category 4 has more than nine times the number of supermarkets per 1000 households as category 1 (Table found in the appendix).

The discrepancies between these two sets of data lie in the variability of household density within sub-places and the market-based factors which influence supermarket placement. Differences in the relationship between categories 4 and 5 in the two data sets indicate that after a certain threshold, the density of supermarkets begins to decline, likely due to the reduced...
The profitability of supermarkets in high property value neighborhoods. However, since the density of residents in these neighborhoods also declines, the ratio of supermarkets to households stays relatively constant. The differences in category 3 values likely correspond to a decrease in the density of household settlement between category 2 and 3. Although the density of supermarkets themselves are not increasing by much between categories 2 and 3, the density of households is, resulting in higher values for the latter analysis. However, a more constructive conceptualization of this comparison involves recognition of the high-density settlement in the townships corresponding to the first two categories.

These relationships highlight the unequal distribution of supermarkets in Cape Town by average annual household income. This inefficient, inequitable allocation of resources indicates a market failure in the formal economy. A market failure occurs when the free market system is incapable of producing the required goods or services within a particular sector (Bator 1958). In this case, it emphasizes the limitations of the liberalized formal economy at providing equal food access to low-income communities. As market failure indicates that structural issues, which in the case of Cape Town stem from the spatial organization of the Apartheid city and segregation laws, perpetuate this condition, the unequal distribution of supermarkets above can be seen as the manifestation of both the ANC policies toward liberalization and free market politics, and a lack of state directed intervention into development practices. Moreover, it displays the inadequacies of a Western formal retail system in fully providing for the needs of the poor.

Although the findings above suggest some form of market failure, we cannot ignore the deliberate attempts of supermarket chains to cater to low-income households. Shoprite’s Usave (see above), for instance, is a market-based initiative to alleviate food insecurity, as it caters to lower-income households with less spendable income. Therefore, the distribution of Usaves
differed drastically from the distribution of supermarkets as a whole. Usaves tended to locate more frequently in the lower-income Cape Flats area, rather than the higher income (predominantly white) suburbs and CBD. However, their penetration into the townships has been limited mainly to the periphery (see figure 10). This has provided many in lower income

Figure 10—Distribution of Usave Supermarkets in Cape Town,

Cartography by Stephen Peyton, Data from 2001 Census
neighborhoods with a cheaper alternative food source, but it has neglected those most in need; those in the central Cape Flats region.

Category 2 held the highest values for both supermarkets per kilometer and supermarkets per 1000 households, at 0.0181 and 0.0558 respectively (see figures 11 and 12). Conversely, categories 3, 4 and 5 had relatively low values in both equations, with 0.0046, 0.0057, and 0.0036 supermarkets per kilometer and 0.0195, 0.0096 and 0.0122 supermarkets per 1000 households respectively. This indicates a particular targeting strategy in which those in the lower-income range of category 2 appeared to have benefitted greatly. Furthermore, the severe drop in supermarkets in the higher categories indicates that this retail format is less compatible with the shopping preferences of higher-income households and therefore only minimally profitable in higher income sub-places.

This targeted market penetration strategy has unfortunately failed to fully diffuse into sub-places facing the greatest impacts of structural poverty. Category 1 only hosted 0.0062 supermarkets per kilometer and 0.0189 supermarkets per 1000 households. Although these values are higher than those recorded for categories 3 to 5, they still represent values considerably lower than those found in category 2, with category 2 values being almost three times as high in both cases. This trend, mirroring the evidence seen above, reveals the incompatibility of the formal economy in penetrating low-income neighborhoods, showing how this market-oriented approach overlooks their needs. In the post-apartheid economic environment of Cape Town, many people face exclusion from social participation as a manifestation of structural poverty. Even when private investment is directed toward lower-income communities, such as with Shoprite’s Usave franchise, a socially excluded population fails to be recognized as an adequate consumer base. Since market-based strategies are
dependent on profitable returns they often exclude the poorest people who are not considered a reliable consumer base.

Another targeted market penetration strategy involves the higher-end food retailer Woolworths. Woolworths is known for its “promise of offering high quality and exceptional value” (see www.woolworths.co.za). As food security involves food quality in addition to access
and quantity, analysis of Woolworths provides an opportunity to assess how products conceptualized as having superior quality are spatially organized in Cape Town.

Woolworths were found to locate almost exclusively in the high-income, predominantly white Southern and Northern Suburbs, as well as the CBD (see figure 13). Almost no

Figure 13—Distribution of Woolworths in Cape Town,

Cartography by Stephen Peyton, Data from 2001 Census
Woolworths were found in the Cape Flats area, and those present were organized almost exclusively around the periphery, severely limiting access to residents of these townships. In fact, their spatial distribution suggests a deliberate avoidance of low-income townships.

Statistical calculations of the density of Woolworths further support these findings (see figure 14). Categories 4 and 5 had 0.0803 and 0.0748 supermarkets per kilometer, compared to

![Figure 14—Woolworths per Kilometer by Income Category](image1.png)

![Figure 15—Woolworths per 1000 Households by Income Category](image2.png)
0.0021, 0.0120, and 0.0183 supermarkets per kilometer for categories 1, 2 and 3 respectively. The discrepancy between categories 4 and 1 witnessed in calculations for all supermarkets is accentuated with this retailer, with category 4 being more than 38 times as densely populated with Woolworths supermarkets.

Although also representing a discrepancy in the presence of Woolworths by income group, data on supermarkets per 1000 households reflected the pattern witnessed for the calculation of all supermarkets per 1000 households (see figure 15). In this case, however, the variation between high income and low income categories is further accentuated, with category 4 (0.2562 supermarkets per 1000 households) having over 40 times as high a value as category 1 (.0063 per 1000 households).

These findings highlight the relationship between average annual household income and supermarket prevalence, revealing the constraints facing supermarket diffusion into low-income environments in Cape Town today. Even in the case of ventures specifically targeting lower-income communities, the formal economy comes up short. Due to structural impediments to social inclusion for communities facing poverty, the formal market economy appears to have been inadequate in addressing the food needs of the poor.

**Supermarket Proximity to Public Transportation**

We know that supermarkets are distributed unevenly throughout Cape Town in relation to income levels, but what does this mean for access? Although this spatial organization is problematic because it represents inequality in access, just because a supermarket is not present in an arbitrarily designated sub-place does not prohibit people from accessing supermarkets in more distant locations. Therefore, the accessibility of supermarkets to public transportation
mechanisms represents a crucial component of food consumption strategies (see Chapter 2). Public transportation is a particularly important element in assessing the prevalence of food deserts, as it represents the capacity for greater mobility in order to potentially overcome spatial restrictions.

