

The Influence of Import Substitution on Community Development as Measured by  
Economic Wealth and Quality of Life

by

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## ABSTRACT

The purpose of this research is to connect community development and local economic development to determine the impacts of the local economy on economic wealth and quality of life. This will be explored through a community development lens examining how the community, and its location and capitals (specifically economic, social and human capitals), impact the dependent capital variables. Laughlin's (2012) research design of social capital and its impact on economic wealth used United States county samples, which reflect many local economies. This dissertation builds on Laughlin's model and explores local economies at a Zip Code Tabulation Area (ZCTA) level. It also incorporates elements of Chaskin's (2001) model, which explores community capacity as social and human capital, Benhabib and Spiegel's (1994) human capital model, Levine and Renelt's (1992) economic capital model, Krugman's location and economic geography (1998), Emory and Flora's community capital framework (2006), and concepts of quality of life and economic wealth by Schumacher (1964) and Jacobs, (1970). Economic wealth and higher quality of life can represent community development outcomes; there must be a balance within community systems and an exploration of these capitals (Emory and Flora, 2006).

This research expands beyond exploring impacts of social capital on economic wealth to include multiple community capitals. Furthermore, it tests economic measurements and their impact on a local economic level as opposed to a regional/state level, thus providing a deeper understanding of local economies and their impact on communities.

This dissertation provides a new baseline for understanding the relationship between community and economic development, its specific connections and the overall impacts of local economic activity. This will allow a richer exploration into economic activity and perspectives about how economic policy may impact communities. Research and literature has shown the immense advantages of strong local economies in contrast to regional/state economies and globalization; this will provide the necessary research bridge to connect with community development. The outcome of this research explains the impacts of economic, social and human capital on economic wealth and quality, specifically within local economies.

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## INTRODUCTION

Globalization is an ongoing systematic pressure that influences decisions of stakeholders within communities and local economies. This global economic phenomenon has been described as imposing a modern neo-liberal deregulation perspective on local economies through external expert knowledge and reduction of economic rules and laws that colonizes communities through de-localizing multiple local systems (Escobar, 2007). Globalization mirrors the long-standing discussion about classes, in this case, between economic classes of the population (Mignolo, 2007). Since strong local economies provide communities an opportunity for economic growth and a higher quality of life (Schumacher, 1974) globalization erodes the systematic fibers within communities when there is not a balance between these economic forces. Previous research explains the reduction of input costs (i.e. tax incentives) stimulates economic growth regionally in order to compete in a global economy and improve the community (Bartik, 1994); however, evidence of the recent recession of 2008 justifies the need for additional research explaining how to improve economic conditions (Wilson, 2012). The discipline of geography has provided additional explanation through the understanding of an economic geography of agglomerative benefits, location and economies of scale (Krugman, 1998). Current literature uses agglomerative benefits as a basis for industry focus, with location quotients and economic clusters illustrating concentrations of economic activity and competitive advantages provided by the community (Porter, 2000). By having an understanding of these types of dynamic interactions, we build on our understanding of local economies.

Additional explanation is needed in order to understand the true impact concentrations of industrial structures have on a local economy. Through deconstruction of economic cluster research with employment and industry (Guimarães et al, 2009; Martin and Sunley, 2003) additional explanation is needed to show how these concentrations most affect economic development through understanding economic wealth and quality of life. This will provide a new lens that includes the community with economic decisions. This leads to an understanding not only how concentrated industries are in communities, but understanding how the industries fit within a community system and the interaction with other community capitals within the system (Emory and Flora, 2006). Certain community capitals (social and human capital) represent community capacity, which can improve local economies, ultimately improving communities, and have shown promise in previous research to provide explanation on its impact on community development (Chaskin, 2001).

The local economy is dependent on community systems and community capitals within the system. Using a systems framework to research how multiple levels of economic structures of small, medium or in-between structures and large macro regions (micro, meso and macro), a research framework can be created to determine how community capital provides interaction within the system (Small and Supple, 2001). Through utilization of this framework, it provides an epistemological perspective by understanding that a post-positivist interpretative framework will view this inquiry as an understanding of an overall system, not only unique individual aspects or economic structures. A systemic epistemological perspective provides an approach for improving overall understanding of community economic issues.

A framework of existing research, literature and history of local economies is provided to measure the relationship of local economies to economic growth and quality of life. This will identify gaps in the literature between existing economic analysis, location economics, local economic levels and community development. Using a community development theoretical framework will explain how local economic levels relate to community capacity and effects on community development. Through explanation of local economic levels, the knowledge of the impact of economic development on communities is explained. With additional knowledge available to community stakeholders communities improve overall empowerment and decisions focused on improving local economies will now have the ability to include a reframing of information about how these community decisions affect economic growth and quality of life.

## General Research Question and Setting

The general research question provides a focus for the overall dissertation research:

*How does import substitution affect community development?*

Sub-questions include:

- How do local import substitution levels measure economic wealth?
- How do local import substitution levels measure quality of life?

Through this proposal a foundation will be developed that provides a framework that provides a research questions previous listed. This will include the following concepts:

- Community development
- Economic development
- Community capitals and capacity
- Local economies/regional economies/import substitution/location

These concepts will explain local economies and their impact on communities as well as economic development and its existing body of knowledge including research, theory, literature and the researcher's experience of 18 years of tacit knowledge with advocacy, public policy and economic development. Previous research efforts have not fully explained how economic development affects community development. Through the measurement of import substitution levels, this research can explore aspects of strong

local economies, reduction of economic leakages and increased economic linkages. Stronger local economies have shown to not only provide economic wealth but also improve quality of life in communities. The research question provides an explanatory process to this statement, which determines how stronger local economies affect economic growth as well as quality of life. This dissertation allows for: (1) measurement of local economic strength through import substitution/location quotients based on the local concentration compared to regional (state) industrial concentrations; (2) the capacity of the overall community as measured by social and human capital; and (3) the location of these variables in relation to other economies. Specifically, this dissertation will be used to further local economies with a further understanding of globalization, community development outcomes (economic wealth and quality of life) local economic development and additional research opportunities.

The methodology will use a quantitative methods approach using a post-positivist quantitative framework. This lays a foundation for an interpretative framework showing that the study moves beyond cause and effect, but rather that the causal relationship has an effect on the occurrence (Creswell, 2013). It seeks to foster a better understanding of how import substitution levels and community capitals provide a systematic approach to understanding community development, economic growth and quality of life. Validation will be provided by explanation of the statistical model through analysis of variables representing both dependent variables of economic wealth and quality of life. A validation framework to test the explanations derived from the quantitative analysis providing exceptional rigor which will be explained in the methodology portion of the dissertation based on previous research and their acceptable constraints for rigor. The

dissertation will use a quantitative model and regression methodology using location quotients. Then this model will use other community variables to triangulate the results ensuring the impact of these intervening and control variables. Using the literature review, existing methodologies will be examined as rival theories and placed within the case study to support the validation framework provided. Through the methods used and the overall methodology, the description of the epistemological and ontological perceptions will be explained within the study and reflection will be provided in the overall interest of this subject.



## Research Interest

The goal of the research is to empower communities through better information, improve economic wealth and quality-of-life equity and provide proof of measurement of the interaction of local economies within regional/global economies. It is important to seek research that provides a foundation for how local economies relate to community development even though the proposed research has many implications for urban planning, Tribal economic development, rural development, public policy and community development. The purpose is to provide information in order to use this research for advocacy and empowerment of communities.

The research interest has been developed through lifelong interactions with communities in both the personal and professional realms. Through the researcher's work as an advocate, nonprofit leader, and in government and public policy arenas, this helped shape the questions about the positive and negative roles of economies on communities.

The researcher was born and was raised in a small town and always felt that there was a connection between a sense of community and a strong local economy. Exploration of other areas after graduation from high school continued, with an ongoing interest to live and work in a city with a strong sense of community. Over time, home seemed to lose its "soul" continuously to external pressures emanating from other geographic areas such as the global chain restaurants and other industries in metropolitan areas that were in demand by the community, yet caused other local restaurants and small businesses to close. The community was considered beautiful by its residents with its preservation of character and culture, but the local economy's prosperity was declining

based on the referenced global pressures. This didn't seem right or fair to the residents of my community. Through experiences, requests were often made on what resources were available for small and local business opportunities. However, there seemed to be systemic structures that sacrificed localism, quality of life and jobs in favor of sprawl and tax incentives for economic growth.

These unique experiences have molded a position to see, and feel, the importance of strong communities, resilient local economies and their importance as well as failures with current economic development practices. These events have shaped the researcher's viewpoint as a person and an advocate, however many provisions have been placed within this research to try to prohibit influence on the research outcome and continue to provide a value free and un-biased axiological stance. This will implement preventive steps to avoid bias while ensuring the research is useful and practical for community development.

The research and studies have progressed original thoughts of linear economic explanations on how local economies improve communities, along with the desire to have systematic knowledge about how an economy is affected by other community capital inputs and how economic development serves as a capital within a community system. Economic wealth and quality of life is larger than financial outputs alone; rather many capitals improving within the community is the true measure of progress.

## LITERATURE REVIEW

### Introduction

Strong local economies have long been recognized to provide communities an opportunity for economic wealth, equality and a higher quality of life (Schumacher, 1974). Advantages to strong local economies are numerous and are empirically proven to benefit the community. There are increased multipliers to the overall economy by locally-focused economies utilizing their own goods and services (Jacobs, 1970) due to the increased forward economic linkages to new industries and backward economic linkages to existing industries (Krugman, 1998). Stronger local economic activity also reduces economic leakages which cause sub-optimization in the overall economy and do not allow communities to make decisions to operate at levels from within the regional economy (Civic Economics, 2002; Shuman 2007; Hoffer, 2007). Stronger local economies are based around the concept of import substitution which creates improved local economic scenarios (Shefer, 1973) that can improve the economy as a whole (Shuman and Hoffer, 2007). Import substitution is a process of substituting economic goods and services in other economies and providing them within a local economy (Shuman, 2007). With increased import substitution, local economies become more resilient to economic shocks caused by a singular export oriented globalized economy (Wilson, 2012; Sassen, 2001; Hopkins, 2011) as well as create an emphasis on culture and place for the community (Hamdi, 2013). This increased resilience will provide stronger sustainability through stronger economic, social and ecological dimensions (Phillips, et al, 2013). Ultimately if increased import substitution creates a stronger local

economy, then this results in a higher quality of life (Schumacher, 1974; Jacobs, 1970; Emery and Flora, 2006). The agglomerative effects of variables influencing a stronger local economy lead to improved economies of scale and reduction of costs to industries (Krugman, 1998; Roos, 2005; Porter, 2000). This improves the economy through many different facets of economic, social and quality of life improvements by the community. With local economies, there is a greater concentration of innovative activities leading to disruptions in the current regional economy, which leads to increased job growth (Schumacher, 1974). Wages increase because the concentration of economic activity has a greater impact when clustered together (Schumacher, 1974), while income inequality decreases (Matarrita-Cascante, 2010). Overall economic wealth increases due to an improved production function of labor and capital by achieving improved economies of scale and reduced input costs and with the community empowered to improve their own economy despite pressures of globalization (Engen and Skinner, 1996; Krugman, 1998). When communities are empowered to optimize their local economies, based on their balance of economic activities, then this improves the workforce and overall production at a greater rate than without community involvement (Kremer, 1993). Therefore, if there are strong local economies, then there will be stronger regional (state) economies.

### *Local Economies*

Strengthening these economies are accomplished by three activities of 1) promoting community assets and promotional institutions, 2) co-production of market and core economic forces and 3) efforts to support local economies and established local food systems (Burnell, 2014). Import substitution (IS) levels, measured by location

quotients (LQ) in local economies have provided a benchmark of measurement for the strength of local economies that reduces economic leakages to other economies while providing additional linkage opportunities for existing business as well as new businesses (Reis and Rua, 2009). However, is the LQ a good measure of local economic activity or just a convenience variable serving as a proxy stressing the importance of regional (state) economies over a focus of local economies (Reis and Rua, 2009)?

### *Location Quotients and Import Substitution*

Location quotients have been used historically for decades to analyze import substitution levels, economic leakages and industrial concentration, and provide analysis to determine local employment and industry levels (Shuman and Hoffer, 2007; Civic Economics, 2002; Persky et al, 1993). A location quotient is described as the specific industry concentration within a local economy compared to the total local industry. This is compared to the total specific industry concentration in relation to all industry activity in a study area which represents a measurement of import substitution and ultimately the strength of the local economy (Leigh and Blakely, 2013).

### **Figure 1**

#### **Location Quotient-Employment**

$$LQ = \left(\frac{e_i}{e}\right) / \left(\frac{E_i}{E}\right)$$

LQ represents to overall industrial concentration within a certain industry compared to the regional economy within a certain geographic area while  $e$  represents the employment within a local economy and  $i$  represents the specific industry.  $E$  represents the overall economy of the study area.

With the development of local economic research, location quotients are rooted in location theory, which is the foundation for local economic research, and provide a tool of analysis to determine local industrial concentration of economic activity (North, 1955). The understanding of local self-sufficiency and its implementation or impediments is critical to regional growth (North, 1955). Initially developed by Hildebrand and Mace (1950; North, 1955) location quotients are a result of previous theoretical analysis having measurement problems of a focus on money flows and changes in spending and the other challenge of using labor force and employment numbers in a descriptive fashion. This analysis as a stand-alone approach would only show an aggregate amount of financial activity as opposed to the specific concentrations of labor concentrations (Hildebrand and Mace, 1950). LQ provides explanation of industrial concentration through the measurement of import substitution levels of industries provided within the local economy as opposed to outside this economy. This shows a measurement of economic activity of local and non-local/export oriented activities (Hildebrand and Mace, 1950). Mattila and Thompson (1955) feel that this export oriented activity is the economic priority to stabilize the local region. North (1955) outlines the two economies as “subject” representing local economies and “benchmarks” representing national economic interest. Ultimately the foundation of LQ is rooted in providing a multiplier for employment, classification of industries as local or non-local, a procedure for obtaining

economic information, and an overview of “limitations and possibilities” (Hildebrand and Mace, 1950; p 241). The LQ result will provide guidance of four areas of local economic analysis 1) explaining differences in input conditions and costs, 2) availability of productive services, 3) demand of the two areas and impacts of the differences, and 4) its spatial effects (Hildebrand and Mace, 1950). Showing the challenges of regional economics in relation to a focus on metropolitan areas, the limited mobility of labor provides a focus of the region to remain local through the utilization of ratios that determine industry localization (Mattila and Thompson, 1955). Thus, the basis of the LQ is to analyze local markets, realizing that only the sum of local markets provides an accurate framework to truly understand regional economic equilibrium (Mattila and Thompson, 1955). This provides a framework of analysis to see the interactions between micro local economies and industries and macro level national industries or referenced (closed) economies (Mattila and Thompson, 1955) connecting to an understanding of economic systems (Small and Supple, 2001), as well as an understanding of economic structures in the community (Hustedde and Ganowicz, 2002).

Using location quotients as a stand-alone variable has challenges due to reliability of accuracy of predicting economic levels within geographical areas. LQ's show a comparison of local to a referenced group or national industrialization activity which provides an explanation if every region meets equilibrium, there would be no overall export strategy as each geographic area would only seek to provide its own goods and services (Pratt, 1968). In the late 1960's alternative measures have been used to determine the minimum levels of economic activity of employment and industrial concentration, known as the minimum requirement technique (Pratt, 1968; Ullman, 1968)

and provided as an alternative to the location quotient. This was due to the focus of LQ being framed as an indicator for seeking export oriented growth strategies. Issues arose from the analysis due to that an export only strategy leaves out the necessity to develop local economies and self-sufficiency (Pratt, 1968). An alternative analysis to seek maximum amounts of economic activity, known as the maximum requirement technique, can be used to provide guidance on what levels are needed to provide local imports (Pratt, 1968). Location quotients do provide disaggregation of export or import based industries and lead to a reliable estimator of export employment (Pratt, 1968). However, this rationale would not work with the alternative forms of analysis if focused solely on export oriented analysis (Pratt, 1968). From this point, the location quotient has remained as a benchmark for analysis, but even in the 1960's this indicator needed further examination (Ullman, 1968). Challenges remain with applying a blanket central tendency ratio as a standalone explanatory variable (Ullman, 1968).

#### *Location Quotients and Local Economic Demand*

Currently, location quotients are still in use for understanding local economies through economic analysis of agglomerative benefits and geographic economies of scale (Krugman, 1998; Porter, 2000). They have been used to determine economic leakages as well as import substitution levels by identification of levels of industrial activity within a local economy as compared to a macro economy, which could be a larger study area, region, state or nation, (Shuman and Hoffer, 2007; Civic Economics, 2002; Persky et al, 1993) and for cluster analysis of different clusters of economic activity (Leigh and Blakely, 2013; Martin and Sundley 2002). Location quotients (LQ) have previously been



used to measure import substitution levels, however recent literature has provided analysis that LQ's no longer provide a complete story of IS levels as a standalone variable. As representative of an endogenous random phenomenon (Duranton and Overman, 2005) industry is somewhat by chance and has not provided statistical analysis of guiding the decisions of the dashboard approach, as explained by Ellison and Glaeser (1994; Guimarães et al, 2009). Previous analysis has provided statistical guidance, but no rational or theory guidance on the approach (O'Donoghue and Gleave, 2004; Moineddin et al, 2003; Guimarães et al, 2009). Therefore, LQ improvements, based on the original dashboard tests on improving expected economic outcomes, adding additional explanatory variables should be used in clarifying local industry concentration and their impacts. Natural competitive advantages, location and the capacity of the community can provide an additional foundation for statistical analysis of local industrial levels, which challenges the use of regional economic indicators solely as measures of proxy for local economic levels.

#### *Information and Local Market Demand*

LQs are information that can be provided to community developers in order to empower communities. With a better understanding of local economic levels through using community variables to determine the types of relationships with local economies, economic wealth and quality of life, this information can guide better decisions on how to improve local economies. Information is a multi-faceted catalyst that follows both predominant schools of economic thought; this provides an endogenous solution to laissez-faire classical economies (Smith, 1776) as well as an exogenous solution for

Keynesian economics (Keynes 1937). This also provides an accelerant to economic output by providing favorable inputs to a knowledge production function (Audretsch and Feldman, 2004). Improved information provides knowledge for communities (Schumacher, 1974, Jacobs, 1970, Drucker, 1985, Mignolo, 2009, Porter, 1985). Therefore, improved information provides communities opportunity to strengthen their local economies and their quality of life. In order to address these concerns with community and help build capacity, Rothman (1996) recommends a focus of emphasis of locality development seeking to first improve the overall competency of the community, second improve data to the community, which leads to improve planning and policy, and third, the advocacy thrust of community action toward a goal of transformation and social justice (Rothman, 1996). This has evolved as a basis of community theory to new emphasis on including action /planning, development/action and planning development (Rothman, 1996). By using location quotients to see how local economic levels of activities are compared to larger economies and using other mediating community variables, such as capacity and location, we can provide an understanding of the impact on community development through economic wealth and quality of life.

### *Economic and Community Development Research*

Current economic development approaches provide a focus for industry and what benefits business (Bartik, 1994, Porter, 2000). This neo-colonialist framework provides an economic structure which perpetuates certain economies (Mignolo, 2009) and marginalizes other local economies (Wilson, 2012). With the focus on community development, a zero-point solution such as used in religious contexts where God is the

final explanation and rational for decisions, does not provide a framework to explore community development with a focus solely on “Job” creation as the economic dialogue of successful development (Grosfoguel, 2007). Therefore, exploration of variables and a framework that is beneficial for community development provides justification for further exploration of local economic research. The study of community capacity and its interaction with human and social capital provide a framework of exploring additional explanatory variables (Chaskin, 2001).

There needs to be further research that looks at how community capacity affects import substitution levels and how these levels in turn impact community development. This will be explained through the development of IS levels, economic wealth and quality of life as referenced in the research sub-questions. This gap in the literature has not allowed a connection between community development and local economies, although there are connections implied from existing research. The research will connect community structures with local economic structures and its impact on economic wealth and quality of life. Furthermore, exploration will continue by exploring which community assets have a relationship with local economic growth and provide empirical results that can further asset based community development (ABCD) strategies (Haines, 2009; Robinson and Green, 2010). ABCD strategies empower communities to identify their assets and how best to utilize these resources. Current research provides parallels with community development and the involvement of the community building based on inherent assets as well as local economies influencing the community by improving assets within its own economy; however, the bridge between community development and local economic ideals has been subjective. This analysis will provide an explanatory

framework about how economic structures affect local economies. Through this research, insights will be offered on import substitution levels, community capacity and its effects on local economies, thus providing explanation of the effect on community development.

The literature review is further elaborated throughout the following six sections explaining recent trends, economic development and its deconstruction, systems theory, quality of life, community development and local economies, and research questions. First, community development and its major components as well as recent trends are explored. Second, trends of current economic development and a deconstruction of its methods as well as recent economic analysis are discussed. This will also provide the framing of local economic research. Third, there is an analysis of a systems theory framework and how this applies to researching local economies. Fourth, an overview of quality-of-life research and current analysis of quality-of-life issues will be presented. The fifth area focuses on connecting community development research with local economic research. Finally, the sixth area includes the proposals research questions.

## Community Development

Community development is a process that seeks to build solidarity and agency to increase community capacity and empowerment (Bhattacharyya, 1995). Community development possesses an identity and theories that shape it, however this is an ongoing process that occurs without a theoretical framework. Agency is defined as an individual's choices and capabilities while solidarity focuses on a shared identity and a code for conduct (Bhattacharyya, 2004). Research analyzing communities provides a theoretical framework for understanding the processes to improve capacity for a common place and location of individuals as well as the commonality of interests and values (Shaffer, et al, 2006).

Theory is a major guide to understanding the complexity of community life and social and economic change (Ritzer 1996, Phillips and Pittman, 2008). Community development has a theoretical framework for explaining past behavior and predicting future outcomes (Shoemaker et al., 2003). By exploring what binds communities through its solidarity and what agency is used within communities, an understanding of how communities make decisions can be mapped through the pursuit of community development. Solidarity provides a strengthening of a deep shared identity while agency is the overall building of community capacity. By seeking to improve both solidarity and agency through a process of community development, Giddens (1984) posits that by building agency and community capacity, a community will be empowered and influence its overall condition.

Governance structures provide a guide to analyze competing community interests and the interests of others. Community development has a long-standing relationship with activities that are in the best interest of the community. There are constant power conflicts between closed societies that are governed with optimization of economic and societal classes (Marx and Engles, 1848) and open societies that provide freedoms, however without intention of solidarity in some instances (Popper, 1945). There are also struggles with the identity of community and external pressures of globalization (Escobar, 2007, Mignolo, 2003). These foundational governance structures show the ongoing balance between open and closed societies as well as local and global solutions.

Through building the solidarity and agency of the community, there is a development theme of three major issues to be addressed: structure, power and shared meaning (Hustedde and Ganowicz, 2002). First, structure and the social practices and organizations that influence it need to be addressed. If the current structures are not providing the necessary capacity building for the community, then new structures, through improved social organizations and practice are needed. The social theory applied to analyze structure is known as structural functionalism, functionalism, systems or equilibrium theory. This seeks a system-wide understanding of intentional outcomes and unintentional systematic outcomes. This consists of manifest, intentional and recognized social systems (Merton, 1968) and latent social systems, which are unintentional and unrecognized systems (Parsons and Shils, 1951). Second, power deals with the control of resources as well as other community capitals. This deals with not only the control of resources, but of all human relations (Foucault, 1985; Nash, 2000). This conflict is caused by different power dynamics and the control of resources; this theory provides a

framework to research the application of additional power over competing efforts. Understanding power structures and if they inhibit or progress agency and solidarity within community development processes is critical to improving communities. Third, shared meanings within communities are critical in order to understand symbolism and the relationship the communities have with their symbols. The theoretical framework of Blumer (1969) researches the interaction of humans and the construction of symbolic meanings and their importance (Mead, 1922). Whereas, one symbol, such as a public park may provide approval from some community members, other members may feel that this land could be better used for other opportunities. These three major concerns revolve around the foundational proposition of solidarity and agency and the process to increase both within communities (Hustedde and Ganowicz, 2002).

The understanding of community systems has been to provide a theoretical framework for understanding structural relationships with structural practices, organizations, groups, and systems within the community. A three-dimensional framework of 1) environment, 2) economy and 3) society provides an important foundation for understanding system theory (Hjorth and Bagheri, 2006). There are three orders of systems theory that use the systems theory framework in order to classify the orders that are analyzed (Small and Supple, 2001, Bronfenbrenner, 1979). The first order is the direct aggregate influences of the universe-aggregation of the primary influences that occur in an individual setting within microsystems. The second order analyzes relationships and linkages within a community-a set of interrelations between two or more settings within a meso-system. Finally, the third order of systems relates to the product of interactions of various elements-the outcome-effects unique to the macro

system. The evolution of the theoretical framework analyzes not just the orders, but the dynamics between as the three orders not as stagnant; rather, they are dynamic with continuous change (Wilkinson, 1970).

Traditional fragmented and linear science is unable to explain issues about community sustainability as they relate to complex self-organizing systems and therefore additional variables and explanatory analysis needs to be included with improving communities (Hjorth and Bagheri, 2006). Unintended consequences can result from critiquing systems theory failures and ignore key systemic influence such as insight into change, social dynamics or existing structures. By removing these variables, researchers may overlook the role of empowerment and other social dynamics play in improving community and measure economic wealth alone (Ritzer 1996, Turner 1998).

The approach and methods implied by community developers are important to provide a research framework for this topic. The literature provides three basic approaches to community development for improving local economies, understanding that there may other approaches and theories to consider. The three approaches are: 1) a needs based approach, 2) an asset based community development (ABCD) approach and 3) a community economic development approach. In order to determine how to create stronger local economies, the proper approach needs to be utilized in order to create a strategy for community improvement. First, needs based community development uses technical assistance to research issues, identify problems and analyze overall community needs (Haines, 2009; Robinson and Green, 2010). Second, community economic development expands beyond traditional economic analysis and deepens the scope to include broader community issues and public capital (Shaffer et al, 2004). The focus of



community economic development is on benefiting the community and economy by concentrating on growth promotion (economic), structural changes (development), and communalization (community) in order to improve the economy (Boothroyd and Davis, 1993). Finally, asset-based community development (ABCD) is a method used for the community to focus on strengths and assets of the community (Haines, 2009) and create community leadership to address community challenges (Block, 2009).

Asset-based community development (ABCD) is an appropriate approach for improving local economies, understanding there are overlapping principals with the community economic development approach for the entire community and all local economies within this community. This allows communities to seek additional freedoms to develop community based solutions and assets for a better quality of life (Popper, 1945). The overall purpose of ABCD is to identify and mobilize resources as well as create community capacity and develop leadership (Mathie and Cunningham, 2003). There are six principals that drive successful ABCD which include: 1) individual and collective solutions; 2) a focus on the process as well as the results; 3) ensure the disadvantaged community representatives participate; 4) maximum overall participation in the entire process; 5) prevention of community issues in the future; and 6) transformative solutions that provide influence in long term community benefits (Hautekeur, 2005). This compares to a needs based approach and issues that are specific to that approach. A needs based approach, providing a rationale for what the community needs (Haynes, 2009; Robinson and Green, 2010) leads to a fragmented summary of problems and solutions, resources are directed to service providers not community members, leadership is based on only identifying problems, deterioration of community

relationships, greater cycle of dependency, and policy will be based on survival not improvement (Kretzmann and McKnight, 1996). There is a role for needs based processes in order to improve local economies; however, a sole focus on the needs of the community does not allow innovative sustaining solutions with an application using historicism and a basis of tradition and expert knowledge (Popper, 1945). This employs administrative processes that use existing assets, without implementing new organizations, processes and techniques (Kretzmann and McKnight, 1996). Public participation in the empowerment of community solutions is necessary and instrumental to not only the acceptance of the solution, but also to the creation of optimal solutions (Day, 1997). Ultimately, using ABCD helps create solutions through the development of self-sufficiency within communities (Pstross et al, 2012). Community economic development is an appropriate methodology, and by focusing on ABDC, not only are solutions to strengthen the economy within a community more apparent, but there is also greater acceptance of the strategies implemented and innovative solutions developed (Haynes, 2009). Community economic development is not in conflict with ABCD, but parallels well by creating validation for the implementation of its practices as a type of community development (Shaffer, et al, 2006). Needs based approaches use history alone to determine solutions, ultimately leading to an acceptance of a dual economic situation (Popper, 1945). This duality recognizes research that shows that economies can have separate focuses, such as those with an export orientation (core) and local supportive economic activity (periphery), and can serve as necessary partners leading to long-term economic growth.

Application of an ABCD approach seeks to have three outcomes: 1) improve local economies, 2) increase community leadership and capacity and 3) allow the opportunity for improved results through inquiry of members of the community (Mathie and Cunningham, 2003). In order to support local economic development, five principals must be engaged in order to ensure an asset based approach is successful in defining a strategy to improve the community. This includes 1) establishment of a clear measurable outcome locally; 2) utilize all community capacity to develop innovative solutions; 3) seek advice (not cash in early stages); 4) identifying existing barriers and seek to remove them; and 5) focus on rewarding outcomes, not just participation (Bunt and Harris, 2010).

## Economic Development and Local Economies

### *Economic Development*

In order to understand local economies and the prevalent research, there needs to be an evolution from existing economic development theories and practice. There have been many years of research on theories of economic development (Petty and Pieters, 2015). These theories have been based around the researchers and their theoretical perspectives and recently three have been summarized as a standard practical approach toward economic development (Glaeser et al, 1995). They include approaches developed from research of Marshall, Arrow, Romer, Porter, and Jacobs. First, an approach enveloping the tenets of authors such as Marshall, Arrow and Romer (MAR) states that strong local economies slow economic growth because firms, not local concentrations develop innovation and without efficient allocation of resources that are found in smaller local firms, the economy grows at a sub-optimal rate (Marshall, 1890; Arrow, 1962; Romer, 1986; Petty and Pieters, 2015). Second, Porter's theory of economic growth moves in another direction that firms must constantly develop innovation and that through clustering of specialized industries economic growth can occur at an accelerated level (Porter, 2000; Petty and Pieters, 2015). Jacobs' (1970) approach states that diverse local economies lead to an accelerated rate of growth and larger productivity gains, thus leading to strong local economies and in turn, stronger regional economies (Petty and Pieters, 2015). In this research proposal, the Jacobs theoretical approach to economic development will be explored and its empirical results on community development will be reported.

## *Globalization*

In order to understand the effect that local economies have on communities, it is necessary to explore current research toward economies and economic wealth. Philosophical underpinnings of this research as noted by Popper (1945) are based on competition within societies and marginalization of individuals through the identification of classes of individuals (1945). This leads to an intentional inequity between individuals and social structure (1945). There are constant global economic forces that create separate interests for economic wealth and ultimately impose modern colonial economic solutions. This modernity provides colonization to communities who cannot provide their own economic solutions (Escobar, 2007). Individuals and economies have different interests based on their income, equality, race, culture, gender and gender identification, and they seek empowerment of their respective communities in the face of global pressures of conformity (Escobar, 2007).

Communities also have constant struggles with external regional economies built with global economic solutions. Currently a zero-point dialogue has moved from religion as the final justification to Jobs as the solution to all social problems. Throughout the development of an economy, the initial growth stage is resting on the self-sufficiency of a region and the final development stage has an export-based focus; it is critical that a strong local economy exist first; before export-based strategies are utilized (North, 1955). Regional economic growth does not provide an understanding into local development of cities in America (North, 1955), however development of strong local economies provides an even stronger regional economy. Defining the local region and its

relationship to import substitution is a “consolidated area within which the resources (human, natural and artificial) on which the population must depend-in the absence of outside aid-result in a pattern of factorial rewards which sets it off from adjacent areas (Van Sickle, 1954; p383).” Localization of economic activity, in contrast to globalization, is “an adjustment of economic focus from the global to the local” (Hopkins, 2011; p51) thus being responsive to local community needs. Therefore, a focus on the strength of the local economy needs to continue to be a force when utilizing an export-focused economic growth strategy despite other regional competitiveness (Porter, 2000), which begs the question if globalization and/or regional (state) economies can represent local economic levels (Porter, 2000).

### *Local and Global Economies*

The pressures on local economies by global economies leave communities with multiple competing economic pressures. Globalization is a “...time-space compression and the acceleration of worldwide social relations...” (Wilson, 2012: p 1224) which represents a consistency of colonization and modernity (Mignolo, 2009) and consistent interconnected pattern of economic activity (Rofe, 2009). There are different thoughts on whether globalization helps local economies by increased access to other markets (Wilson, 2012, Rofe, 2009); other evidence points to a reduction in community capital and the ability to improve economic conditions (Wilson, 2012; Emory and Flora, 2006). Since globalization and related colonization has blanketed the decision-making process of communities (Wilson, 2012) then decisions based on global objectives surely may not align and pose conflicts with local decisions and dis-empower communities (Jacobs,

1970). With global identities eroding at the resilience and diversity (Wilson, 2012; Hines, 2000) local decisions provide a different approach, albeit just as impactful as global decisions. Whereas, community solutions are best developed when the community is instrumental in the process (Kretzmann and McKnight, 1996) others believe that there should be an acceptance of economies and their production and that local economies are destined to be inferior to other classes of economic activity (Kretzmann and McKnight, 1996; Marx and Engels, 1848). This struggle has represented many forms of pressures between societal values and has created a conflict that provided power between classes, and now frames classes between economic opportunity for individuals. Currently, there are advantages to utilizing multipliers created from core economies and periphery economies; however, they must benefit through reciprocating economic ecosystems for the good of the community (Jacobs, 1970). With the industry and global economy having advantages for optimal economic drivers, communities may not experience higher levels of quality of life and economic opportunities. Dual economies are a part of our economic system, which include primary and secondary opportunities (Schumacher, 1974) as well as core and periphery (Krugman, 1998); however, globalization without balance and reciprocity between these economies will allow colonial impacts to influence community growth (Escobar, 2007) and ultimately place restriction on the advancement of the overall economy (Popper, 1945). Global economic growth is not necessary for local growth; rather, related industries will develop due to location advantages or other related regional growth and industrialization is a broad term used for export and local economic growth (North, 1955). Therefore, economic development must utilize communities in the

development of their local economies in order to be representative of current economic trends.