In addressing supermarket proximity to public transportation routes, bus routes, taxi routes, and rail stations were utilized. Supermarkets were categorized by the average annual household income of the sub-places in which they were located and compared to their distances to the nearest transportation routes and station.

Supermarkets were distributed in fairly close proximity to public transportation routes. The average distances to the nearest bus route, taxi route, or rail station were calculated as 196.66 meters, 118.46 meters, and 2,344.76 meters respectively; well within a reasonable walking distance to travel to and from a supermarket. The high values found in measures for distance to the nearest train station may result from a discrepancy between the limited service area of train infrastructure and the presence of supermarket dispersion beyond this area. Although these average distances were very low, indicating high levels of accessibility to supermarkets, high standard deviations (497.41, 204.78, and 3957.08 respectively) implied a platykurtic distribution (data with a low level of kurtosis, or a highly dispersed data set) therefore preventing us from being able to conclude that distance to public transportation is consistently low for all supermarkets regardless of average annual household income.

Therefore, basic linear regressions were run on all three measurements of transportation routes against average annual household income (see appendix). These tests found almost no statistically significant relationship between distance to the three forms of public transportation and average annual household income. This is apparent in the fact that the
regressions run on bus routes, taxi routes, and rail stations had r-squared values of 0.0078, 0.0293, and 0.0399 respectively (meaning, for instance, that average annual household income of the sub-place in which the supermarket is found explains 0.78% of the variability in the distance from the supermarket to the nearest bus route).

**Figure 16**—Supermarket Proximity to Bus Routes by Income Category

**Figure 17**—Supermarket Proximity to Taxi Routes by Income Category
When the supermarket data were divided up into five categories by average annual household income, transportation data found no clear indication of a lack of access in low-income areas (see figures 16, 17 and 18). In fact, in the case of bus and taxi routes, the opposite trend was witnessed; on average, supermarkets are situated farther away from these public transportation routes as income level increases. Considering the decline in importance of public transportation for high-income households, this reduced accessibility portrays a logical relationship. In the auto-oriented environment of Cape Town, higher income residents tend to utilize private transportation methods over public ones, often due to racially charged fears of public transportation riders. This manifests in a reduced accessibility of public transportation to supermarkets in higher-income sub-places; whether or not this is deliberate is entirely speculation.

Figure 18—Supermarket Proximity to Rail Stations by Income Category

This study found that supermarkets were distributed in a format very accessible to the primary forms of public transportation in Cape Town. In lower income regions in particular, taxi and bus routes were found in very close proximity to supermarkets. Therefore, the interplay
between public transportation systems provided by the city and the distribution of supermarkets primarily influenced by the market signify a hybridized interaction between public and private investment which promotes increased accessibility to food options. It must be noted, however, that proximity does not necessarily equate to effectiveness in improving access. Just because supermarkets are located near transportation routes does not state anything about the state of the transportation route itself. Factors such as the cost of ridership, the consistency of scheduling, frequency, available space (for both people and their groceries), and its distribution in relation to the spatial organization of homes, influence the effectiveness of the public transportation system. Unfortunately, this level of assessment is beyond the scope of this thesis; this study will focus more specifically on the distribution of supermarkets rather than the efficiency of public transportation policy and investment. Therefore, while this research can claim that supermarkets tend to be situated in locations accessible to public transportation, it cannot conclude that the public transportation system itself is an adequate means of (or even contributes to) negating the impacts of the uneven distribution of supermarkets.

Food Insecurity and Food Deserts in Cape Town: the Macro-Scale Approach

This chapter began by recognizing the array of theoretical standpoints which contribute to the dialogue around food insecurity in Cape Town. Contrasting conceptualizations of supermarket diffusion, its influence on food insecurity, the role of structural poverty, and the consumption strategies of food insecure households all influence this ongoing debate. This chapter provides some basic statistical analysis on the current state of the formal supermarket retail environment in this context. Supermarkets have been able to penetrate some of the lower income neighborhoods of the Cape Town metropolitan area, but the unequal distribution of supermarkets reflect the limitations of a market-based strategy in an environment of structural
poverty which socially excludes people from the market. However, the hybridized supermarket-public transportation machine, resulting from the combined efforts of public and private investment, provides a transportation system which is spatially accessible to supermarkets. Therefore, while supermarkets may not be equally distributed, public transportation systems help to make them more accessible to low-income households.

These findings build off of growing concerns voiced by AFSUN in their state of food insecurity report for Cape Town (Battersby 2011b). Poverty has been recognized as an increasing problem in the quickly urbanizing metropolitan region (see Chapter 4), and food insecurity is prevalent in many areas of the city (Battersby 2011b). These findings indicate that in this environment of poverty and neoliberal economic development programs, supermarket expansion as a market-based solution to tackle food insecurity has been somewhat limited. The Cape Flats region, recognized as highly food insecure in the 2008 AFSUN survey, has attracted minimal supermarket development, which tends to spatially organize around the periphery of the township conglomeration. Conversely, high income areas in the Northern and Southern Suburbs and the CBD have enjoyed drastically higher supermarket prevalence, with 10 to 40 times the frequency of supermarkets either per unit area or per household.

Although these limitations are to be recognized, we must also acknowledge the incredible rate at which formalization has occurred. The current state of supermarket diffusion reflects the results of a process which began as recently as the mid 1990s (Weatherspoon & Reardon 2003). Considering how a transformation needed to occur in order to shift business practices away from specialization in the upper-middle class niche to attempts to encompass a larger range of consumer patterns, supermarkets have made some considerable strides into low income regions.
More impressively, supermarkets have spatially organized so as to capitalize on the network of public transportation routes existent in the city.

Food desert literature, utilizing a framework of poverty as social exclusion and supermarkets as a vehicle for promoting food security, would emphasize two factors as potentially influencing food insecurity: structural poverty which manifests in the spendable income of households, and the geographic organization of retail systems in the city. Within the context of this discursive lens, the inequalities in supermarket access may initially appear to support the hypothesis that retail organization is a primary contributor to food insecurity in Cape Town. However, with public transportation at least spatially accessible, it is difficult to support such a straightforward conclusion.