### *Waves of Economic Development*

In modern times, economic development has consisted of three approaches described as “waves” having 1) an export oriented focus, 2) a retention and growth focus and finally 3) an approach which focuses on community and local/small business (Osgood et al, 2012; Clark and Gaile, 1992). Wave one utilizes an approach to use incentives to expand an export oriented economy (Shaffer, et al, 2006; Osgood et al, 2012; Clark and Gaile, 1992). Wave two has a focus on retention and input reduction strategies seeking to lower overall costs to companies (Osgood et al, 2012; Einsinger, 1988; Shaffer, et al, 2006; Clark and Gaile, 1992). These two waves make up a vast majority of economic development strategies (Osgood et al, 2012). Additionally, they are focused on a regional basis with industry as a priority as opposed to a local basis with community as a priority. However, common economic development practice was to focus on regional economies as well as tax incentives to bait companies to their region. With the collapse of the US economy, due to the lack of diversity and resilience, leading to the recession of 2008 (Wilson, 2012), the wave two approach was proven to be ineffective for long term economic growth without recession. Jobs were lost and economic wealth declined, wages declined and economic growth was at its lowest levels since the great depression. These strategies alone constituted a systematic economic failure throughout the Nation. Wave three , emerging post-recession, has a focus on community, small business and local economies (Osgood et al, 2012; Clark and Gaile, 1992) and



collaboration and partnership building across and within communities (Shaffer, et al, 2006). Although this strategy is not new, it has re-emerged with the decline of previous failed economic strategies.

### *Evolution of Location and Local Economies*

Current research and literature discusses the importance of local economies and the development of community assets through local empowerment and decision making, economic wealth and improved quality of life (Jacobs, 1970, Schumacher 1974, Emory and Flora, 2006). The history of local economies has been tied to location, geography, agglomerative benefits and economies of scale. The roots of local economies were founded through location concentrations of economic activity, thus framing the current analysis for location quotients. In the early 1800's, Von Thunen provided insight into the analysis of land rents and how rents will escalate when there are higher concentrations of economic activity (Von Thunen, 1826). Through this analysis, there is a higher amount of economic activity within concentrated areas. These rent amounts would then provide a competitive advantage providing lower costs to economic activity and a higher demand in goods and services (Ricardo, 1810). These competitive advantages evolved into the analysis of location in general for economic activities and the types of economies formed based on distance and accessibility to a central economy (Weber, 1909). Distance and accessibility research led to an emerging framework for local economies and the effects of globalization through regional central economies. Whereas central economies were used as a concept to show the effects of local economic activity, the theory of economic development was rooted in central place theory that theory that the farther away from the

central economy, the weaker economies would be until in relation to new central economies (Christaller, 1933; Losch, 1940). Local economic research would then become a focus on how local economies would be affected through regional economic activities, which were predominantly export based as opposed to seeking import substitution to strengthen local economies (Isard, 1956). The framework provided through the research of regional and local economies then led to analysis on urban areas and their regional surrounding economies, thus leading to the explanation of two economies and the relationship between these economies (Henderson, 1974).

#### *Recent Local Economic Focus and Community Capitals/Assets*

More recently, over the past 25 years, location and economic geography have established an impactful research platform showing that the economy does not just grow through improved competitiveness by reducing input costs (i.e. tax incentives) but through agglomerative benefits, improved economies of scale (Ellison and Glaeser, 1999; Krugman, 1998) and the community capitals/assets within the community (Emory and Flora, 2006; Jacobs, 1970, Putnam, 2000). With research focused on how location affects economies and the benefits of strong local economies, geography has been the primary variable; however, classification of the types of geography became a new focus area of research of the type of economic clusters of the location (Porter, 1995; Marquez and Hewings, 2003; Fujita and Thisse, 2003). Expanding on this concept by researching competitive advantages of economies, Porter (1998, 2000) provides a framework of competitiveness that looks at the clusters of economic activity in order to provide greater competitiveness for industry; however, the framework does not address the impacts on

the community or questions if this in the best interest of the community. Clusters began to show where competitive advantages existed, but also where clusters need to improve their research framework. Without additional variables, cluster variables become darts randomly thrown at a dartboard and need additional guidance to be focused (Guimarães et al, 2009). Therefore, there is a need to focus on other assets, defined as community capitals, which contribute to economic wealth within local economies, and how these dynamics vary from regional (state) economies.

Community capital provides an overview of the systemic components of the community and the need for all capitals to be analyzed when researching community development (Emery and Flora, 2006), thus improving the community as a whole. This provides a framework to see how community capitals can help determine information on the local economy. Communities produce assets/capitals and economic development in local economies mobilize these assets (Phillips and Pittman, 2009). Taking many forms, the core community capitals consist of Social, Human, Physical, Economic/Financial and Environmental (Phillips and Pittman, 2009), however there is emphasis placed on physical and natural capitals (Hancock, 2001; Moser, 2009; Callaghan and Colton, 2008) as well as cultural capital (Callaghan and Colton, 2008; Emery and Flora, 2006). Increased flows of community capital provide greater community leadership and ultimately improves the competitiveness of the local economy (Emery and Flora, 2006).

Deficiencies exist with how capitals impact the economy within communities and if certain economic demand is achieved, through the reduction of economic leakages and higher levels of import substitution (Schumacher, 1974, Jacobs, 1970), then this affects

the overall capacity of the community, including its well-being. Furthermore, this community capacity can be analyzed from a community capital framework with a focus on human and social capital (Chaskin, 2001). Human capital can consist of the workers and humans within a local economy (Becker, 1964; Flora et al., 2004; Glaeser, 1998; Jacobs, 1970). This is broken into four components of human capital of 1) leadership (Block, 2004) 2) skills, knowledge, talent and productivity (Schumacher 1973; Kremer, 1993; Lucas, 1978; Glaeser, 1998), 3) education (Marrocu and Paqci, 2013) and 4) creativity using technology, talent and tolerance of cultures and differences (Florida, 2002). Social capital is the network of individuals and organizations defined by two types of social capital; bridging-inclusive and bonding –exclusive networks (Putnam, 2000). This refers to four overall components within these types of weak and strong ties (Granovetter, 1985), emancipative social capital (Talmage, 2014), quality of life (Grisham and Gurwitt, 2004, Schumacher, 1973) and education and overall well-being (Putnam, 2002). Through these networks the strength of the community can be combined with the human capability of the community. Communities that build agency and community capacity can influence and improve its overall affairs (Giddens, 1984).

## Quality of Life

Strong local economies can result in a higher quality of life for individuals in communities (Schumacher, 1974; Jacobs, 1970; Emery and Flora, 2006). Assets within a community contribute to this quality of life, which plays an important role in economic growth (Deller et al., 2001 McKnight and Block, 2011). Through focusing on quality of life research, explanations provide additional clarity for understanding community development (Sirgy et al., 2006). The surrounding neighborhoods can impact overall quality of life, including the economic components in the neighborhoods (Haight, 2014).

Quality of life is a result from communities that have balanced community capitals providing systematic support for community development. This ultimately has a relationship with the overall quality of life of the community and with the absence of these capitals, the overall quality of life declines (Emory and Flora, 2006). By analyzing variables that are based within a community, research has shown that these levels of community capacity locally have a relationship with the overall quality of life within a geographic unit (Diener and Suh, 1997) and is related to the growth of the entire economy (Temple and Johnson, 1998).

This research will provide an analysis of the relationship between local economies and economic wealth, but also the relationship of local economies on the overall quality of life (Onyx and Bullen, 2000; Temple and Johnson, 1998). Income is an important dependent variable measuring economic wealth as in is a critical piece included within production, as represented by the key components included within the production function (Benhabib and Spiegel, 1994, Levine and Renelt, 1992). However, income, and the lower levels of income as measured through poverty levels, is a good measure as a

majority of quality-of-life research will point to income having a strong causal variable providing significant relationship to overall quality of life (Deiner and Suh, 1997).

The concept of quality of life has been traced to the earliest foundations in the writings Greek research, such as in Plato's *The Republic*, where society is better served to reduce conflicts and seek harmony collectively; however, this creates classes of happiness and reduces overall community empowerment (Popper, 1945). Other early conceptions were offered by Bentham in the development of net pleasure and least amount of net pain for policy decisions (Bentham, 1789). This has stood the test of time and is paralleled with the development of the economic theory of utility (Mitchell 1918) where both perspectives look at the amount of satisfaction gained from activities. Pigou (1924) began to look at Gross Domestic Product (GDP) as overall economic well-being with economics as part of overall social well-being. The focus of non-market transactions is also prevalent during this era with a foundation of research established by Kuznets (1946).

This economic focus has provided explanation into many areas of recent social science research (Michalos, 1967; Nussbaum and Sen, 1993). This is setting a framework of quality-of-life research to be embedded within rational economic decisions maximizing utility and ultimately, the economy. Separating from economic analysis, research of a utopian life maximizing quality of life provided insight into rules of happiness; however, this line of inquiry did not discuss individuals in communities seeking their own happiness with their own rules (Richter, 1971). Contemporary measures of welfare indexes were developed on advanced research in the 1970s where

overall national output was used to measure overall economic well-being, income inequity and environmental measures (Nordhaus and Tobin, 1972). One of the first attempts to use this historical platform of economics and assess life satisfaction and quality of life was by Easterlin which researched long term happiness over a long-term period of time (Easterlin, 1974). Whereas productivity was thought to be reduced when there was increased individual satisfaction, evidence was provided that productivity actually increases when an individual has higher life satisfaction and quality of life (Veenhoven, 1989). However, other studies show that happiness may not be caused by improved economic conditions (Easterlin et al, 2010). Recently, the Social Progress Index has continued to confirm that economic wealth does not always lead to a higher quality of life (Kassab, 2015).

Quality of life is an important variable to monitor within the community context and utilizes objective and subjective dependent and independent variables. There are three major philosophical approaches to quality of life which includes an individual's location, satisfaction of preferences individuals choose and how an individual views and uses their experiences. (Brock, 1989). The first uses characteristics of normative ideals within systems of the individual's community. Community is based on the individual's geographic location or common ideas of solidarity. The second seeks to define a high quality of life by levels of individual satisfaction of preferences they choose. Each individual has certain levels of satisfaction and this can be measured on an individual basis or a collective community basis. The third approach uses actual experiences of individuals and how individuals perceive their experiences. These experiences are unique to individuals and are based on individual preferences and values.

Quality of life is reflective of the values that are present within communities (Phillips and Pittman, 2009). The type of values measured with quality of life research are intrinsic and instrumental values (Sirgy et al., 2006). Intrinsic values are represented as good values with favorable outcomes or in the end they represent good for the individual. Instrumental values are a means for obtaining things that are intrinsic. Life may be represented as an intrinsic value while good health may represent an instrumental value.

Measurement of quality of life can be through the usage of objective social indicators (Land, 1996) as well as subjective analysis of the individual and their life experiences (Deiner and Suh, 1997). Objective analyses have used variables that measure amounts from cultural or geographic units derived from income, education, welfare and ecology (Deiner and Suh, 1997). Income has shown high correlations with objective quality of life measurements providing an approximation of the quality of life within a particular geographic area (Deiner and Deiner, 1995).

Objective analysis provides representation of complex events and systems within society (Hardi and Pinter, 2006). Strengths of objective analysis are that bias and perceptions are not introduced and measurement error is reduced, society is reflected with a common value and measurement across various life domains (Deiner and Suh, 1997). However, weaknesses are present where certain negative counts may not be reported (i.e., rape), the need to limit choices about what variables to measure and how they are measured (i.e. household work is not part of GDP), selection on what variables to measure, what constitutes a good measure and possible lack of accuracy of measuring quality of life of an individual over society.



Subjective well-being analyzes the psychological aspects of an individual's quality of life. This consists of three components of 1) life satisfaction (Meyers and Deiner, 1995), 2) pleasant, and 3) unpleasant affects (Deiner et al, 1995). This provides a complement to objective research resulting in a greater understanding of quality of life. Strengths of subjective analysis provide explanation of experiences that are important to the individual, possible modification of results to further other studies and commonality between variables as opposed to objective variables (Deiner and Suh, 1997). Weaknesses of subjectivity are that responses may not be valid and reliable, responses may be based on personal relationships and not societal factors. Subjective responses also vary across geographic areas and meaning may be different despite similar responses (Deiner and Suh, 1997).

It is necessary to address both measurements in order to provide rigor to quality-of-life research. Objective and subjective measurements of quality of life provide balance and reliability within qualitative measurement (Yin, 2013). It is important to balance quality of life studies due to the differences in objective conditions and psychological well-being (Andrews and Withey, 1976; Campbell et al, 1976; Schneider 1976; Deiner and Suh, 1997). There is no superior method and neither method is exhaustive of full explanation of overall quality of life (Deiner and Suh, 1997).

Quality of life has an important role with economic wealth and its positive impacts on the community (Dissart and Deller, 2000). When there are higher levels of quality of life there is a relationship with economic wealth. There have been concerns that there is a tradeoff between quality of life and economic wealth (Marcouiller and Deller, 1996); however, there is research that suggests that market and non-market

activities shifts economic wealth and there still remains a need to understand manifest and latent outcomes of the effect quality of life has with economic development (Marcouiller, 1998). When there are stronger levels of local amenities (market and non-market) they result in higher levels of quality of life (Henry, et al, 1997). Balancing the needs of market and non-market forces is needed to achieve both economic wealth and a better quality of life.

Although there is a relationship with quality of life and economic growth, it is important to see how stronger local economies affect each of these dependent variables. Wagner and Deller (1998) show how community amenities, which represent a higher quality of life, have a positive significant impact on economic growth. At the same time, Marcouiller and Deller (1996) have shown increased amenities have resulted in lower incomes and economic growth. Counter-balancing these findings is literature showing that stronger local economies increase each of these variables (Schumacher, 1974; Jacobs, 1970; Emery and Flora, 2006). Therefore, this points to the gap in understanding how local economies have a relationship to each of the variables.

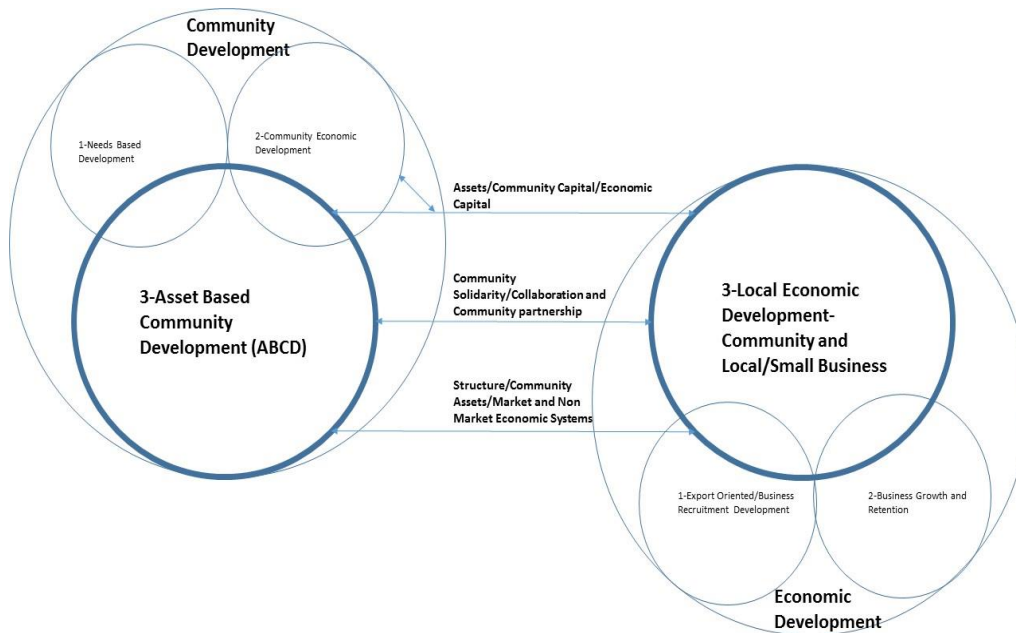
## Connecting Community Development and Local Economies

If communities are systematic and multiple capitals are affected (Emory and Flora, 2006) by improving community capacity (Chaskin, 2001), then understanding how local economic development and structures affect the community is truly interconnected with community development. By using community capacity as a guiding independent variable mediate independent import substitution levels, three issues of community development and three areas of local economies (Burnell and Phillips, 2014), a true understanding of increased capacity's impact on community development can be fostered. By researching the power, structure and shared meaning of community capacity (Husteede and Ganowikz, 2003) and how this impacts local economies, then understanding of the strength of local economic levels will provide clarity about their impact to economic growth and quality of life. Within this research is the understanding of issues in relation to structure, specifically economic structures in communities.

Local economic development is one of the three waves of the larger economic model. Additionally, Asset Based Community Development is one of the strategies used for community development. This research shows the direct connection between the two development approaches and the common links of 1) community assets, community capital and economic capital, 2) community solidarity, collaboration and partnerships and 3) structure, community assets, and market and non-market forces. There is also a connection to community economic development through recognition of CED specific outcomes in communities and this is also acknowledged with the connections presented.