To complicate this debate further, the role of supermarkets as a contributor to food security becomes problematic when considering the perspectives of other areas of literature discussed in Chapter 3. The traditional perspective on supermarket diffusion in the global South has claimed a one-directional path toward the transformation of informal economies into formal systems at the expense of small farmers and informal retailers. Furthermore, South Africa’s history segregation has left remnants of the Apartheid city, manifesting in structural poverty which inextricably impacts food insecurity. How are those who face structural poverty as a legacy of the apartheid-era and subsequently combat food insecurity impacted by the presence of a supermarket? What role does the supermarket, a market-oriented and market-constrained tool for food insecurity alleviation, play in an environment where structural limitations drive and perpetuate food insecurity?

This chapter has focused on the distribution of supermarkets and how this geography plays into debates around food insecurity, concluding that supermarkets diffusion has been
limited but significant, reflecting the restrictions of a market-oriented approach toward food insecurity. However, in order to truly understand the role these supermarkets play, and whether or not this geography of retail contributes to the widespread food insecurity in Cape Town, we must assess their relationships to the often ignored informal economy. Before naively claiming that the inadequate distribution of supermarkets is resulting in food deserts, we must understand how alternatives to formal retail contribute to these environments. We know that supermarkets have not yet fully penetrated the food insecure townships of the Cape Flats. Nonetheless, a deep understanding of the relationship between supermarkets and food insecurity requires a multi-scalar approach acknowledging alternative food systems and a spectrum of informal to formal interactions.
Chapter 6
Geographies of Poverty: Food Security in the Philippi Township

The previous chapter illustrated the extent to which supermarkets have expanded into low-income regions of Cape Town. Limitations of this expansion have highlighted the constraints of a formalized economy driven by market-oriented investment while simultaneously revealing supermarketization as a potential avenue for private investment in marginalized townships. However, it is impossible to claim, one way or the other, that the current geography of formalized retail either promotes or alleviates food insecurity based purely on quantitative geospatial mapping.

Therefore, a complementary supplemental research method is needed in order to address the nature of the interactions between formal and informal economies. Research for this chapter, which takes the form of an in-depth case study, looks at informal business strategies and household consumption patterns in a neighborhood situated near a supermarket. The research findings below evaluate the interaction between supermarkets and the informal nature of the surrounding township economy in order to address four questions:

1. How does the presence of a supermarket influence the business practices of informal retailers in the area?

2. How do the households utilize the informal food economy in the area?

3. How do the patterns of retail business and consumer behavior reflect upon the two diverging views of supermarket development in the literature above?

4. How does this case study reflect the role of supermarkets in addressing food security in Cape Town?

This case study takes place in the Philippi area of the Cape Flats. Philippi is bordered by Nyanga and Gugulethu to the north and Lentegeur and Weltevrede Valley to the South. Found within the Mitchell’s Plain main-place, Philippi has a relatively low average household income,
within both the Cape Flats specifically and Cape Town as a whole (see figure 21). This is reflected in the fact that while Mitchell’s Plain residents had an average annual household income of approximately R41,560 at the time of the 2001 census, Philippi residents only held an average annual household income of roughly R14,774. This contrast is even greater when compared to the average annual household income of the Cape Town metropolitan area as a whole, which was approximately R80,957. Philippi also had a relatively high ratio of informal to formal dwellings, with 55.13% of dwellings being labeled as informal, and 39.29% being labeled as formal (other houses were labeled under different formats). On the other hand, Mitchell’s Plain as a whole had a ratio of 21.64% informal dwellings to 72.87% formal dwellings. Dwelling composition as seen in the entire Cape Town municipality is composed of 73.86% formal and 18.4% informal dwellings, also indicating the massive discrepancies between sub-places and the particularly informal nature of the Philippi area.

This research was conducted around a Shoprite supermarket located at the intersection of New Eisleben and Lansdowne Roads. Housed within a shopping center, this supermarket performs the role of a anchor store, supported by several small clothing and fast food retailers housed within the complex. Surrounding the shopping center are several forms of informal food retail (see figure 19, Chapter 2). Immediately surrounding the shopping center, within the parking lot of the development are fruit and vegetable stands (F&V stands). Further out, along Lansdowne Road, a prominent transportation artery, are a row of meat stands. Further away still, Spaza shops are found interspersed among informal residential units. This research location was chosen for its relevance to food security data collected during the 2008 AFSUN survey and the interesting interplay between formal and informal food retail formats (see Chapter 2).
Figure 19—Reference of Research Area

Cartography by Stephen Peyton, Data from 2001 Census and Observational Analysis
Niche Development of the Informal Retailer

As discussed in Chapter 4, the informal economy operates where the market-based strategies of formal institutions and organizations are incapable of meeting consumer demand due to incompatibilities between formalized systems and households facing poverty. In Philippi, this research found that due to their informal nature, retailers were able to capitalize on consumers with inconsistent income streams. Informal retail business was found to be a coping mechanism to make up for the lack of formal employment opportunities. When asked about why she started up a business as a meat stand owner, one participant responded:

“Because I was desperate. I was looking for a job then couldn’t get any job. So I was thinking then instead I should start my own business.” (Interview with respondent #19, 6/29/2012)

In order to develop a strong consumer base, many informal retailers worked on a credit system. Oftentimes, customers were unable to pay for goods they required at a particular time. In these cases, Spaza shops would occasionally provide goods on the assumption that they would be paid for at a later date. Concerning informal credit-based systems, one Spaza shop owner stated:

“‘You see, sometimes I do [give credit], if somebody come here and tell me, ‘I have this problem, help me with this thing,’ and the thing I have to help him with because as long as I know him, I help. At the end of the day, he’ll help me back.” (Interview with respondent #9, 6/29/2012)

This reflects the ability of informal retailers to provide services unavailable in formal food outlets to utilize the unstable nature of township household income streams. Furthermore, it
provides these households with a more consistent method of alleviating food insecurity through the development of strong social relationships.

As seen in the quote above, this informal safety net system, which expands beyond monetary credit to include social services or favors, is predicated on the existence of strong social ties. This requires loyalty from the consumer in the form of an informal socially binding contract which develops a mutually beneficial relationship. These informal relationships are vital, since competition solely through the pricing of products is often ineffective, considering the limitations of consumer spendable income. Therefore, business owners would compete through other means.