## Model 1

### Connection between Community Development and Economic Development



There is current research and literature which explains the relationship of community development and ABCD in order for communities to develop their own opportunities by utilizing the community's existing assets as a basis for community solutions (Kretzmann and McKnight, 1996; Green and Goetting, 2010). With the benefits of stronger local economies improving community economic conditions and quality of life, there is strong justification that this should be a priority focus of community development (Phillips and Pittman, 2009; Schumacher, 1974; Jacobs, 1970; Blakely and Green, 2013). Measuring local economies through location quotients (LQ) provides an explanation of levels of import substitution relating to how to balance a reduction of economic leakages as well as seek greater economic linkages (forward and backwards) within the locality (Reis and Rua, 2009); however, using this regional metric has flaws in interpreting local economic levels.

## Research Questions

While research leads to a consensus that strong local economies improve economic wealth and quality of life, the connection with community development, community systems and causal outcomes of economic wealth and quality of life is neither exhaustively studied nor has consensus been reached. By addressing this research gap, more understanding of the relationship between local economic structures and community development can be fostered.

With an emphasis placed on import substitution (representing levels of local economic activity, positively affecting communities through economic wealth and quality of life), the focus of the research is to determine how local economies, as opposed to a global economy, affect community development through understanding economic wealth and quality of life. Since import substitution levels have been used as an appropriate proxy level measuring local economic development, existing literature leads this research toward an understanding that higher levels of import substitution will impact the community in a significant positive direction. Import substitution has a history of usage for gauging local economic levels and is explained within the literature review, therefore having a true understanding of this metric is critical to ensuring that a regional (state) proxy is representative of local economic levels.

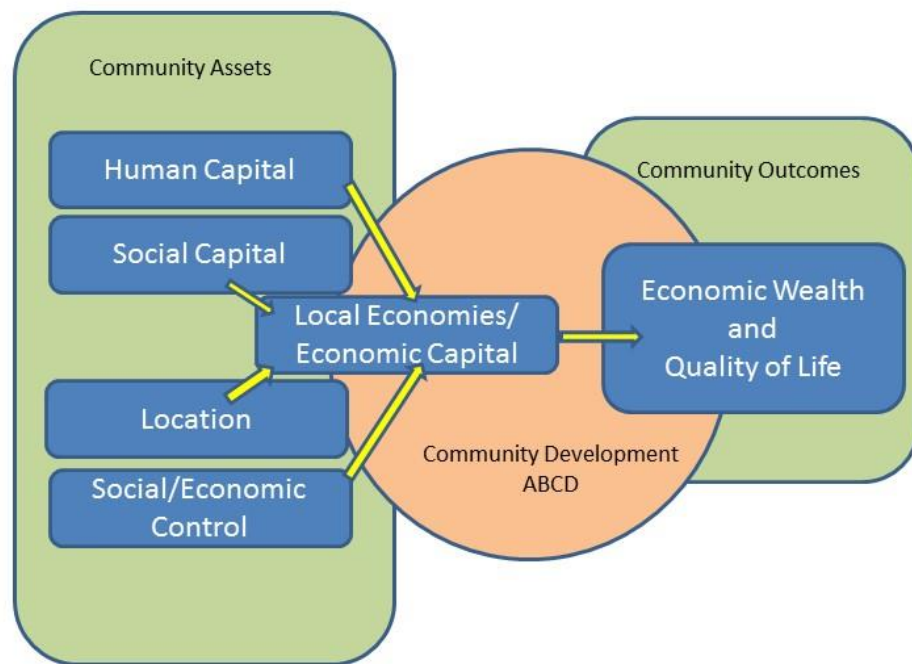
Model 2-Trevan Research Model-Community Development/Local Economic Development Integration was utilized for the research uses economic capitals, as measured by import substitution levels (LQ) and then introduces intervening variables to show if there is a causal relationship with economic wealth and quality of life.

Additionally, it uses location/geography and social and economic control variables to provide a framework for the community and local economy. Finally, the application of an ABCD strategy, which would show the relationship of the assets/capital, will be applied.

## Model 2

### Trevan Research Model-Community Development/Local Economic Development

#### Integration



## Central Question

How does import substitution affect community development?

## Sub question

SQ1 How do import substitution levels (location quotients-LQ) affect economic wealth?

SQ2 How do import substitution levels (location quotients-LQ) affect quality of life?

## Hypothesis

SQ1 How do import substitution levels affect local economic wealth?

H1 *Hypothesis 1*

Ho: Null Hypothesis If import substitution levels increase then they will not increase economic wealth as measured by household income.

H<sub>A</sub>: Hypothesis If import substitution levels increase then they will increase economic wealth as measured by household income.

H2 *Hypothesis 2*

Ho: Null Hypothesis If import substitution levels increase then they will not increase economic wealth as measured by a declining unemployment rate.

H<sub>A</sub>: Hypothesis If import substitution levels increase then they will not increase economic wealth as measured by a declining unemployment rate.

### H3 *Hypothesis 3*

Ho: Null Hypothesis: If import substitution levels increase then they will not increase economic wealth as measured by declining poverty rate.

H<sub>A</sub>: Hypothesis: If import substitution levels increase then they will increase economic wealth as measured by a declining poverty rate.

- SQ2 How do import substitution levels affect local quality of life?

### H4 *Hypothesis 4*

Ho: Null Hypothesis If import substitution levels increase then they will not increase quality of life as measured by a decrease in individuals who do not graduate from high school.



H<sub>A</sub>: Hypothesis If import substitution levels increase then they will increase quality of life as measured by a decrease in individuals who do not graduate from high school.

H5 *Hypothesis 5*

H<sub>0</sub>: Null Hypothesis If import substitution levels increase then they will not increase quality of life as measured by reduction of the divorce rate.

H<sub>A</sub>: Hypothesis If import substitution levels increase then they will increase quality of life as measured by reduction of the divorce rate.

H6 *Hypothesis 6*

H<sub>0</sub>: Null Hypothesis If import substitution levels increase then they will not increase quality of life as measured by an increase in the amount of time to commute to work.

H<sub>A</sub>: Hypothesis If import substitution levels increase then they will increase quality of life as measured by a decrease in the amount of time to commute to work.

With the exploration of these hypotheses, this study is intended to bridge local economic development, community capitals and geography with community development. Since economic structures and the systemic relationships with global and local economies are analyzed, this will address one community development issue of structure. If positive significant relationships emerge in this research, local economic development could be a tool to assist with solving many community development challenges. Policy may shift to appropriate dollars to communities as opposed to tax incentives and sprawling patterns of development away from local economies in favor of community solutions that are popular and create higher economic multipliers. Local economies may be integrated into cultural formation through local decision-making frameworks, representing their community's culture, as well as other capitals using community capacities (human and social capital) as a baseline capital study. This improved understanding on how import substitution is affected by community capacity would then lead to how community improvement can be paired with economic development, which at many times seems at odds with other neo liberal global approaches.

## METHODOLOGY

### Introduction

The proposed study design is quantitative in nature which uses data to empirically explain import substitution levels and their effect on economic growth and quality of life. This post-positivist design will apply an approach of a social scientific theoretical lens “...recognizing that all cause and effect is a probability that may or may not occur (Creswell, 2013; p 24).” This lens will test the specified hypotheses about how import substitution levels affect communities. The rationale behind the use of this methodology is that it has been used to explain objective economic wealth and quality of life with other inputs, industry concentrations and community capitals and would be an appropriate methodology to analyze local economic levels and their relationship with economic wealth and quality of life.

## Research Location

This research will take place within North Carolina and South Carolina. This is based on a preference to conduct research within the states of North and South Carolina especially with the current community struggles with the Confederate Flag in South Carolina as well as the Anti LGBTQ law in North Carolina; these struggles are germane to the strength of local economies and community capacity. The Carolinas are chosen because they provide a laboratory that connects not only with the foundation of industry within the United States history, but also representative of different industries (i.e. manufacturing and agriculture), climates (cold and warm), land features (i.e. mountains, ocean and lake shorelines, rivers) and metropolitan versus rural areas. The research will analyze data (spatially and tabular) zip code tabulation areas (zip codes) within these states, as representative of individual local economies. This research is not intended to be biased towards these states as the most appropriate to measure local economic levels, but as a starting point to measure local economies and their relationship with economic growth and quality of life. Ultimately, this research will need to be replicated in other locations in order to determine the reliability of the analysis as well as adjust to other government, cultural and economic structures.

## Study Methods and Data

The analysis will use data collected through secondary data sources and use appropriate rigor for community and economic research. Comparable studies using existing research will provide a basis and explanation for employing methods with community capacity to improve local economies. This research will allow a baseline to be created through an objective quantitative analysis. Data will be analyzed with acceptable analysis for methodology using SPSS 24, ArcGIS 10.3 for spatial modeling and GeoDa addressing spatial auto correlation. SPSS 24 will be used to develop frequencies, correlation and regression models, ArcGIS 10.3 will be used for spatial modeling and GeoDa will be used to test and treat spatial autocorrelation.

Dependent variables represented indicators of economic wealth and quality of life since they serve as benchmarks for the overall conditions of the community (Phillips, 2008). Strong local economies can result in a higher quality of life for individuals in communities (Schumacher, 1974; Jacobs, 1970; Emery and Flora, 2006). The aggregate consolidation of information provides indices to represent overall conditions of the community. These variables need to be representative of the community at a local level in order to represent the conditions of the community (Leitmann, 2007).

Development of dependent variables for this dissertation were based on the overall benchmarks of economic wealth and quality of life. The experience of the researcher provides a compass for selecting variables as well as the unit of measurement for the sample (Phillips, 2008), which will be based on this foundation for variable selection. Since the dissertation is focused on measuring local economies, the indices

must have available data at that specific geographic level. Specifically, employment, income and poverty are prioritized as acceptable measures of economic wealth. Quality of life has a variety of indices which began emerging in the 1970's (Nordhaus and Tobin, 1972). Current quality of life indices result from income, education, welfare and ecology (Deiner and Suh, 1997). Therefore, variables were selected that would provide representation of overall quality of life measurements that had correlated with previous quality of life study outcomes. (Hagerty et al, 2001)

Whereas, there are no priority areas measuring economic wealth and quality of life, variables that had correlation with other economic wealth and quality of life studies were used if they were available on a Zip Code Tabulation Area (ZCTA) level. The variables of income, poverty and unemployment were selected for economic wealth (Phillips, 2008) and high school dropout, divorce rates and commuting times were utilized for quality of life (Hagerty et al, 2001); all representative of appropriate variables prioritized in other community development research.

The measures are derived from secondary data sets utilized in research that have focused on economic capital (Petty and Pieters, 2015; Delgado et al, 2014; Wagner and Deller, 1998; Laughlin, 2012; Leigh and Blakely; 2013), human capital (Haight, 2014; Deller et al, 2001, Wagner and Deller, 1998; Chaskin, 2001; Browning, 2012; Cohen and Klepper; 1991; Griliches, 1979; Audretsch and Feldman, 1996; Nawakitphaitoon, 2012; Benhabib and Spiegel, 1994; Becker, 1964; Edwards, 2014), social capital (Haight, 2014; Laughlin, 2012; Chaskin, 2001; Putnam 1995; Granovetter, 1983; Browning, 2012; Laughlin, 2012; Fukuyama, 1995; Edwards, 2014), geography/location (Levine and

Renelt, 1994; Deller et al, 2001; Fujita and Krugman, 2004; Palamuleni, 2014; Laughlin, 2012; Edwards, 2014) as well as social and economic control variables (Masters and McMillian, 2001; Deller et al, 2001; Wagner and Deller, 1998; Levine and Renault, 1992; Browning, 2012; Heller and Stephenson, 2015; Gören, 2014; Ross and Van Willigan, 1997; Edwards, 2014). Based on the referenced research, we will use economic, social and human capital to explore its effects on economic wealth and quality of life. The research will use geography/location and social and economic control variables for a control and to test for spatial auto correlation and provide the appropriate treatment if necessary.

#### *Economic Capital (Independent Variable)*

##### Industry Sector Groups/Location Quotients (LQ)

To represent economic capital, the study will use industry classifications based on the two-digit North American Industry Classification System (NAICS) codes (Petty and Pieters, 2015; Delgado et al, 2014). Employment variables from two digit NAICS codes will be used for employment LQ's and industrial data will be grouped in order to create appropriate LQ's representing these industries. These industries will be grouped into nine variables as referenced in Petty and Pieters (2015). There will be two tests measuring LQ's. The first will use LQ's based on employment and the second will measure the LQ of the industries. The sector groups are listed below:

**Table 1**

**NAICS Industry Sector Groups**

<u>*Industry</u>	<u>NAICS Code (2 digit)</u>
1. Primary Goods	11,21
2. Real Estate	23,53
3. Manufacturing	31,32,33
4. Wholesale and Retail Trade	42,44,45
5. Utilities and Waste Management	22,56
6. Professional Service Industries	51,52,54,55
7. Social Services	48,49,61,62,92
8. Leisure Industries	71,72
9. Other Services	81

\*Table: Sector Groups (Petty and Pieters, 2015) These nine variable groups will be transformed into location quotients for each variable representing the zip code for the local industry and their state for the sample.

*Community Capacity-Human Capital (Independent Variable)*

Percent of individuals who are college graduates

This variable will determine higher human capital levels based on the level of education achieved (Haight, 2014)

Average Age

This variable will determine increased life education through years of life and represent a life education of experiences (Haltiwanger, 1999)



*Community Capacity-Social Capital (Independent Variable)*

Marriage

Marriage leads to stronger levels of social bonding capital (Haight, 2014)

Non-Profits

The quantity of social institutions leads to stronger levels of bridging capital  
(Laughlin, 2012)

*Location/Geography (Independent Variable)*

State

Identifies different state influences as explained by dummy variables (Levine and  
Renelt, 1994)

Metropolitan Statistical Area (MSA)

Identifies different MSA influences as explained by dummy variables (Levine and  
Renelt, 1994)

*Social/Economic Control Variables (Independent Variable)*

Population Density

Effects on the concentration of population in a given area (Masters and  
McMillian, 2001)

### Percent Home Ownership

Seeks effects on asset accumulation through overall home ownership rates (Heller and Stephenson, 2015)

### Percent White

Identifies racial diversity (Gören, 2014)

## *Economic Wealth (Dependent Variable)*

### Medium Household Income

Identifies household economic wealth by the measurement of family economic growth within a local economy (Laughlin, 2012)

### Unemployment Rate

Identifies local economy productivity and the amount of the population who are not being productive and adding to economic wealth (Palamuleni, 2014)

### Poverty Rate

Identifies individuals who are experiencing economic suffering by extreme low levels of income (Rodrik, 2014)

*Quality of Life (Dependent Variable)*

High School Graduation Rates

Identifies those who did not graduate from high school (Olshansky et al, 2012; Chalita et al, 2012)

Divorce Rate

Identifies quality of relationships (Kessler et al, 2014)

Median Travel to Work

Extra radius of time utilized in economic decisions as well as connectivity of the community capitals in proximity to an individual's home (Haight, 2014, Besser et al, 2008)

## Methodology Justification

Based on recent analysis on economic, social and human capital, as well as geography and socio economic control variables this research analysis is structured under a quantitative methods approach to analyze economic growth and quality of life. The analysis is grounded on the premise of the methodological basis of a production function:

### **Figure 2**

#### **Production Function**

$$Q=K*L$$

Economic output is determined by the amount of labor and capital applied to the economy. Where the output of economic demand ( $Q$ ) is influenced by geography and its effects on labor ( $L$ ) and capital ( $K$ ) inputs, and has expanded into other production areas, such as a knowledge production function (Audretsch and Feldman, 2004). There is no consensus on the best approach for researching economic wealth and its relationship with economic variables and location (Mason, 2015, Levine and Renelt, 1992, Krugman, 1998). Considering that community capitals are inputs for economic and quality-of-life outputs, regression analysis, which using multiple levels explaining each grouping of variables, is an appropriate analysis for using location quotients as estimating levels (for IS proxy levels), but also for explaining relationships between variable inputs and outputs of economic growth and quality of life (Benhabib and Spiegel, 1994, Deiner and Suh, 1997). Moving beyond the neo classical production function to include other capitals and inputs is an appropriate analysis of the evolution of estimating economic growth

(Benhabib and Spiegel, 1994). Variables of distance and geography not only identify proximity between economic actors, but they also provide explanation of the location through the development of different influential capital inputs (Audretsch and Feldman, 1996). Expanded from the basis of the production function, increased knowledge of economic conditions can influence economic outcomes (Cohen and Klepper, 1991; Griliches, 1979; Audretsch and Feldman, 1996).

The research will consist of a quantitative method of simple regression which will be validated by usage of two variables representing LQ's of economic capital (industry and employment) and three dependent variables will be used for economic wealth and quality of life for triangulation and explanation of an objective analysis (Yin, 2013). All methodology has recent usage quantitatively and has components with economic, social and human capital, location and social economic indicators (Browning, 2012; Edwards, 2014; Haight, 2014; Nawakitphaitoon, 2012; Palamuleni, 2014; Talmage, 2013; Ribant, 2012; Bekele, 2007). Despite the quantitative approach of this research, it is important to balance objective analysis with subjective analysis with community development research in order to validate findings (Yin, 2013).