“[Competition] between the Spaza shop[s] to customers is in their way of speaking with people and the way they treat their customers.” (Interview with respondent #11, 6/22/2012)

As seen above, factors such as product price, product quality, customer interactions and relationships are weighted differently in informal business practices. Consumers would often decide to shop consistently at one particular store, and shopping at an alternative would be heavily frowned upon. One meat stand owner said this about his relationship to his customers:

“We [should be] clocking out at 7 but we are clocking out at 9, because there are a lot of customers, and they are complaining 'no, why you didn’t make my meat, you can’t close without me,’ and you, you can’t close, you know.” (Interview with respondent #20, 6/29/2012)

Although each retail type had distinctly different spatial and economic organization, they all shared a common trait in their relationship to the supermarket. None of those interviewed expressed any concern for their own business generated by the presence of the supermarket;
competition was primarily between retailers of the same informal format. When asked about the competition with the supermarket, many appeared confused at being asked such a question, as the notion of competition with Shoprite was so far removed from the reality of their relationship with the formal retailer. In fact, both F&V and meat stands capitalized on the existence of the shopping center through their spatial organization. Spaza shops also supported the Shoprite, emphasizing its importance to promoting diversity in product selection beyond the capacity of their own stores (see below).

In addition to capitalizing on the introduction of formal retail, these informal stores have begun to integrate themselves into formal retail supply chains. All participants from F&V stands and Spaza shops said that they buy exclusively from wholesalers, rather than from supermarkets or informal sources. Moreover, meat stands buy their products directly from the butcher, and utilize formal businesses to have the meat sliced and prepared. This was a particularly interesting finding from the research as it presents a counter-narrative to the perspective that formal retail develops systems of dependencies for informal retail. Rather than buying from the supermarket, these sellers are “cutting out the middle man” and linking directly to formal wholesalers themselves.

F&V stands were found most proximate to the shopping center, deliberately positioning themselves to capture the consumer base attracted by the supermarket. The supermarket is seen as a central location, with a high gravitational potential, bringing in customers who may support alternative businesses located close by. Most participants responded that their main consumer base was those who had bought from Shoprite but had forgotten to purchase a particular product. Furthermore, they deliberately choose this location to avoid the competition with Spaza shops interspersed within the residential area. As one F&V stand worker stated,
“[Shoprite] customers, sometimes they forget to buy something from Shoprite, and then when they pass through the road that person’s mind was to buy [fruit and veg] from Shoprite not from here but because he’s far from Shoprite now…this stand is here because this is where everybody is going through and you can’t put a stand where nobody is going.” (Interview with respondent #3, 6/20/2012)

Another one said,

“Other people are buying from me when they forgot something from Shoprite. They say, ‘wow, I wanted to buy apples from Shoprite but I forgot,’ so they buy from here.” (Interview with respondent #2, 6/20/2012)

F&V stands believe that, while their prices are competitive with Shoprite, they would not be able to bring in sufficient customers competing with the lower prices found at Spaza shops. Therefore, it can be speculated that if they positioned themselves elsewhere, they would not generate as significant a revenue stream.

Interestingly, one participant had located along Lansdowne Road rather than around the shopping center. He claimed that since the market around the shopping center had become too saturated, he decided to locate along the main road instead to capitalize on the prominence of the transportation artery. Although most auto-users do not stop by, the centrality of the road promotes meat stands to locate along it (discussed below), which generates more business from surrounding residents, on which this F&V stand capitalizes. The instance of F&V stands locating beyond the immediate periphery of the shopping center, however, was rare in this study.

While F&V stands do benefit from the Shoprite’s presence, workers in these stands face limited upward mobility, reluctantly accepting a job as a F&V stand worker due to a lack of alternatives. Many of the workers interviewed had been working at F&V stands for several years, with one worker claiming to have worked at the same stand for over 7 years. These workers,
many of them having illegally migrated to Cape Town from Lesotho, find themselves in positions of dependency stemming from uneven power dynamics between their position as illegal immigrants and the stand owners who brought them to the city. Although the stands themselves are able to benefit from the centrality of the supermarket, the workers themselves do not benefit from this development.

Meat stands were also found to capitalize on the centrality of the supermarket, utilizing the high level of traffic along Lansdowne Road, an artery which runs directly through the Cape Flats into Khayelitsha and connects the townships to the Southern suburbs. This was a deliberate decision in order to generate a larger potential consumer base. One participant stated that the shop was opened in that particular location because

“it is near to the main road. This is a main road here. So it was all the people across Philippi can see the meat place.” (Interview with respondent #18, 6/29/2012)

These retailers were found to have developed what they perceived to be a mutualistic relationship with the Shoprite. One worker of one of the two largest stands said in regards to competition with Shoprite:

“No, it can’t hurt our business, because we are not selling the same thing. We are selling a different thing. So maybe a person can come here to buy meat but he thinks also, I must buy something at Shoprite. So a person can come to Shoprite and think oh I can go buy the meat as well.” (Interview with respondent #20, 6/29/2012)

Rather than a purely parasitic relationship like that seen with the F&V stands, the meat stands have developed their own wide network of consumers. By specifically choosing to sell only
pork in this particular location, it has developed the label as “the pork place,” which promotes its status as a semi-formalized space for conducting a particular form of business. Furthermore, New Eisleben Road as a transportation corridor promotes accessibility; people are known to come from all over the Cape Flats region in order to buy the pork that is sold at this particular location.

“The most people who buy pork they are driving cars. They pass by and they stop here and buy the pork. There are a few people who are just walking.” (Interview with respondent #19, 6/29/2012)

In this fashion, the meat stand business has not only begun to integrate itself into the formal economy, but has developed large scale businesses with a spatially wide consumer base. Furthermore, their scale of impact is actually beginning to further improve the centrality of the location, with both the supermarket and meat stands attracting customers to a single location in an informal mutualistic relationship of customer sharing.