Regression have been chosen as an appropriate methodology to determine how variables can influence economic policy and institutional indicators (Levine and Renault, 1992). There are other methodologies; however, regression has been used as the base methodology to determine how input independent variables affect output dependent variables. Since the research proposal fills gaps in research and the literature, using a baseline regression analysis will provide explanation and validation to apply additional

research methodologies; quantitatively. This has been based on the foundational production function and has expanded from its original formation.

Based in cross country growth regressions where data is analyzed across a geographic area, geographical areas (ZCTA's) were chosen and inputs were used to measure how this effects overall economic wealth (Levine and Renault, 1992; Benhabib and Spiegel, 1994). The research by Levine and Renault and Benhabib and Spiegel (1992; 1994) uses regression as the baseline, despite Levine and Renault (1992) expanding to an extreme bounds analysis and Benhabib and Spiegel (1994) incorporates a time series and elasticity by taking the log differences of two separate time periods. Despite these different techniques used in addition to the regression, this still provides justification for this analysis. Providing a foundation for a current expansion of this methodology Petty and Pieters (2015) also utilize a multilevel regression analysis but has a focus on transforming variables, such as the total amount of a specific industry as measured by the two-digit North American Industry Classification System (NAICS), into location quotients. Since the measure of a local economy is based on firms, we will use in the regression analysis the number of firms within the local economy and region as well as the number of employees within a specific industry. This formula will represent  $t$ =the type of industry,  $i$ =the specific industry in a local economy and  $I$ =all industries in the study region.

### Figure 3

#### Location Quotient-Industry

$$LQ = \frac{i_i}{i} / \left( \frac{I_i}{I} \right)$$

This regression analysis also uses fixed effects and changes variables into elastic time series variables to explore the changes of one variable and its effects on another variable. This provides a foundation of appropriate regression methodology based on the expansion from the production function using quality of life and local economic development research for this analysis. Expanding into current research, human capital and economic growth analysis (Palamuleni, 2014) expanded to develop an educational production function and utilize a regression. This analysis used variables that provide explanation to social control variables as well as economic indicators. This baseline regression methodology was expanded to using a fixed effect model. Haight also uses regression with his quality of life methodology (Haight, 2014) as his baseline methodology and then utilizes a fixed effect model as well as a log transformation and elasticity function showing changes over time.

This is a quantitative focused methodology and by using a regression analysis and it embraces the core methodology used in other current relevant research, however recognizing there are many opportunities for qualitative analysis to incorporate a complementary and necessary form of mixed methods and validation through triangulation, based on the rigor process to be used with this research. Additionally, there

are also qualitative research opportunities where subjective information is needed for validation (Yin, 2013), especially within quality of life research, as well as participatory research opportunities where individuals can seek increased depth and rigor explaining relationships within local economies (Creswell, 2013). This current research is also utilizing fixed effects as well as analysis measured by changes in time, similar to elasticity research, however, this is based on a point in time and is independent of effects that are independent of time (Hodges and Raterman, 2015) and all of the current relevant research within this research proposal utilizes regression as the core.



## Advantages and Disadvantages

Advantages of using a regression framework are that this methodology provides the baseline analysis has been used in economic wealth and quality of life research and it can justify additional quantitative research. This research will involve a point in time analysis and recognize the current status of local economic activity which provides an overview of the existing local economic environment. (Woo and Kumar, 2015). Whereas this research proposal discusses how levels of local economic activity affect economic wealth and quality of life and provides a causal explanation what influences local economic outcomes; which will determine how economic wealth or quality of life will change. This analysis provides the foundation to determine if there is a causal relationship and how the relationship will change over time. The regression framework is commonly used for determining relationships on how production function outcomes affect economic growth (Woo and Kumar, 2015). Once it is established that an existing condition causes a significant relationship between local economic levels and economic wealth and quality of life, then exploration of how changes over time provide changes between the aforementioned dependent variables. This was utilized in current relevant research as well as foundational research and literature leading to current justification for using regression for economic wealth and quality of life (Levine and Renault, 1992; Benhabib and Spiegel, 1994; Audretsch and Feldman, 2004; Olawale and Garwe, 2010; Nawakitphaitoon, 2012; Laughlin, 2012; Talmage, 2014; Petty and Pieters, 2014; Palamuleni, 2014; Haight, 2014).

Disadvantages of using simple linear regression due to the spatial context of the variables, spatial autocorrelation may introduce dependence of the regression model (O'Sullivan and Unwin, 2003; Anselin, 1996; Ribant, 2011; Getis, 2007; Andreeva and Kianto, 2011) however this can be treated through the application of spatial structures and weights as developed through GeoDa (Diao, 2015). Multicollinearity may also provide a disadvantage as the data may be correlated and provide incorrect strengths and lead to large variances (Mansfield and Helms, 1982). This can be measured by the value of the variance inflation factor (VIF) and if its value exceeds 10 (Mansfield and Helms, 1982; Hair et al, 2012). This can be treated by creating new regression variables through a principal component analysis with varimax rotation variables which will reduce the variable inflation factors (Haight, 2014, Olawale and Garwe, 2010; Abdi, 2003; Miller, 1976; Deller et al, 2001; Wheeler, 1991; Dissert and Deller, 2000), or by applying a bootstrap/weighted least squares to the variables (Benhabib and Spiegel, 1994; Palamuleni, 2014; Levine and Renault, 1992).

## Economic Wealth and Quality of Life

### **Figure 4**

#### **Economic Wealth Regression**

$$ECONOMICWEALTH = \beta_1 + \beta_2 ECONOMICCAPITAL / IMPORTSUBSTITUTION(IS) \\ + \beta_3 SOCIALANDHUMANCAPITAL + \beta_4 GEOGRAPHY + \beta_5 SOCIALECONOMICINDICATORS + \varepsilon$$

### **Figure 5**

#### **Quality of Life Regression**

$$QUALITYOFLIFE(QOL) = \beta_1 + \beta_2 ECONOMICCAPITAL / IMPORTSUBSTITUTION(IS) \\ + \beta_3 SOCIALANDHUMANCAPITAL + \beta_4 GEOGRAPHY + \beta_5 SOCIALECONOMICINDICATORS + \varepsilon$$

In order to ensure the strength of a local economy, location quotients will be developed based off economic capitals measured, which include the amount of industries as well as employees in these industries comparing local economies to regional (state) economic levels. First, a proxy level will be created using location quotients (LQ) for import substitution level for each respective industry and employment levels within a local economy, as defined by zip codes. Location quotients have been used to develop levels and economic leakages that may occur if these levels are not reached (Shuman, 2007) however recent literature has stated that more information is needed in order to use LQ's as a proxy for import substitution levels, as a stand-alone variable. LQ's are based off of industry concentration, however in order to address community development issues, the introduction of community capacity, geography/location and socioeconomic control variables will help guide a formula that will show relationships with these

variables, economic wealth and quality of life (Nawakitphaitoon, 2012; Palamuleni, 2014).

Second, the results from the proxy LQ levels will be used to determine import substitution levels based on their percentage scores. Using two digit NAICS codes grouped into sectors and then transforming into location quotients is an acceptable way to measure industrial concentration (Petty and Pieters, 2015

Economic capitals (industry LQ), social capital (nonprofits organizations and marriage), human capital (education and age), location variables (travel time, state, MSA) and socioeconomic demographics (population density, unemployment rate, home ownership, household income, race) will be used to determine the relationship with the dependent variables. The dependent variable of the regression will be focused on economic growth variables (median household income and poverty) as well as quality of life variables (high school graduation, divorce rate and median travel time to work). These dependent variables will establish means and a mean difference (in terms of percentage) will create a continuous variable.

Treatments may be provided for dependent and independent variable (qualitatively and quantitatively) as well as other treatment methods for skewness and kurtosis (squaring variables), robust standard errors (bootstrapping), multi collinearity (principal component analysis) and spatial auto correlation (spatial weights) using GeoDa (Browning, 2012; Edwards, 2014; Haight, 2014; Nawakitphaitoon, 2012; Palamuleni, 2014; Talmage, 2013; Ribant, 2012; Bekele, 2007). This will provide the regression validation under the assumption of independence.

## Variable Justification

In order to justify the variables used within the methodology applied to this research, it is critical to provide information why these variables were chosen as well as how they fit into the methodology.

**Table 2**

### **Regression Justification**

<u>Type of Variable</u>	<u>Applied Analysis</u>	<u>Citation</u>
○ Quality of Life	Multi Level Regression Modeling	Haight, 2014
○ Human Capital	Multi Level Regression Modeling	Palamuleni, 2014
○ Economic Capital	Multi Level Regression Modeling	Petty and Pieters, 2015
○ Social Capital	Multi Level Regression Modeling	Talmage, 2014
○ Social Capital	Multi Level Regression Modeling	Laughlin, 2012
○ Human Capital	Multi Level Regression Modeling	Nawakitphaitoon, 2012
○ Economic Capital	Principal Component Analysis	Olawale and Garwe, 2010
○ Location	Knowledge Production Function	Audretsch and Feldman 2004
○ Human Capital	Cross Country Growth Regressions	Benhabib and Spiegel, 1994
○ Economic Capital	Cross Country Growth Regressions	Levine and Renault, 1992

**Table 3**

**Regression Process**

- Data Collection/Descriptive
  - (Browning, 2012; Edwards, 2014; Haight, 2014; Nawakitphaitoon, 2012; Palamuleni, 2014; Talmage, 2013; Ribant, 2012; Bekele, 2007; Dissert and Deller, 2000; Laughlin, 2012)
- Analyze for Normality/Variable Treatment
  - (if necessary-i.e. Square Root Variables/Square Variables, Remove Variables, Jondeau and Rockinger, 2002; Browning, 2012, Log, Palamuleni, 2014; Benhabib and Spiegel, 1994; Haight, 2014, Centering LQ's, Jerrett et al, 1998)
- Correlation
  - (Browning, 2012; Edwards, 2014; Haight, 2014; Nawakitphaitoon, 2012; Palamuleni, 2014; Talmage, 2013; Ribant, 2012; Bekele, 2007; Dissert and Deller, 2000; Laughlin, 2012)
- Regression
  - (Browning, 2012; Edwards, 2014; Haight, 2014; Nawakitphaitoon, 2012; Palamuleni, 2014; Talmage, 2013; Ribant, 2012; Bekele, 2007; Dissert and Deller, 2000; Laughlin, 2012)
- Regression/Treatment
  - Multi Collinearity-(VIF over 10, high standard errors, Palamuleni, 2014; Mansfield and Helms, 1982; Levine and Renault, 1992; Menard 1995; Hair et al, 1995; Wheeler, 1991; Browning, 2012; Dissert and Deller, 2000)
    - Treatment
      - Principal Component Analysis with Varimax Rotation variables (Haight, 2014; Olawale and Garwe, 2010; Abdi, 2003; Miller, 1976; Deller et al, 2001, p356; Wheeler, 1991; Dissert and Deller, 2000)
      - Bootstrap/Weighted Least Squares (Benhabib and Spiegel, 1994; Palamuleni, 2014; Levine and Renault, 1992)

- Spatial Autocorrelation Global-Moran's  $I = 0$  (O'Sullivan and Unwin, 2003; Anselin 1996) Local- LISA-Lagrange Multiplier-LM  $p > .05$  (Getis, 2007; Anselin, 1988; Andreeva and Kianto, 2011)
  - Account for dependence (Diao, 2015; O'Sullivan and Unwin, 2003; Anselin 1996; Ribant, 2011; Getis, 2007; Andreeva and Kianto, 2011)
    - Provide New Spatial Lag Variable (Diao, 2015)
    - Provide New Spatial Lag Error Term (Diao, 2015)
    - Dependence is insignificant or untreatable (Anselin 1996)

## Economic Wealth and Quality of Life

### **Figure 6**

#### **Economic Wealth Regression**

$$\begin{aligned} \text{ECONOMICWEALTH} &= \beta_1 + \beta_2 \text{ECONOMICCAPITAL} / \text{IMPORTSUBSTITUTION}(\text{IS}) \\ &+ \beta_3 \text{SOCIALANDHUMANCAPITAL} + \beta_4 \text{GEOGRAPHY} + \beta_5 \text{SOCIALECONOMICINDICATORS} + \varepsilon \end{aligned}$$

### **Figure 7**

#### **Quality of Life Regression**

$$\begin{aligned} \text{QUALITYOFLIFE}(\text{QOL}) &= \beta_1 + \beta_2 \text{ECONOMICCAPITAL} / \text{IMPORTSUBSTITUTION}(\text{IS}) \\ &+ \beta_3 \text{SOCIALANDHUMANCAPITAL} + \beta_4 \text{GEOGRAPHY} + \beta_5 \text{SOCIALECONOMICINDICATORS} + \varepsilon \end{aligned}$$



Table 4

Dependent and Independent Variable Explanation

Summary	Description	Class	Variable	Rational	Method	Citation	Source
Economic Capital (9 Sector Groups compiling 2 digit NAICS codes)	Economic Capital	Independent Objective	Number of Certain Type of Industry per zip code	Determine Import Substitution Level of Industry and Employment-Inter industrial linkages (Petty and Pieters, 2015; Delgado et al, 2014)	Use to determine IQ	Wagner and Deller, 1998; Laughlin, 2012; Leigh and Blakey, 2013	US Census Bureau (2013)
Community Capacity	Human Capital	Independent Objective	% Education Level College Graduates	Determine higher human capital levels (Haight, 2014)	Percentage of mean of college graduate percentage	Deller et al, 2001; Wagner and Deller, 1998; Chaskin, 2001; Browning, 2012; Cohen and Klepper, 1991; Griliches, 1979; Audretsch and Feldman, 1996; Navaktiphattoon, 2012; Benhabib and Spiegel, 1994; Becker, 1964; Edwards, 2014	US Census Bureau (2013)
Community Capacity	Human Capital	Independent Objective	Average Age	Determine increased life education through years of life (Haltiwanger, 1999)	Percent of mean percent	Deller et al, 2001; Wagner and Deller, 1998; Chaskin, 2001; Browning, 2012; Cohen and Klepper, 1991; Griliches, 1979; Audretsch and Feldman, 1996; Becker, 1964; Navaktiphattoon, 2012; Haight, 2014; Edwards, 2014	US Census Bureau (2013)

Community Capacity	Social Capital	Independent Objective	Marriage	Marriage leads to stronger levels of bonding capital (Haight, 2014)	Percent of mean percent	Chaskin, 2001; Putnam 1995; Granovetter, 1983; Browning, 2012; Laughlin, 2012; Fukuyama, 1995; Edwards, 2014	US Census Bureau (2013)
Community Capacity	Social Capital	Independent Objective	Number Non-Profits	Quantity leads to stronger levels of bridging capital (Laughlin, 2012)	Percent of mean percent	Chaskin, 2001; Putnam 1995; Putnam, 2001; Granovetter, 1983; Fukuyama, 1995	US Census Bureau (2013)
Location/Geography		Independent Objective	State	Identifies different state influences (Levine and Renelt, 1994)	Dummy variable (1,0)	Deller et al, 2001; Krugman, 1998; Fujita and Krugman, 2004; Palamuleni, 2014; Laughlin, 2012; Edwards, 2014	US Census Bureau (2013)
Location		Independent Objective	Metropolitan Statistical Areas (MSA)	Identifies different MSA influences (Levine and Renelt, 1994)	Dummy variable (1,0)	Deller et al, 2001; Krugman, 1998; Fujita and Krugman, 2004; Palamuleni, 2014; Laughlin, 2012; Edwards, 2014	US Census Bureau (2013)/Arc GIS

Social Economic/Control		Independent Objective	Population Density	Effects on the concentration of population in a given area (Masters and McMillian, 2001)	Percent of mean	Deller et al, 2001; Wagner and Deller, 1998; Levine and Renault, 1992	US Census Bureau (2013)
Social Economic/Control		Independent Objective	% Home Ownership	Seeks effects on asset accumulation through overall home ownership rates (Heller and Stephenson, 2015)	Percent of mean percent	Deller et al, 2001; Browning, 2012	US Census Bureau (2013)
Social Economic/Control		Independent Objective	%White-Mean	Identifies racial diversity (Göven, 2014)	Percent of mean percent	Deller et al, 2001; Ross and Van Willigan, 1997; Edwards, 2014	US Census Bureau (2013)
Economic Wealth		Dependent Objective	Median Household Income	Identifies household economic growth (Laughlin, 2012)	Percent of mean of median household income	Deller et al, 2001; Wagner and Deller, 1998; Diener and Suh, 1997; Palamuleni, 2014; Browning, 2012	US Census Bureau (2013)
Economic Wealth		Dependent Objective	Unemployment Rate	Identifies local economy productivity (Palamuleni, 2014)	Percent of mean percent	Deller et al, 2001; Wagner and Deller, 1998; Diener and Suh, 1997; Adams, 1981; Browning, 2012	US Census Bureau (2013)

Economic Wealth		Dependent Objective	Poverty Rate	Identifies individuals who are experiencing economic suffering (Rodrik, 2014)	Percent of mean percent	Deller et al, 2001; Wagner and Deller, 1998; Dissart and Deller, 2000; Wheeler, 1991; Andrews, 1991; Headley, 1993; Cutter, 1985; Deiner and Suh, 1997; Palamuleni, 2014; Browning, 2014; Roemer, 1998)	US Census Bureau (2013)
Quality of Life		Dependent Objective	High School Graduation Rates (Olshansky et al, 2012; Chalita et al, 2012)	Identifies those who did not graduate from high school	Percent of mean of individuals who did not graduate high school	Deller et al, 2001; Wagner and Deller, 1998; Dissart and Deller, 2000; Wheeler, 1991; Andrews, 1991; Headley, 1993; Cutter, 1985; Deiner and Suh, 1997; Palamuleni, 2014; Browning, 2012	US Census Bureau (2013)
Quality of Life		Dependent Objective	Divorce Rate (Kessler et al, 2014)	Identifies quality of health care	Percent of mean of divorced individuals	Deller et al, 2001; Wagner and Deller, 1998; Dissart and Deller, 2000; Wheeler, 1991; Andrews, 1991; Headley, 1993; Cutter, 1985; Deiner and Suh, 1997; Palamuleni, 2014; Browning, 2012	US Census Bureau (2013)
Quality of Life		Dependent Objective	Median Travel to Work	Extra radius of time utilized in economic decisions (Haight, 2014; Besser et al, 2008)	Percent of mean time	Putnam, 1985; Krugman, 1998; Laughlin, 2012; Fukuyama, 1995	US Census Bureau (2013)

## Power and Reflexivity

In order to attempt to provide to the maximum extent possible value-free and unbiased research, it is important to take additional measures within axiological and ontological positioning to ensure that personal power dynamics do not influence the research (Creswell, 2013). Reflexivity will provide guidance to ensure that local economic advocacy experience of the researcher will not influence the analysis and/or data collection. This will be controlled through not only secondary data analysis, which provides objective data, but through validation through other case studies and research of existing methods which use location quotients and economic capital.