Spaza shops were found among the housing units in the area surrounding the shopping center. Found in very high densities, their concerns gravitated mainly around competition with other Spaza shops, while competition with the supermarket did not seem to be an issue. In fact, a majority of participants supported Shoprite, as they recognized their own limitations in product diversity, and viewed their Spaza shops not as an alternative to the Shoprite, but providing a different function altogether. When asked about competition with Shoprite, one Spaza shop owner stated,

“No, that’s no problem for me, sometimes I don’t have something, I only have small stuff. These people need to go to Shoprite…[but] sometimes [Shoprite] don’t sell half bread, or something like that. Buy sometimes the half bread or something like that here.” (Interview with respondent # 15, 6/27/2012)
The translator present with me explained the response of another respondent,

“She’s not selling the big stuff, since Shoprite has the 10kg and 5kg. She’s selling the small ones, so it’s good for them [consumers] to go to Shoprite because they have that stuff.” (Interview with respondent #12, 6/20/2012)

While supermarkets were often utilized for big bulk spending at the end of the month (when paychecks rolled in), Spaza shops were seen to provide smaller basic staples on a daily or weekly basis. This can be framed as niche construction, and reflect the continued necessity of alternative retail formats beyond the standard formal supermarket.

**Household Consumption Patterns**

Low-income consumers in the area were found to utilize a diverse selection of consumption strategies in order to capitalize on the strengths of different retail formats in the area. Although some consumers shopped at least occasionally at Shoprite, it was found that many utilized Spaza shops for shorter time frequencies. Therefore, Shoprite was seen as a bulk stop, while Spaza stores were more compatible for shorter time preferences.

In order to employ price differentials as a potential determinant of consumption patterns, a price comparison analysis was conducted between the Spaza shops and Shoprite. Products found at Spaza shops had considerably limited diversity and variety in comparison to the Shoprite. Furthermore, variations in both prices and products available (particularly which quantities at which products were available) occurred among Spazas, with store size seeming to be a particularly important determining feature. While Shoprite had large bulk options at 5 and 10kg for basic staples such as flour, sugar, maize meal, rice, and beans, the majority of Spaza
shops interviewed only held options ranging from 500g to 2 kg, with the occasional 2.5kg option. For instance, while 9 of 11 Spaza shops stocked 2.5kg maize meal, only 2 of these stocked the 5kg option. Conversely, the Spazas held low quantity options unavailable at the Shoprite. For instance, while Spaza shops regularly sold 375mL bottles of cooking oil, tea containing 10 tea bags, single eggs, and 250g packets of sugar, these products were unavailable in the supermarket (see figure 20).

While prices did vary among Spaza shops and price differentials varied between products, it was found that for the majority of products sold at both Spaza shops and the Shoprite, Spaza shops provided them at cheaper prices. There were only a few exceptions, such as a can of coke, 2.5kg packets of maize meal, and 500g packets of rice. Furthermore, there were certain lower-quantity products, such as 375mL containers of oil, boxes of 10 tea bags and single eggs, which were sold at Spaza shops but missing from Shoprite. These findings reflect the ability of Spaza shops to capitalize on the limitations of the formal market, and develop competitive prices in comparison to their larger, more formalized counterparts. Additionally, it reflects the integration of Spaza shops into formal supply chains, with wholesalers marketing products specifically to these informal sellers. This shows that it is falsely simplistic to claim that supermarkets are pushing Spazas out of business through their use of low prices and economies of scale.

Even though Spaza shops provided cheaper options, the majority of participants still patronized the supermarket over informal alternatives. In addition to quantity, which promoted more bulk shopping at supermarkets, they cited quality, diversity, and convenience as reasons to shop at Shoprite. Participants often claimed that both F&V stands and Spaza shops lacked consistency in their product quality, leaving produce out past its “expiration date.” Comparing the supermarket to F&V stands, one participant said that
Figure 20—Price Comparison Between Shoprite and Spaza Shops
“[I don’t] go for the cheap stuff. So many people are selling things cheap [i.e. F&V stands and Spaza shops]. So the cheap things are not good, they are not healthy.” (Interview with respondent #4, 6/20/2012)

Another participant concurred, saying,

“[I] usually buy from the stands outside the Shoprite but I like Shoprite best because Shoprite has a good quality of the things and their things are making beautifully than the stands. They [F&V stands] put it in the crates so maybe the crates are not clean sometimes.” (Interview with respondent #16, 6/27/2012)

As seen above, presentation methods in Shoprite promote a higher sense of cleanliness and professionalism, which is perceptually associated with the notion of higher quality. Even if the products themselves are not necessarily superior, due to the infrastructural capacity of Shoprite products are perceived as superior. The “pick-and-buy” method promotes this, while the lack of self-selection in Spaza shops restricts quality checks by the consumer. Several participants stated that they would buy from Shoprite over the other two formats even if prices were a little higher, in order to ensure procurement of better quality goods.

In addition to quality, participants stated convenience as a factor influencing shopping decisions. Those who worked in or near the shopping center (both formal and informal formats) shopped at the Shoprite before heading home due to the convenient proximity of the shopping center. Ironically, one Spaza shop worker admitted he preferred the goods at the supermarket over the ones available at the shop in which he was employed for this reason.

“I prefer Shoprite than Spaza. I usually go to the Spaza when I forgot something from Shoprite. So Shoprite is best, closer to the house. (Interview with respondent #10, 6/22/2012)
This, however, worked both ways, as many interviewees reported the same factor as a reason to shop at Spaza shops. In fact, for day to day purchases, it appeared that convenience was occasionally the primary factor.

“I buy from Shoprite because I [work at a stand] near Shoprite, and then when I’m home late, I buying from…Spazas. (Interview with respondent #5, 6/20/2012)

Lastly, the supermarket was preferred due to its high diversity of goods. One participant observed fondly that she would often end up buying products originally unintended, experimenting with new possibilities while several others patronized the fact that there is not only a greater selection of alternative brands for a particular product in the supermarket, but products that are just not found in Spaza shops, such as frozen goods, instant meals, and some canned goods.

Overall, this research suggests that claiming that consumption patterns reflect a linear path toward greater use of formal outlets is a gross oversimplification. Although consumers do appear to patronize supermarkets more than informal shops, the urban poor in Cape Town utilize the informal sector to compensate for insufficient income to fully participate in the formal economy. Furthermore, Spaza shops are found to be preferable for day to day purchases, due to their lower prices and smaller quantities, as well as spatial distribution near residential units. The existence of a diverse selection of options supports consumers who value access to the formal supermarket, but have limitations in their capacity to operate only in the formal sector. Therefore, consumers utilize a multiplicity of retail types, both formal and informal, and change consumption patterns to reflect patterns of employment and other means of generating an income.
**Toward a Trend of Formalization?**

As discussed in previous chapters, the traditional perspective on the impact of the supermarket revolution claims that the introduction of these large multinational retailers will result in the formalization of informal economies, and a progression toward a western notion of “modernity” in food systems in the developing world. This transformation is already evident in higher-income areas of Cape Town, where supermarkets are highly prevalent and constitute the majority of food options (see Chapter 5). This trend, however, has yet to fully occur in the townships of the marginalized Cape Flats. This research shows that in Philippi, we currently witness an integration between formal and informal, which is materializing in two distinct transformations: the niche construction of informal outlets and the integration of formal supply chains into informal retail practices.