Power influences successful data collection and steps need to be taken to reduce the bias power has on successful research. As the researcher is an accepted member of many groups that work with local economies, business development, public policy and advocacy, access may be granted in order to conduct primary data collection with their constituents in future research. Additionally, since the research seeks to connect with information used by these groups, this will help provide analysis and knowledge to assist these groups and sectors. These steps will provide a rigorous analysis based on the previous framework explained. This will balance challenges other researchers may not be able to reach, however open the research to power dynamics by the researcher as well as introduce bias into the findings. By using a quantitative approach for the research, this will provide progressive actions to reduce power and bias in the results through recognition and mitigation of this dynamic, to the extent the researcher is able to mitigate possible bias. In order to balance the power dynamic with the research, a validation

method of comparing rival analysis using only location quotients will be applied to the completion of the research and the research design and outcome will be checked against the standards of rigor set in this research.

## Data Generation and Documentation

The importance of completing this study is to improve information and knowledge for community decisions. Specifically, there is anticipation that the outcomes will be used in policy formulation and therefore should be used against existing methodology as well as current information. Therefore, the data will be secondary data and shall include objective quantitative data as well as validation through introducing rival theories and triangulation of community variables for validation.

Secondary data shall be collected through the US Census Bureau as well as through the use of zip codes (ZIP) and zip code tabulation areas (ZCTA). These will be combined in order to introduce economic data into geographic boundaries. This will consist of demographic data relevant to community capacity (human and social capital) as well as economic capital. Location variables that relate to state and metropolitan statistical areas will provide control for possible spatial autocorrelation and help guide distance and agglomerative explanations. Additional social demographic data shall be collected in order to provide explanatory control. This shall be complete for the entire state of the respective case study.

## Trustworthiness, Reliability and Validity

Validity of this research will be provided through the aforementioned validation framework (Creswell, 2013, Yin, 2013). The four areas of validation will include internal validity, external validity; construct validity and reliability (Creswell, 2013, Yin, 2013). In order for the research to be accepted, validation of this study will need to provide a methodological approach to determine if the asserted causation of economic and community capacity can be substantiated.

Internal validity will provide quantitative validity measures. Through analyzing the secondary data, I will use rigorous methodological treatment of analysis based on current research listed within the methodology to ensure normality and independence for quantitative methods (Martin-de Castro, 2011). Additionally, rival analysis with intervening variables will be provided using existing quantitative analysis using LQ's for economic analysis, which includes grouping of variables as a standalone analysis. This dissertation is based on existing economic analysis; however, the using this analysis to measure import substitution levels is the expansion of existing economic research that will help bridge local economic and community development research.

External validity will utilize reviewing multiple case studies, which are provided in the literature review as a foundation for this research. This will allow the results to be compared and an explanation on why the results may be different or similar. Local economies within North Carolina and South Carolina will be analyzed, as measured by zip codes, in metropolitan statistical areas (MSA) as well as rural areas. They will be based on preference of the researcher for possible research focus, local economic activity



and regions where there is a desire to provide academic research support within the Carolina regions.

Construct validity will be tested through related content where research and literature are provided to justify the variables used for the research (Hoskisson, 1993). Through the literature review this will provide findings from other comparable research papers. This information will be provided and a summary of the responses will be ranked and possible explanations will be provided as part of the final project.

Reliability will be tested by using case studies to parallel results. The case studies will provide a laboratory, controlled for the economic and community capacity and other explanatory variables, in order to compare results based on the proposed research. Whereas, reliability is defined as a method of trustworthiness (Creswell, 2013) this can be confirmed by quantitative replication of the strength of the model as well as comparing with other similar research (Schwartz-Shea & Yanow, 2012). This two-fold strategy provides the appropriate reliability tests for the proposed research.

## Technical and Ethical Considerations

The proposed research is based on the study of local economies and the application of research in rural and urban areas within a metropolitan statistical area. As defined by the United States government, these regions provide a focus area for public policy and funding, however they are based on political boundaries set forth by governmental consensus. In order to ensure validity, I will study both areas as determined by geographical location and that do not overlap and spatial auto correlation will not be a factor. This is based on the preference of the researcher to include location variables to represent the spatial analysis.

## Anticipated Research Outcomes

This research will provide policy guidance on how to improve overall community conditions by having a focus on local economic development. Through analyzing the local economy, as its responsiveness to import substitution levels, this can not only help understand economic growth and the impact the community may have on improving economic growth, but also the overall quality of life citizens experience from communities that have stronger local economies. Public policy decisions are based on a broad mix of decision makers and stakeholders and if their decisions to improve economic wealth can be aligned with a better understanding on how local economies represent input into the economy then this creates more opportunities to achieve consensus between business and industry, partnership of societal priorities, an understanding of globalization and community empowerment.

The development of increased import substitution knowledge levels provides a better understanding of local economic activity, but the focus is to use better information and not only see how this effects the economy and the community through analyzing quality-of-life levels. Literature has been prolific about the benefits of stronger local economies, now a measurement can provide empirical guidance on the relationship with the community beyond economics alone. Connections with community development research exploring economic power structures and how the community relates to this system can greatly empower the community to make decisions in its best interest based on what it considers its community assets. This empowerment begins to balance the scale of economic decisions that have been primarily based on the industry alone; now

communities are empowered knowing their impact on the economy, while balancing their quality of life.

Finally, this research is providing a baseline analysis to set the foundation for future studies on the relationship between local economies and community development. Qualitative studies must complement this research to provide further validation as well as a deeper understanding to these issues. Multiple regions and states must also be included. Additionally, different community and cultural scenarios will provide a deeper look at this phenomenon.

## RESEARCH RESULTS

### Introduction

This section of the dissertation explores the impact of local economic activity on economic wealth and quality of life within local economies. The basis of this methodology is based on the expansion of Laughlin's analysis on social capital and its impacts on local government, including economic capital as represented by median income levels (2012). This was rooted in methodological foundation of Benhabib and Spiegel (1994) and their analysis of human capital on economic capital as well as Levine and Renelt (1992) and their analysis of economic wealth.

Statistical methods utilized were based on existing foundational research as well as recent dissertation research. Specifically,, the research expands on analysis completed in 2012 of how social capital impacts government and economic wealth outcomes (Laughlin, 2012). This expands to look at additional capitals (economic and social) as well as location/geography and other control variables used when measuring capitals, quality of life and economic wealth.

The study used samples of Zip Code Tabulation Areas (ZCTA) entirely within North and South Carolina. Data was gathered from 2013 in order to show changes in capital activity and how these changes of independent variables impacted the dependent variables of economic wealth and quality of life. It is important to note that there may be missing sample variables due to missing economic information through zip codes, which contain the economic data, missing data due to US Census data collection standards as

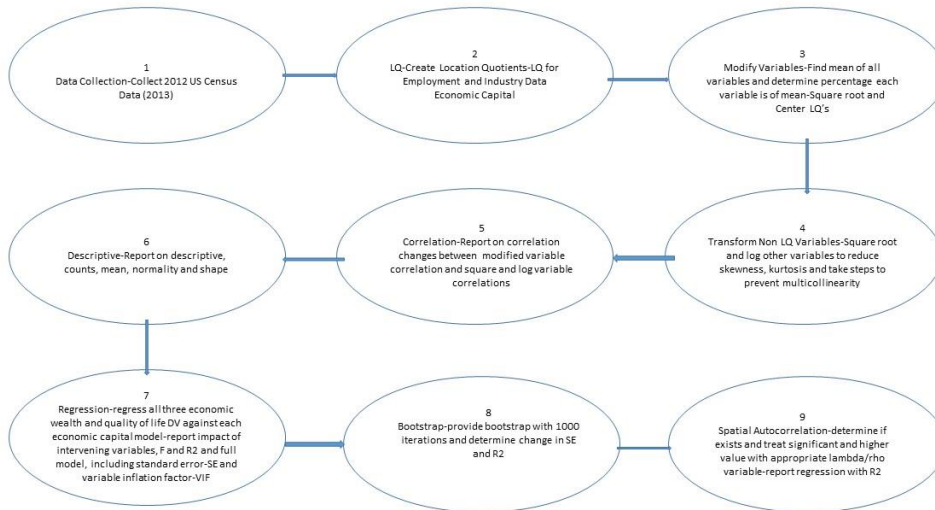
well as non-conforming samples that are not conducive to statistical techniques (such as spatial autocorrelation tests).

The methodology now uses a test of economic wealth and quality-of-life objective variables as explained in the methodology section of the research. The dissertation acknowledges within the summary that these variables provide insight into outcomes of the local economy and related independent variables. It is also acknowledged that research could be broadened, quantitatively and qualitatively, in the future in order to understand the insight into these phenomenon, short and long term impacts, appropriate levels of economic, social and human capital levels as well as follow-up subjective research.

The research process is straight forward utilizing a simple linear regression as the applied analysis. Economic capital variables were transformed into location quotients in order to represent import substitution levels. Then the means of all variables were determined and each variable was transformed into the present of the mean and centered measuring the distance each LQ is from the mean (Jerrett et al, 1998). Finally, based on the methodological foundation of Benhabib and Spiegel (1994) and their analysis of human capital on economic capital as well as Levine and Renelt (1992) and their analysis of economic wealth, the non-economic capital variables applied a square root and then logged these variables. Below is the model and the specific steps in order to have a clear pathway of the research.

## Model 3

### Treva Research Model-Economic Wealth and Quality of Life Research Design



## Sample

The sample used is 1232 ZCTA's within North Carolina and South Carolina. The basis of this research design followed statistical procedures for economic and social growth regressions from foundational research on growth regression analysis (Benhabib and Spiegel, 1994; Levine and Renelt, 1992) and the research model is an expansion of Laughlin and other recent dissertation research (2012; Haight, 2014).

### **Table 5**

#### **Sample Size ZCTA -North Carolina and South Carolina**

N=	North Carolina (NC)	808
N=	South Carolina (SC)	424
<b>N=</b>	<b>TOTAL</b>	<b>1232</b>

Data was obtained by all secondary sources through the US Census Bureau (2013). This information was collected in tabular/summary tables as well as spatial shapefiles in order to measure and treat spatial auto correlation. It is important to note that ZCTA's, which are tied to census tracts, are different than ZIP codes, which are tied to addresses, however combining this data "is the most accurate data available" and an appropriate technique for this research (Laughlin, 2012; p 67).



## Methodological Rigor

Since this is exploring the location quotient as a measure of the local economies strength, the study uses rigor to measure a local economy, through a ZCTA, based on the employment concentration of local economies as well as the industrial concentration.

This is measured by:

### **Figure 8**

#### **Location Quotient-Employment**

$$LQ = \frac{e_i}{e} / \left( \frac{E_i}{E} \right)$$

### **Figure 9**

#### **Location Quotient-Industry**

$$LQ = \frac{i_i}{i} / \left( \frac{I_i}{I} \right)$$

In respect to LQ, the LQ measures the location quotient for employment and industry respectively. Employment LQ measurements use  $e$  to represent the sample employment levels,  $i$  represents specific industries as well as  $E$  the measure all employment within the state of the sample. With industry, this measurement uses  $i$  to represent the sample industry levels,  $i$  represents specific industries as well as  $I$  the measure all industry concentration within the state of the sample.

The rigor of this methodology will be based on statistical models of the foundational research as well as other rigorous applications applied to research (Creswell, 2013, Yin, 2013) The review of both local economic measurements of location quotients with industrial and employment concentration to ensure that the outcomes are valid. Additionally, each of the dependent variables of economic wealth and quality of life will each use three (3) types of dependent variables to determine if the results are consistent and reliable. The rigor measure used will use the following matrix:

1. Validation of economic capital/location quotients with employment and industrial concentrations-same direction and significant
2. Reliability of three (3) dependent variable outcomes for economic growth and quality of life-same direction and significance
3. Steps to reduce correlation/multi collinearity/high standard errors/spatial autocorrelation-use treatment steps and improve model performance-  $R^2$
4. Secondary data sources used to remove power dynamics of researcher

## Statistical Analysis

This study uses a regression analysis to determine the changes of local economic levels, mediated by community capacity, location and social/economic control variables. Regression is used to establish a beginning point in this research establishing a baseline to further local economic research. Specifically, this represents ZCTA's as local economies as the best measure and data available to measure local economies. This regression analyzes the dependent variables of economic wealth and quality of life based on independent variables of economic capital, social and human capital (community capacity), location and social/economic control.

Originally based on production function outcomes, the dependent variables analyze variables that are originally rooted outputs of  $Q$ =Output (Economic or Social) and the independent impacts of  $L$ =humans (Labor) and  $K$ =economic conditions (Capital)

### **Figure 10**

#### **Production Function**

$$Q=K*L$$

The data using this method as support seeks to understand outputs as economic and social (quality of life), labor as a more dynamic human phenomena and capital in a broader economic sense. This is controlled by location and social/economic control variables. This data is based on 2013 US Census data, representing the most recent information available for all referenced data sets.

Based on this analysis, an application of providing the square root of these variables is an accepted method to treat skewness and kurtosis and provides increased normality of the variable (Jondeau and Rockinger, 2002; Browning, 2012). Through treatment of providing the square root and log of the variables, we may be able to create normality with the samples and ultimately avoid other conditions throughout the research (Jondeau and Rockinger, 2002). Based on this process of treating the potential correlation by squaring variables and then logging these squares, the amount of significant correlations actually increased slightly, however this treatment was also set to correct skewness and kurtosis and multi collinearity within the regression models.

Location Quotients will only apply a square root to the variables and then center the variables. This is consistent with regression analysis that utilizes LQ's and seeks to normalize the variable, which is consistent with the treatment used for the remaining variables (Jerrett et al, 1998).

Therefore, the next step is squaring of the variables and then these squared variables will be logged. There were slight increases in many of overall correlations, however the dependent variables remain correlated, which is consistent with literature and existing research. This treatment is based on research which uses capitals and their impacts on economic capital (Benhabib and Spiegel, 1994, Levine and Renelt, 1992).

This study recognizes that there are limitations to the data. Data was only used for 2013 due to the most recent ZCTA data that included all of the capital variables was 2013, based on the decennial census. Additionally, the study recognizes that there are many variables recognizing economic wealth and quality of life and there are different

and varied strengths of these variables. Using the foundational and recent dissertation research, the study represents these techniques for regression as well as treatment of specific issues, such as multi collinearity, however there are expansions of the research methods, such as treating spatial auto correlation. Furthermore, there are statistical items not tested within this research based on the Laughlin research (2012), such as heteroscedasticity, which may need to be explored in the future. Endogeneity was also not addressed due to limitations on this type of research, which may result in causality between all variables, however can be addressed in later studies using lag variables (Laughlin, 2012). Finally, the study also acknowledges the need to have a deeper understanding of the results and this could be accomplished through an expansion of the quantitative research or building on this study with a qualitative approach.

## Statistical Steps

This section will outline the statistical steps taken for each of the regression formulas in order to provide a specific understanding of the steps taken with the analysis.

### **Figure 11**

#### **Economic Wealth Regression**

$$ECONOMICWEALTH = \beta_1 + \beta_2 ECONOMICCAPITAL / IMPORTSUBSTITUTION(IS) + \beta_3 SOCIALANDHUMANCAPITAL + \beta_4 GEOGRAPHY + \beta_5 SOCIALECONOMICINDICATORS + \varepsilon$$

### **Figure 12**

#### **Quality of Life Regression**

$$QUALITYOFLIFE(QOL) = \beta_1 + \beta_2 ECONOMICCAPITAL / IMPORTSUBSTITUTION(IS) + \beta_3 SOCIALANDHUMANCAPITAL + \beta_4 GEOGRAPHY + \beta_5 SOCIALECONOMICINDICATORS + \varepsilon$$

#### *Descriptive Statistics*

This portion of the dissertation will begin with a summary of the frequency of occurrences of specific variables. Based on other similar research, the study will provide a count and mean of the variables to begin to understand the scope and details of the data.

As stated in the sample section there were 1232 samples ZCTA's used, with 808 from North Carolina and 424 from South Carolina. This is a summary of each of the variables after they were treated.

- Dependent Variables-Economic Wealth
- Dependent Variables-Quality of Life
- Independent Variables
  - Economic Capital
  - Social Capital
  - Human Capital
  - Location
  - Social/Economic Control Variables

**Table 6**

**Descriptive Statistic Summary**

Descriptive Statistics	N	Minimum	Maximum	Mean	Std. Deviation
MEDIANINCOME	1232	-0.53	0.34	-0.0055	0.07114
UNEMPLOYMENT	1232	-0.58	0.45	-0.0105	0.10273
POVERTY	1232	-0.99	0.36	-0.0137	0.15653
NOHIGHGRAD	1232	-0.86	0.49	-0.0109	0.09338
DIVORCED	1232	-0.71	0.44	-0.0209	0.13329
MEANTRAVEL	1232	-0.61	0.18	0.0026	0.0604
BACHELORS	1232	-0.9	0.55	-0.0038	0.17574
MEDAGE	1232	-0.18	0.12	-0.0013	0.04247
MARRIED	1232	-1.05	0.15	-0.0053	0.0825
NONPROFIT	1232	0	0.68	0.0632	0.12401
NC	1232	0	1	0.6558	0.47529
SC	1232	0	1	0.3442	0.47529
MSA	1232	0	1	0.6153	0.48673
POPDENSITY	1232	-1.06	0.64	-0.2096	0.30899
OWNERHOME	1232	-1.04	0.08	-0.0011	0.07433
DIVERSE	1232	-0.56	0.09	-0.015	0.09786
AGEMP	1232	-1.1	6.51	0	1.01528
CONEMP	1232	-0.96	2.89	0	0.43662
MANEMP	1232	-0.97	1.81	0	0.39239
WHOLETRADEEMP	1232	-0.8	3.73	0	0.49784
RETAILEMP	1232	-0.94	1.96	0	0.32353
TRANSPORTEMP	1232	-0.92	1.89	0	0.45985
INFOEMP	1232	-0.7	3.67	0	0.55832
FINANCEEMP	1232	-0.79	3.24	0	0.42301
PROEMP	1232	-0.81	2.38	0	0.36263
EDUEMP	1232	-0.95	0.9	0	0.25641
ARTSEMP	1232	-0.87	2.37	0	0.39205
OTHEREMP	1232	-0.91	3.56	0	0.43757
ADMINEMP	1232	-0.95	2.62	0	0.46459
PRIMARYGOODS	1232	-1.17	8.66	0	1.66904
MANUFACTURE	1232	-0.95	3.93	0	0.68134
REALESTATE	1232	-0.99	1.6	0	0.41162
WHOLESALE	1232	-0.88	1.54	0	0.41223
PROFESSIONAL	1232	-0.71	1.53	0	0.38397
LEISURE	1232	-0.83	2.1	0	0.46615
OTHER	1232	-1.09	1.95	0	0.44329
SOCIAL	1232	-0.86	1.73	0	0.38532
UTILITY	1232	-0.88	2.09	0	0.5247
Valid N (listwise)	1232				



The summary is that many of the non LQ variables appeared to have slight skewness or kurtosis, however appear to have normal distribution. The LQ variables that have had their square root taken and centered have abnormal distribution despite the technique applied on other LQ research (Jerrett et al, 1998). It has skewness to the left and has spiked results at the minimum of the distribution representing a high amount of responses, which represents the absences of LQ data in certain zip codes tabulation areas.

### *Correlation*

Correlation will help understand the relationship between multiple variables, positive or negative. Researching correlation and then providing treatment for highly correlative variables may address future issues of multi collinearity (Laughlin, 2012). First, according the methodology explanation, this research will utilize a Pearson's correlation in order to identify highly correlated variables determine if the treatment reduced multi collinearity in the regression results. In order to provide additional analysis on the relationships between economic growth and quality of life a Pearson's correlation was conducted in order to determine existing correlation levels for income, economic location quotients and quality of life (as measured by quality of life variables and the quality of life index as well as location variables) for normal parametric variables as opposed to a Spearman's correlation (Bonnet and Wright, 2000). Additionally, the correlation present with the dependent variables will help support the appropriateness of them to represent a rigorous approach to validity and reliability. Correlation tables are completed for both representations of the economic capital (employment and industry).

Table 7		Correlations Employment IQ																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29			
MEDIANINCOM	1	-.295**	-.223**	-.094**	-.655**	-.002	.250**	.067*	.260**	.083**	-.005	.005	.253**	.265**	.140**	.364**	-.224**	.058*	-.158**	.144**	.0025	.065*	.211**	.342**	.308**	.0008	0.038	0.038	.105**	-.009		
UNEMPLOYME	-.295**	1	.159**	.358**	.118**	-.157**	-.04	-.029	0.011	0.02	-.002	0.014	-.027	0.046	-.201**	0.038	-.0026	.124**	.023	0.04	-.003	-.0045	-.075**	-.066*	-.074**	-.079**	0.048	0.04	-.002			
POVERTY	-.223**	.159**	1	.136**	.226**	.252**	-.135**	.263**	.135**	-.136**	0.004	-.0004	-.104**	-.227**	.171**	-.077**	.134**	.061*	.213**	-.0044	0.019	.097**	-.107**	-.083**	-.084**	-.128**	-.200**	0.03	-.0019			
NOHIGHGRAD	-.094**	.136**	.136**	1	.121**	.191**	-.021	.150**	0.011	0.019	-.019	0.011	0.055	.109**	0.022	-.023	.074**	.04948	.104**	.130**	0.033	-.007	-.0013	0.011	-.096**	-.098**	0.023	-.088**				
DIVORCED	-.655**	.358**	.226**	.226**	1	-.034	-.216**	-.178**	-.293**	-.001	-.007	0.007	-.184**	-.147**	-.387**	.186**	-.0028	.079**	-.122**	0.031	-.002	.247**	-.052	0.05	.075**	-.0006	-.267**	0.038	.063*			
MEANTRAVEL	-.002	.118**	.252**	.191**	-.034	1	-.039	.392**	.365**	-.215**	-.013	0.013	-.046	-.408**	.319**	-.029	.221**	.238**	.267**	0.027	-.032	-.024	.113**	.150**	.174**	-.0009	0.05	-.028	-.090**			
BACHELORS	-.157**	-.135**	-.021	-.216**	-.039	1	.077**	.095**	.133**	0.02	-.002	.086**	.199**	-.001	.085**	-.138**	.109**	-.152**	-.032	-.134**	0.027	-.032	-.024	.113**	.150**	.174**	-.0009	0.05	-.028	-.090**		
MEDAGE	-.04	.263**	.150**	-.178**	.392**	.077**	1	.426**	.1	-.157**	0.001	-.001	-.174**	-.405**	.422**	.146**	-.138**	.109**	-.152**	-.032	-.134**	0.027	-.032	-.024	.113**	.150**	.174**	-.0009	0.05	-.028	-.090**	
MARRIED	-.029	.135**	.011	-.293**	.365**	.095**	.426**	1	-.130**	-.003	0.003	0.038	-.133**	.208**	.363**	.058*	-.194**	.096**	.094**	.064*	.143**	0.045	.206**	.128**	-.146**	-.078**	.091**	0.047				
NONPROFIT	.011	-.136**	.070*	-.001	-.215**	.133**	-.157**	-.130**	1	0.002	-.002	.166**	.474**	-.216**	-.028	-.177**	.136**	.083**	-.025	-.071*	.136**	.083**	0.006	.221**	.215**	.248**	.106**	.241**	.095**	-.0003		
NC	-.005	0.02	0.004	0.019	-.007	-.013	0.02	0.001	-.003	0.002	1	-.1000**	-.109**	0.027	-.039	0.037	.107**	.063*	-.068*	0.033	-.061*	-.106**	-.019	.090**	0.026	.081**	0.004	-.029	0.043			
SC	0.005	-.002	-.0004	-.019	0.007	0.013	-.002	-.001	0.003	-.002	-.1000**	1	.109**	-.027	0.039	-.037	-.107**	-.063*	.068*	-.033	.061*	.106**	0.019	-.090**	-.026	-.081**	-.004	0.029	-.0043			
MSA	.253**	0.014	-.104**	0.011	-.184**	-.046	.086**	-.174**	.038	.166**	-.109**	.109**	1	.413**	-.100**	.132**	-.269**	.042	.022	.238**	.081**	.082**	.228**	.169**	.260**	0	.097**	.095**	-.060*			
POPENSITY	.265**	-.027	-.227**	.055	-.147**	-.408**	.199**	-.405**	-.133**	.474**	0.027	-.027	.413**	1	-.327**	.103**	-.476**	.084**	-.163**	.211**	.093**	-.121**	.336**	.240**	.320**	.067*	.259**	0.053	-.122**			
OWNERHOME	.140**	.046	.171**	.109**	-.171**	.319**	-.001	.422**	.208**	-.216**	-.039	0.039	.100**	-.327**	1	.114**	.137**	.143**	.164**	.028	-.007	.165**	-.076**	0.031	-.015	-.079**	-.182**	0.05	-.066*			
DIVERSE	.364**	-.201**	-.077**	0.022	-.387**	-.029	.085**	.146**	.363**	-.028	0.037	-.037	.132**	.103**	.114**	1	.119**	.162**	-.120**	.081**	0.045	-.067*	0.014	.142**	.095**	-.106**	0.017	0.055	-.143**			
AGEIMP	-.224**	0.038	.134**	-.023	.186**	.221**	-.125**	.138**	.058*	-.177**	.107**	-.107**	-.269**	-.476**	.137**	-.119**	1	0.035	.122**	-.031	-.022	0.043	-.099**	-.130**	-.171**	0.04	-.171**	0.037	.158**			
CONEMP	.058*	-.026	.061*	.074**	-.028	.238**	-.032	.109**	.194**	-.025	.063*	-.063*	0.042	-.084**	.143**	.162**	0.035	1	.063*	.125**	.123**	.152**	0.042	.108**	.103**	-.031	0.023	.074**	.074**			
MANEMP	-.158**	.124**	.213**	0.048	.079**	.267**	-.134**	.152**	.096**	-.071*	-.068*	.068*	0.022	-.163**	.164**	-.120**	.122**	.065*	1	.208**	.135**	.269**	-.005	-.060*	-.018	0.053	-.242**	.110**	0.035			
WHOLETRADE	.144**	0.023	-.044	.104**	-.122**	0.031	0.027	-.007	.094**	.136**	0.033	-.033	.238**	.211**	.028	.081**	-.031	.125**	.208**	1	.150**	.233**	.173**	.205**	.180**	.095**	.098**	.120**	.060*			
RETALEM	0.025	0.04	0.019	.130**	-.043	-.002	-.032	-.017	.064*	.083**	-.061*	.061*	.081**	.093**	-.007	0.045	-.022	.123**	.135**	.150**	1	.101**	.157**	.113**	.061*	.120**	.165**	-.006	.086**			
TRANSPORTE	.065**	-.03	.097**	0.033	-.071*	.247**	-.024	.180**	.143**	0.006	-.106**	.106**	.082**	-.121**	.165**	-.067*	0.043	.152**	.269**	.233**	.101**	1	.086**	.159**	.057*	.065*	-.05	.165**	.132**			
INFOEMP	.211**	-.045	-.107**	-.007	-.157**	-.052	.113**	-.108**	0.045	.221**	-.019	0.019	.228**	.336**	-.076**	0.014	-.099**	0.042	-.005	.173**	.157**	.086**	1	.170**	.239**	.140**	.138**	.078**	.064*			
FINANCEEMP	.342**	-.075**	-.083**	-.013	-.297**	0.05	.150**	.059*	.206**	.215**	.090**	-.090**	.169**	.240**	0.031	.142**	-.130**	.108**	-.060*	.205**	.113**	.159**	.170**	1	.307**	-.0012	.145**	.071*	0			
PROEMP	.308**	-.066*	-.084**	0.011	-.251**	.075**	.174**	-.054	.128**	.248**	0.026	-.026	.260**	.320**	-.015	.095**	-.171**	.103**	-.018	.180**	.061*	.057*	.239**	.307**	1	.127**	-.160**	.070*	.075**			
EDUEMP	0.008	-.074**	-.128**	-.096**	-.048	-.006	-.009	-.145**	-.146**	.106**	.081**	-.081**	0	.067*	-.079**	-.106**	0.04	-.031	0.053	.095**	.120**	.065*	.140**	-.0012	1.121**	-.160**	.070*	.075**				
ARTSEMP	0.038	-.079**	-.200**	-.098**	-.065	.267**	0.05	.168**	-.078**	.241**	0.004	-.004	.097**	.259**	-.182**	0.017	-.171**	0.023	-.242**	.098**	.165**	-.005	.138**	.145**	.160**	.121**	1.086**	0.053				
OTHEREMP	.105**	0.048	0.03	0.023	-.055	0.038	-.028	-.024	.091**	.095**	-.029	0.029	.095**	0.053	0.05	0.055	-.037	.074**	.110**	.120**	-.006	.165**	.078**	.071*	.070*	0.037	.086**	1	0.051			
ADMINEMP	-.009	-.02	-.019	-.088**	-.002	.063*	-.090**	0.008	0.047	-.003	0.043	-.043	-.060*	-.122**	-.166**	-.143**	.158**	.074**	.055	.060*	.086**	.132**	.064*	0	0.075**	.168**	0.053	0.051				

\*\* Correlation is significant at the 0.01 level (2-tailed).  
\* Correlation is significant at the 0.05 level (2-tailed).