In townships where supermarkets are present, informal retailers are beginning to construct solid niches alongside formal alternatives. For instance Spaza shops, although having the same customers and selling the same products as supermarkets, have been able to construct a niche for themselves through supplying slightly cheaper, lower quantity goods. In other words, they capitalize on the limitations of a formal economy in addressing the needs of the poor. It appears as though Spaza shop owners did not see the supermarket as a threat; rather, they accepted this “competitor” as a vital part of household food procurement strategies. Additionally, F&V stands employ convenience as their main tool in niche construction, while deliberately using the centrality of the supermarket as a way of capture customers. Finally, meat stands position somewhere between the informal and formal, with the social connections and infrastructure of informal business and the supply chains, large consumer base, and wide networks of the formal economy.
The flip side of this is the apparent incompatibility of supermarkets in addressing the needs of the urban poor. While those households with a consistent monthly income would regularly buy from supermarket in bulk, this option is not as readily possible for others working within an informal economy. Within the informal environment of Philippi, wealth disparities prevent the poorest households from participating in the limited formal aspects of the environment. Therefore, the limitations of the supermarket expand beyond the market-constraints to investment; the structure of formal retail itself is a restriction on household participation.

The other transformation manifests in the employment of formal suppliers in the supply chains of informal retailers, reflecting shifting practices for competitiveness and efficiency. The supermarket’s presence is influencing a renegotiation of retail form, resulting in a hybridized landscape where retailers are reconfiguring their business practices. All Spaza shop owners and workers and F&V stand workers interviewed stated that their products were derived from wholesalers. Moreover, meat stand workers bought their products from a butcher, again capitalizing on the benefits of formalized supply chains. These shifting patterns are mirrored by a greater recognition by wholesalers of the market significance of the informal economy. Wholesalers sell products specially tailored toward informal stores, such as smaller quantities of goods such as cooking oil, sugar, and maize meal for Spaza shops than those found in supermarkets (see figure 22).

This study shows that the traditional view of a linear trajectory toward a fully formalized retail sector has yet to be realized. Although it is impossible to rule out this possibility for the future, the flexible business approaches of informal store owners, the complex strategies employed by consumers, and the rapid rate of urbanization and township overcrowding (see
Chapters 3 and 4) all speak to the continued necessity of the informal economy. Although the social exclusion of poor households as a manifestation of structural poverty constrains supermarke diffusion, a limited amount of expansion has occurred. In predominantly informal economies, these supermarkets, few and far between, have provided households with useful alternative food procurement opportunities. Moreover, informal sellers appear to be capitalizing on their presence, utilizing the centrality of the formal retailer to promote business practices.

This case study has illuminated some aspects of supermarketization and its relationship to food insecurity in its current state. However, it is not as effective at explaining this process as a development over time or providing evidence relating to the hypothesis of a linear trend toward formalization. Since data were not collected over an extended period of time, this research cannot claim anything about formalization as an ongoing process. While we do know that the hybridization of formal and informal economies currently underway in the Cape Flats appears to be beneficial to food insecure households, nothing can be definitively asserted about this hybridization for either the past or future. Therefore, direct support or refutation of this hypothesis for Cape Town is unfortunately outside of the scope of this thesis. Rather, we can recognize that this formalization, if occurring, appears to do so at such a gradual pace that the negative impacts on informal retail are not a tangible, voiced concern to those affected.

It must also be noted that the neighborhood used in this case study does not and is not meant to provide an accurate representation of all township areas in Cape Town. This location was chosen specifically because of the presence of a supermarket; the majority of Philippi residents are not within walking distance of such a large-scale formal outlet. While many utilize public transportation to access supermarkets once a month, there are often financial constraints to consistent accessibility. Although just speculation, it is likely that Spaza shops and other
informal retailers are even more heavily relied on for day to day consumption needs in areas more distant to the supermarket. This would mean both limitations in the opportunities present for households and restricted capacity for informal retailers to capitalize on formal development anchors in these areas. Therefore, while the supermarket provides additional benefits toward alleviating food insecurity, these benefits are unevenly distributed.

Chapter VII
Rapid urbanization and high levels of poverty make food insecurity an increasingly problematic phenomenon in Cape Town. With the underlying geography of the Apartheid city still widespread and prevalent, structural poverty and segregation accentuate food inaccessibility. As Sen’s notion of entitlement failures in conceptualizing hunger and starvation inform us, these poor households are vulnerable to the price fluctuations of the global market. Primarily restricted to a cash-income for food options with minimal safety nets for resilience, many find that the current infrastructural capacity of the city and public support systems are insufficient to meet their needs.

The discrepancy between access to and the need for basic goods and services stems from a neoliberal approach toward redistribution. Although shifting away from racial Apartheid, through promotion of market-based strategies for economic development, a new (still racially contingent) economic Apartheid in which inequalities manifest through the forces of the market perpetuate the segregation of the Apartheid era. Furthermore, food insecurity is framed as a rural problem, solved by production-oriented policies, which mask the smaller scale variations among communities and the importance of non-production methods of obtaining food. These policies have left urban areas largely ignored, with food security left up to the invisible hand of the market.

The expansion of supermarkets in South Africa in the mid-1990s marked a shift toward economic formalization. Food desert literature of the global North views supermarkets as beneficial for food insecure neighborhoods as they provide a wide range of healthy foods priced within a more affordable range than alternatives. As upper-middle income markets became saturated in Cape Town, supermarkets began to diffuse into the neglected townships, expanding
their consumer base and providing more food options for poor households. This
supermarketization is therefore perceived by many as a market-based mechanism to alleviate
food insecurity.

This trend toward modernization, however, has been critiqued by others as detrimental to
traditional economies. As a linear economic transformation from informal to formal occurs,
participants of traditional economies are displaced, and consumers find themselves excluded
from the newly transformed formal economies. Since low-income households have variable
consumption patterns contingent on erratic income streams, disease, and social obligations, the
format of formal retailers fails to be fully compatible. With formalization exacerbating
incompatibility, these communities face a severe loss of resiliency which promotes a higher
prevalence of food insecurity.

With supermarket expansion into low-income areas, this thesis has attempted to develop
a clearer understanding of the relationship between supermarkets and food insecurity. Is the
geographic distribution of supermarkets spatially accessible to food insecure households? Does
the expansion of supermarkets into informal economic environments really represent steps
toward alleviating food insecurity? What can we say about the effectiveness of this market-
based solution to food insecurity?

This thesis provides some groundwork to tackle these important but neglected topics.
Through a mixed-methods approach, it addresses the complex, contradictory literature on
supermarketization and urban food insecurity. A multi-scaled analysis incorporating GIS
mapping of supermarkets and semi-structured interviews in a food insecure township attempts to
bring together concepts taken from literature on food deserts and retail modernization. These
conclusions reflect a combination of the findings from this research and an assessment of previous literature and research done in Cape Town.

This thesis found that supermarkets are unequally distributed in Cape Town, with high-income sub-places more likely to have a higher density of supermarkets. Low-income sub-places face drastically lower supermarket densities, indicating reduced accessibility to the well-priced, healthy, diverse food selections they offer. Therefore, this expansion has been constrained by market-based limitations, with supermarkets limited in their capacity to provide for the lowest-income households in the poorest sub-places. Conversely, data on public transportation found that supermarkets in low-income sub-places were spatially accessible to bus routes, train routes, and rail stations. So while supermarkets are distributed unequally, their organization in relation to public transportation systems highlights attempts to improve access.

The unequal distribution of supermarkets does not necessarily speak toward their impact on the practices of food insecure households, however. Therefore, a case study was conducted in one of the locations where households were sampled in the 2008 AFSUN survey. Performed in Philippi, this case study illuminated the interactions between formal and informal retailers in township environments, revealing the role of supermarkets in household consumption patterns. Research showed that the presence of supermarkets in informal township areas provides alternative methods to obtain food. They also work as anchors for growth and development and as centralized locations to attract customers. These processes are capitalized upon by informal stores, which are capable of providing poor households with necessary services that are incompatible with the formal economy. Therefore, as supermarkets penetrate low-income neighborhoods, they increasingly promote the expanded diversity of products and choice, while positively impacting business practices of informal retail formats.
The discourse around Sen’s entitlement failures, complemented by food desert literature from Britain and the US, points to two highly influential factors contributing to food insecurity: poverty and food access. The spatial distribution of supermarkets as seen in chapter 5 speaks to the prevalence of food deserts in the Cape Flats. However, the consumption strategies of the urban poor in Philippi highlight the incompatibility of poor household consumption strategies with the formalized structure of the supermarket. Supermarkets are only available for particular spending practices at specific times, often limiting their effectiveness at addressing food insecurity for the poorest households lacking a consistent income stream. Therefore, it appears as if a traditional food desert approach that assumes supermarkets presence as automatically improving food security oversimplifies the relationship between poverty and formalized retail accessibility. A greater recognition of variable consumption strategies, within the context of social exclusion in structuralized poverty is needed in recognizing the role of supermarkets.

Furthermore, the dichotomization of informal and formal economies in both literature and policy debates masks the complex environments in which food access is negotiated. In Philippi, neither a truly formal nor a truly informal economy exists; the economic environment has become a hybridized landscape in which food access is constructed by the multiple retailers and consumers present. Therefore, a conceptualization of economic activities as distinctly formal or informal falsely represents the reality of these hybrid economies. A new way of conceptualizing this retail landscape and the ways in which consumers negotiate their roles within it must be developed, with a move away from a sole reliance on large formal retail as the only means of ensuring food security.

Supermarkets have made incredible strides toward diffusion since their introduction in the 1990s. However, their expansion is restricted by limitations in the market’s capacity to
address the structural issues which perpetuate poverty. Therefore, a new conceptualization of retail environments must be accompanied by a greater understanding of poverty and approaches toward addressing the underlying issues which contribute to it. Expansion of supermarket diffusion is not necessarily a solution to food insecurity, particularly when their expansion penetrates socially excluded populations without the means to negotiate the structures present in the formalized economy. Rather, a deeper understanding of the underlying issues perpetuating social exclusion that shifts away from a market-reliance toward addressing poverty is necessary.

In addition to expanding our knowledge of the structural causes of poverty, further research must be done on how supermarketization is renegotiating retail environments in low-income townships. The qualitative findings above only speak to a snapshot in time and a particular case study; they cannot be considered representative of all township neighborhoods. There still exists the potential for linear, one-directional transformation of informal economies at the expense of informal retailers and food insecure households. Further research both in other townships, comparisons of areas proximate and distant from supermarkets, and case studies sampling from areas at different stages of formalization should be utilized to provide a deeper understanding of this complex relationship. If formalization continues in a detrimental fashion, government intervention is needed to provide safety nets to those with threatened livelihoods.

The rate of supermarket expansion is also unclear. Studies should be done using time-series maps to determine the rate of diffusion and predict future supermarketization. Additionally, expanding research to encompass other independent supermarkets and other forms of formal retail are areas of further research to consider. These studies would provide specific details on locations in need of direct investment and economic growth.
Fundamentally, the supermarket is not compatible with the consumption strategies of poor households. Although informal economies attempt to fill this niche, food insecurity is still a highly prevalent problem in Cape Town. Therefore, attempts to address food needs which account for the limitations of poor household participation in the supermarket format are needed. This will require more flexible systems at a smaller scale retail format, as a hybrid between the flexibility and personal connections of spaza shops and the large diversity and bulk opportunities of the supermarket. Unfortunately, explicit details around such a system are beyond the scope of this thesis. This research does, however, illuminate the presence of this gap in food retail and the food insecurity it perpetuates.

At the same time, supermarkets are not necessarily a destructive force to the environments in which they are introduced. The current neoliberal approach toward economic redistribution is, however, constructing a vastly unequal geography of food retail. Coupled with wealth disparities, this further restricts the food security strategies available to the urban poor. A more deliberate attempt at providing food access, which goes beyond both a market-oriented and supermarket-dominated approach is necessary in order to account for the variability in spending patterns, food preferences, and spatial accessibility afforded to poor households.

The relationship between supermarketization and food insecurity is complex and context specific. In Cape Town supermarkets have yet to fully penetrate low income areas, but have encountered positive responses where they have been successful. Their current distribution reflects both the limitations of a market-oriented approach at alleviating food insecurity and the limitations of the supermarket format in addressing the food needs of the urban poor, highlighting the need for a shift away from the supermarket-oriented neoliberal approach toward redevelopment and economic redistribution taken by the ANC.
Appendix

List of Sub-places with No Data:

Bellville South Industrial  
Greenlands Industrial  
Saxon Industrial  
Stikland Hospital  
Transnet Marshalling Yard  
Triangle Farm  
Blue Downs  
Cormac Park  
Rietvlei  
‘Cape Town’ (Sub-place in CBD)  
Parrow East  
Plattekloof  
Cecilia State Forest  
University of the Western Cape  
Wildevoel Vlei  
Morningstar AH  
Hottentotsholland Nature Reserve SP  
Century City  
Montague Gardens  
De Goede Hoop  
Paarden Eiland

Findings from Kolmogorov–Smirnov Test on Sub-place Average Annual Household Income:

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<td>130631.44</td>
<td>4297.637</td>
</tr>
<tr>
<td>95% Confidence Interval for Mean</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower Bound</td>
<td>122192.77</td>
<td></td>
</tr>
<tr>
<td>Upper Bound</td>
<td>139070.11</td>
<td></td>
</tr>
<tr>
<td>5% Trimmed Mean</td>
<td></td>
<td>119840.92</td>
</tr>
<tr>
<td>Median</td>
<td>106169.81</td>
<td></td>
</tr>
<tr>
<td>Variance</td>
<td>12220930689</td>
<td></td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>110575.453</td>
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</tr>
<tr>
<td>Minimum</td>
<td>1455</td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>1091652</td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>1096197</td>
<td></td>
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<tr>
<td>Interquartile Range</td>
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<td></td>
</tr>
<tr>
<td>Skewness</td>
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<td>0.95</td>
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<tr>
<td>Kurtosis</td>
<td>12.340</td>
<td>0.190</td>
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Tests of Normality:

<table>
<thead>
<tr>
<th>Kolmogorov-Smirnov a</th>
<th>Shapiro-Wilk</th>
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<tbody>
<tr>
<td>Statistic df Sig.</td>
<td>Statistic df Sig.</td>
</tr>
<tr>
<td>VAR00035 .129 662 .000</td>
<td>.824 662 .000</td>
</tr>
</tbody>
</table>

a  Lilliefors Significance Correction

105
Number Line of All sub-places (Positively Skewed Distribution):
Number Line of Selected Sub-places (Two Standard Deviations from the Mean):
Regression Analysis between Average Annual Household Income and Percent White:

Distribution of Supermarkets per Kilometer Categorized by Average Annual HH Income:

<table>
<thead>
<tr>
<th>Category</th>
<th>Average HH Income</th>
<th>Supermarkets</th>
<th>Usaves</th>
<th>Woolworths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1</td>
<td>22637.41514</td>
<td>0.020771382</td>
<td>0.006231415</td>
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<tr>
<td>Category 2</td>
<td>56555.61237</td>
<td>0.096256483</td>
<td>0.018048091</td>
<td>0.01203206</td>
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<tr>
<td>Category 3</td>
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<td>0.00458412</td>
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<tr>
<td>Category 4</td>
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<tr>
<td>Category 5</td>
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<td>0.163769669</td>
<td>0.00356021</td>
<td>0.074764414</td>
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</tbody>
</table>
**Distribution of Supermarkets per 1000 Households Categorized by Average Annual HH Income:**

<table>
<thead>
<tr>
<th>Category</th>
<th>Average HH Income</th>
<th>Supermarkets</th>
<th>Usaves</th>
<th>Woolworths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1</td>
<td>22637.41514</td>
<td>0.062671563</td>
<td>0.018801469</td>
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<tr>
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<td>Category 3</td>
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</tr>
</tbody>
</table>

**Regressions for Bus Routes, Taxi Routes and Rail Stations:**

**Bus Routes**

**Taxi Routes**

**Rail Stations**
CONSENT FORM

The Impact of Supermarkets in Cape Town

I am a student at the University of Cape Town doing research on how supermarkets impact people’s access to food. I am conducting interviews in order to further this research.

Purpose, Scope, and Intent of the Research Project
The purpose of this project is in order to better understand the relationship between supermarkets and food security in low income neighborhoods in Cape Town. You are being asked for an interview due to your position as both an informal store owner and a consumer.

Confidentiality
Your responses will be held strictly confidential. This means that you will not be identified in any report, presentations, or publications that result from this research. Your responses will only be available to Stephen Peyton, and supervisors Dr. Jane Battersby-Lennard and Dr. William Moseley.

Permission to Record the Interview
This interview will take about half an hour of your time and would preferably be recorded. A digital recording of this interview will be kept under password protection on my personal computer. The recording will be erased following transcription.

Statement of Consent:

I have read this paper about the study or it was read to me. I have asked questions and have received answers. I consent to participate in the study.

Signature of Participant ___________________________ Date ________________

I agree to participate _______ Yes

Signature of Researcher ___________________________ Date __________________
Sample Questionnaire:

(Interviews were conducted in a semi-structured format, so in many cases additional questions were asked to derive more detailed information)

1. Background information
   a. How long have you been working here?
   b. What kind of products do you sell?
   c. Who buys from your shop? Do you know any of them personally? How many of them are regulars?
   d. Why do you run your store here? What makes this a good place to do business?
   e. Do you live close to/far away from here?

2. How has the introduction of supermarkets in the area impacted informal store business?
   a. Does the nearby supermarket hurt your business at all?
   b. Does it help your business in any way?
   c. Where do you buy your products? Do you ever resell supermarket products?
   d. Do you feel like there is a competitive relationship between you and the supermarket? Do you feel pressured by the presence of a supermarket?

3. How has the introduction of supermarkets in the area impacted your consumption patterns?
   a. What kinds of products do you buy at supermarkets? Why?
   b. How often do you shop at supermarkets? Why?
   c. What don’t you buy from supermarkets? Why? What is the better alternative?
   d. What do you buy at informal shops? (spazas, stands) Why?
   e. What do you like about supermarkets? What do you dislike about supermarkets?
   f. How would you shop differently if there wasn’t a supermarket nearby? Would you make the time to shop at one?
Bibliography