TABLE 8		Correlation Industry LQ																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
MEDIANINCO1	1	-.295**	-.223**	-.094**	-.655**	-.002	.250**	.067*	.260**	.083**	-0.005	0.005	.253**	.265**	.140**	.364**	-.107**	-.003	.213**	-.069*	.230**	.124**	-.038	0.02	.206**
UNEMPLOYME	.295**	1	.159**	.358**	.118**	-.157**	-.04	-0.029	0.011	0.02	-0.02	0.014	-0.027	0.046	-.201**	.057*	.109**	-.127**	.109**	0.032	-0.051	-0.04	.100**	-0.049	0.034
POVERTY	.223**	.159**	1	.136**	.226**	.252**	-.135**	.263**	.135**	-.136**	0.004	-0.004	-.104**	-.227**	.171**	-.077**	.093**	.138**	.064*	0.046	-.181**	-.156**	0.04	-0.038	0.002
NOHIGHGRAD	-.094**	.158**	.136**	1	.121**	.191**	-0.021	.150**	0.011	0.070*	0.019	-0.019	0.011	0.055	.109**	0.022	0.032	.098**	0.023	.071*	-.057*	-0.04	0.029	-0.039	-0.039
DIVORCED	-.655**	.358**	.226**	.121**	1	-.034	-.216**	-.178**	-.293**	-0.001	-0.007	0.007	-.184**	-.147**	-.171**	-.387**	.084**	0.039	-.199**	0.054	-.183**	-.104**	0.049	-0.004	-.190**
MEANTRAVEL	-.002	.118**	.252**	.191**	-0.034	1	-.039	.392**	.365**	-.215**	-0.013	0.013	-0.046	-.408**	.319**	-.029	.233**	.108**	.183**	0.003	-.227**	-.249**	.088**	-.112**	0.007
BACHELORS	.250**	-.157**	-.135**	-0.021	-.216**	-0.039	1	.077**	.095**	.133**	0.02	-0.02	.086**	.199**	-.001	.085**	-.094**	.093**	0.007	-0.052	.079**	-0.036	-.079**	-0.002	0.018
MEDAGE	.067*	-.04	.263**	.150**	-.178**	.392**	.077**	1	.426**	-.157**	0.001	-0.001	-.174**	-.405**	.422**	.146**	.124**	.088**	.161**	-0.034	-.159**	-.125**	0.015	-.102**	-0.019
MARRIED	.260**	-.029	.135**	0.011	-.293**	.365**	.095**	.426**	1	-.130**	-0.003	0.003	0.038	-.133**	.208**	.363**	.037	.116**	.278**	0.02	-0.033	-0.024	0.003	-.091**	.110**
NONPROFIT	.083**	0.011	-.136**	.070*	-0.001	-.215**	.133**	-.157**	.130**	1	0.002	-0.002	.166**	.474**	-.216**	-0.028	-.153**	-0.032	-0.029	0.053	.376**	.199**	-0.100**	.179**	.066*
NC	-0.005	0.02	0.004	0.019	-0.007	-0.013	0.02	0.001	-0.003	0.002	1	-1.000**	-.109**	0.027	-0.039	0.037	-.089**	.093**	0.048	6.15**	-0.044	-0.003	-.175**	0.022	-0.023
SC	0.005	-0.02	-0.004	-0.019	0.007	0.013	-0.02	-0.001	0.003	-0.002	-1.000**	1	.109**	-0.027	0.039	-0.037	.089**	.093**	-0.048	-.615**	0.044	0.003	.175**	-0.022	0.023
MSA	.253**	0.014	-.104**	0.011	-.184**	-0.046	.086**	-.174**	0.038	.166**	-.109**	.109**	1	.413**	-.100**	.132**	-.147**	.059*	.097**	-0.028	.258**	.082**	0.052	.063*	.223**
POPENSITY	.265**	-0.027	-.227**	0.055	-.147**	-.408**	.199**	-.405**	-.133**	.474**	0.027	-0.027	.413**	1	-.327**	.103**	-.371**	-0.051	-0.054	0.049	.438**	.262**	-0.066*	.161**	.146**
OWNERHOME	.140**	0.046	.171**	.109**	-.171**	.319**	-0.001	.422**	.208**	-.216**	-0.039	0.039	-.100**	-.327**	1	.114**	.127**	.114**	.143**	-0.012	-.187**	-.101**	0.049	-0.053	0.026
DIVERSE	.364**	-.201**	-.077**	0.022	-.387**	-0.029	.085**	.146**	.363**	-0.028	0.037	-0.037	.132**	.103**	.114**	1	-.105**	.060*	.245**	-0.051	.070*	.074**	0.008	-.128**	.115**
PRIMARYGOO	-.107**	.057*	.093**	0.032	.084**	.233**	-.094**	.124**	0.037	-.153**	-.089**	.089**	-.147**	-.371**	.127**	-.105**	1	0.052	-0.027	-.077**	-.183**	-.154**	.092**	-0.027	-0.024
MANUFACTUR	-0.003	.109**	.138**	.098**	0.039	.108**	-0.093**	.088**	.116**	-0.032	-.093**	.093**	.059*	-0.051	.114**	.060*	0.052	1	.105**	-0.046	0.02	-.122**	0.008	.073*	0.033
REALESTATE	.213**	-.127**	.064*	0.023	-.199**	.183**	0.007	.161**	.278**	-0.029	0.048	-0.048	.097**	-0.054	.143**	.245**	-0.027	.105**	1	0.002	0.042	-.084**	-.068*	-0.043	.181**
WHOLESALE	-.069*	0.032	0.046	.071*	0.054	0.003	-0.052	-0.034	0.02	0.053	6.15**	-6.15**	-0.028	0.049	-0.012	-0.051	-.077**	-0.046	0.002	1	-0.044	.070*	-.169**	.075**	0.008
PROFESSIONA	.230**	-0.051	-.181**	-.057*	-.183**	-.227**	.079**	-.159**	-0.033	.376**	-0.044	0.044	.258**	.438**	-.187**	.070*	-.183**	0.02	0.042	-0.044	1	.218**	-.145**	.208**	.182**
LEISURE	.124**	-0.04	-.156**	-0.04	-.104**	-.249**	-0.036	-.125**	-0.024	.199**	-0.003	0.003	.082**	.262**	-.101**	.074**	-.154**	-.122**	-.084**	.070*	.218**	1	-.228**	0.022	0.003
OTHER	-.038	.100**	0.04	0.029	0.049	.088**	-.079**	0.015	0.003	-1.000**	-.175**	.175**	0.052	-.066*	0.049	0.008	.092**	0.008	-.068*	-.169**	-.145**	-.228**	1	-0.045	-0.076**
SOCIAL	0.02	-0.049	-0.038	-0.039	-0.004	-.112**	-0.002	-.102**	-.091**	.179**	0.022	-0.022	.063**	.161**	-0.053	-.128**	-0.027	.073*	-0.043	.075**	.208**	0.022	-0.045	1	0.036
UTILITY	.206**	0.034	0.002	-0.039	-.190**	0.007	0.018	-0.019	.110**	-.066*	-0.023	0.023	.223**	.146**	0.026	.115**	-0.024	0.033	.181**	0.008	.182**	0.003	-0.076**	0.036	1

There are many variables that have significant correlation. The original research design treated variables in an attempt to reduce correlated issues. This dissertation specifically seeks to reduce multi collinearity, which can be caused by highly correlative variables. Variable Inflation Factors (VIF's) will need to be analyzed to determine if multicollinearity is present. With future research, consideration will be given to eliminate highly correlated variables or provide another proxy measure that may represent effects of highly correlated variables. As stated there are additional tests used to determine if multicollinearity exists and how it would be treated.

# Regression

Table 9		Summary Model												
		MEDIANINCOME	UNEMPLOYMENT	POVERTY	NOHIGHGRAD	DIVORCE	MEANTRAVEL	(Constant)	MEANINCOME	UNEMPLOYMENT	POVERTY	NOHIGHGRAD	DIVORCE	MEANTRAVEL
(Constant)	0.002	**-.028	0	**-.024	-0.016	**-.029	**-.012	(Constant)	-0.003	-0.023	-0.023	-0.004	-0.024	**-.012
AGEEMP	**-.005	0	**-.013	0.005	0.008	**-.015	**-.014	PRIMARYGOODS	0.001	-0.444	0	0	0	**-.002
CONEMP	*-.007	-0.002	**-.029	0.008	**-.041	**-.027	**-.014	MANUFACTURE	-0.001	**-.168	**-.014	**-.019	**-.017	0.002
MANEMP	**-.021	0.014	*.018	**-.041	0.021	0.021	**-.012	REALESTATE	**-.012	**-.029	-0.014	0.01	-0.02	**-.010
WHOLETRADEEMP	0.002	0.006	-0.003	-0.012	-0.004	-0.004	-0.002	WHOLESALE	*-.014	-0.005	0.019	0.02	0.02	0.002
RETAILEMP	-0.004	*.022	0.002	0.024	0.005	0.005	-0.007	PROFESSIONAL	**-.014	-0.005	**-.031	**-.034	**-.042	*.008
TRANSPORTEMP	0.004	**-.019	-0.006	0.008	0.008	-0.007	*.006	LEISURE	**-.011	0	**-.021	**-.027	*.002	**-.012
INFOEMP	**-.009	-0.006	*.015	-0.01	-0.01	*.007	0	OTHER	0.004	**-.019	0.022	0	0.003	0.003
FINANCEEMP	**-.016	-0.009	**-.045	-0.019	**-.049	**-.049	*.007	SOCIAL	0.005	**-.025	-0.017	-0.005	-0.013	*.008
PROEMP	**-.016	-0.004	**-.027	0.007	*.007	*.0086	**-.019	UTILITY	**-.008	*.014	**-.017	0.01	*.0022	0
EDUEMP	*.013	**-.035	**-.048	**-.053	**-.053	**-.005	*.013							
ARTSEMP	**-.015	-0.014	0.002	**-.055	**-.055	-0.001	**-.015							
OTHEREMP	**-.010	*.014	-0.002	0.015	0.015	-0.001	0							
ADMINEMP	**-.010	-0.009	**-.021	-0.007	-0.007	-0.007	-0.008							
BACHELORS	**-.039	**-.072	**-.074	**-.094	**-.094	**-.081	0.002	BACHELORS	**-.054	**-.088	**-.088	**-.107	**-.104	0.001
MEDAGE	0.022	-0.14	**-.314	**-.670	**-.311	*.015	**-.172	MEDAGE	0.017	-0.132	**-.405	**-.717	*.0319	**-.175
MARRIED	**-.074	*.102	**-.134	*.127	*.015	*.015	**-.161	MARRIED	**-.098	**-.150	**-.150	*.121	*.083	**-.184
NONPROFIT	*.033	*.054	**-.102	-0.02	**-.103	**-.103	-0.015	NONPROFIT	-0.027	*.055	**-.098	-0.016	*.096	0.008
NC	-0.002	0.01	0.002	0.011	0.002	0.002	0.005	NC	0.008	0.017	-0.011	-0.006	-0.011	0.002
MSA	0.007	0.01	*.014	-0.004	*.018	*.018	**-.009	MSA	*.007	0.007	**-.022	-0.005	**-.021	**-.012
POPENSITY	*.015	0.005	-0.013	0.006	-0.02	-0.02	**-.037	POPENSITY	**-.030	0.007	*.038	0.001	**-.005	**-.025
OWNERHOME	**-.136	**-.120	**-.207	0.047	*.027	*.027	*.047	OWNERHOME	**-.144	**-.127	**-.211	0.063	*.041	**-.075
DIVERSE	**-.143	**-.237	**-.345	**-.178	**-.383	**-.383	**-.071	DIVERSE	**-.125	**-.223	**-.390	**-.182	**-.337	**-.081
Rho	**-.371	**-.027	**-.253	**-.026			**-.401	Rho	**-.389	**-.194		**-.148		**-.446
Lambda								Lambda			**-.323			
F						**-.1057		F					**-.329	
R2	0.465	0.134	0.359	0.175	0.33	0.33	0.479	R2	0.395	0.141	0.337	0.16	0.296	0.457

\* Coefficient is significant at .05 level

\*\* Coefficient is significant at the .01 level

Improves Economic Wealth and Quality of Life

Declines Economic Wealth and Quality of Life

These regression results provided analysis on how economic capitals, as measured by LQ's which measure economic capital levels, and ultimately the strength of the local economy, impacts economic wealth and quality of life. This was completed for location quotients which represent the concentration of employment within a local economy as compared to the concentration of this industry in their respective state. To ensure rigor for this analysis, the same analysis was completed for LQ's which measure industry concentration levels within a local economy compared to the concentration in their respective state.

Independent variables representing economic capital, as represented by LQ's, are used. Within this model, intervening variables were used in order to represent the local economy and the multiple capitals within their capital systems. Community Capacity, which represents Human and Social Capital, was used as an intervening variable as well as the location of the ZCTA, which was represented by its respective state and whether or not it was located within a Metropolitan Statistical Area (MSA). Finally, control variables were applied in order to provide a normalization of the local economy referenced.

Based on the research design, the study will provide a simple linear regression with the economic capital, intervening variables as well as control variables. Once this is complete, a bootstrap of 1000 iterations will be applied as well as a test for spatial autocorrelation. The model with the highest explanation of variance explained will be reported and compared to the other models in order to determine the results of the hypothesis testing.

Based on the improvements made during review of the correlations and the treatment of squaring and logging the variables, the variable inflation factors (VIF) are

within acceptable levels ( $VIF < 10$ ) and therefore multicollinearity is at acceptable levels. In order to correct any standard errors affected by multicollinearity the model is bootstrapped for 1000 iterations, which will provide standard errors with greater accuracy. This provided changes in most of the standard errors. Additionally, to account for spatial dependence, the research tests for spatial auto correlation.

The completed summary model encapsulates the highest performing models of how economic capital impacts economic wealth and quality of life. These 12 models incorporate each of the LQ's representing economic capital; 6 models based on employment LQ's and 6 models based on industrial LQ's. The models ranged from  $R^2$  scores of .134 to .479. Based on these  $R^2$  scores, the best models were always treated for spatial autocorrelation, except both of the DIVORCE models, which the bootstrapped regression had the highest  $R^2$ . These models show the impact of economic capital as well as other intervening variables representing community capacity (social and human capital), location and social and economic controls. The entire summary of each model will be explained throughout this section.

The results are mixed and provide multiple explanation that differs from recent research. With the presence of stronger local economies, measured by economic capital (LQ) levels, certain industries support increased economic wealth and quality of life, while other industries have a negative impact on the dependent variables. Additionally, the variables change in significance and direction depending on the dependent variables as well as the intervening variables of the community as control variables.

With employment LQ's, AGEMP, CONEMP and MANEMP typically represented negative impacts on economic wealth and quality of life and

TRANSPORTEMP INFOEMP PROEMP, FINANCEEMP, EDUEMP and ADMINEMP having a significant impact on economic wealth and quality of life. In respect to intervening variables, community capacity, as represented by BACHELORS, MEDAGE and MARRIED, as well as location (MSA) provide a majority positive impacts to economic wealth and quality of life, while NONPROFIT provided a majority of negative impacts towards the dependent variables. However, these variables did not show to provide significant impacts to all the dependent variables. Social and economic control variables OWNERHOME provided a positive significant impact and POPDENSITY provided a split also representing a significant negative impact. DIVERSITY provided a positive significant impact to all economic wealth and quality of life variables.

With industrial LQ's representing economic capital, MANUFACTURE had a significant negative impact on many of the dependent variables, while REALESTATE, PROFESSIONAL, SOCIAL, LEISURE and UTILITIES had a positive significant impact on many of the dependent variable. No economic capital variable met the rigor standards set and provided complete explanation for economic wealth and quality of life. In respect to the intervening and control variables, BACHELORS primarily provided a positive significant impact on all dependent variables, while MEDAGE and MARRIED provided both positive and negative significant impacts. NONPROFIT only provided negative significant impacts. The community capacity variables did not provide a complete explanation and fell short of the standards of rigor. Location provided positive significant impacts on economic wealth and quality of life through MSA and control variables POPDENSITY and OWNERHOME also provided these impacts, but did not provide a



complete explanation. Once again DIVERSITY provided a positive significant impact on economic wealth and quality of life on all dependent variables

## CONCLUSION AND RESEARCH SUMMARY

### Introduction

The purpose of this study was to provide a community development lens to the impacts of local economic activity and if these economic capitals affect economic wealth and quality of life. With an improved and complete understanding of how local economies impact the community, this knowledge can be used by the community and empower them to make better decisions in their best interest. Community capacity, location and social and economic control variables represented intervening variables in order to provide a framework for the framing of the local economy and its community characteristics. This was completed with a systems framework seeking to explore multiple systems (micro, meso and macro), specifically economic, social and human capital as well as location and the social and economic variables that influence these systems.

## Hypothesis Testing

The central question was developed with a desire to connect local economic development and community development issues. There are definitely significant impacts of the local economy on these issues and based on the connections previously stated, this research can say that import substitution does impact community development.

Additionally, the sub questions explore specific variables that are impacted by import substitution levels and the dependent variables of economic growth and quality of life were impacted, however they deviated from the research design and the established literature in two (2) ways. First, the two (2) dependent variables were not affected the same way with the same set of economic capital variables. The literature and current research of economic development and economic globalization implies that if there are increased levels of economic wealth that there would be increased levels of quality of life. Based on the rigor provided with multiple variables representing the community capital, this had varied effects and is not consistent. Specifically, economic capital, represented by LQ's, had varied effects with some independent economic capital variables providing significant negative impacts and some providing significant positive impacts. This leads to the thought of new research exploring a balance between these variables. Second, some independent variables provided different results than the existing current research. As stated, the economic capital variables provided varied results as well as different location variables as well as the community capacity variables provided the same varied results.

*Central Question*

How does import substitution affect community development?

*Sub question*

SQ1 How do import substitution levels (location quotients-LQ) affect economic wealth?

SQ2 How do import substitution levels (location quotients-LQ) affect quality of life?

Overall, import substitution levels, representing the strength of the local economy affects community outcomes. Import substitution provides different levels of community capacity based on the concentrations of employment and industrial concentrations as well as the impacts that location, social and economic variables have on community outcomes, specific economic wealth and quality of life. As the respective sub questions indicate, this research will specifically analyze the local economy of the community and if these levels of economic capital provide a significant impact to the dependent variables.

**Table 10**

**Summary-Hypothesis Testing**

<b>Central Question: How does import substitution affect community development?</b>		
<b>Subquestion</b>	<b>Hypothesis</b>	<b>Reject Null/Accept Hypothesis</b>
<b>SQ1: How do import substitution levels (location quotients-LQ) affect economic wealth?</b>	H1: If import substitution levels increase then they will increase economic wealth as measured by a declining poverty rate.	Partial
<b>SQ1: How do import substitution levels (location quotients-LQ) affect economic wealth?</b>	H2: If import substitution levels increase then they will increase economic wealth as measured by household income.	Partial
<b>SQ1: How do import substitution levels (location quotients-LQ) affect economic wealth?</b>	H3: If import substitution levels increase then they will not increase economic wealth as measured by a declining unemployment rate.	Partial
<b>SQ2 How do import substitution levels (location quotients-LQ) affect quality of life?</b>	H4: If import substitution levels increase then they will increase quality of life as measured by reduction of the divorce rate .	Partial
<b>SQ2 How do import substitution levels (location quotients-LQ) affect quality of life?</b>	H5: If import substitution levels increase then they will increase quality of life as measured by a decrease in individuals who do not graduate from high school .	Partial
<b>SQ2 How do import substitution levels (location quotients-LQ) affect quality of life?</b>	H6: If import substitution levels increase then they will increase quality of life as measured by a decrease in the amount of time to commute to work.	Partial
<b>Partial=at least 1 economic capital significant impact for economic wealth or quality of life</b>		

The research provided the following hypothesis and results to these questions.

SQ1 How do import substitution levels (location quotients-LQ) affect economic wealth?

*Hypothesis 1* H<sub>A</sub>: Hypothesis If import substitution levels increase then they will increase economic wealth as measured by household income.

**Table 11**

**Median Income Regression Summary**

	1		1
(Constant)	0.002	(Constant)	-0.003
AGEMP	**-.005	PRIMARYGOODS	0.001
CONEMP	*-.007	MANUFACTURE	-0.001
MANEMP	**-.021	REALESTATE	** .012
WHOLETRADEEMP	0.002	WHOLESALE	*-.014
RETAILEMP	-0.004	PROFESSIONAL	** .014
TRANSPORTEMP	0.004	LEISURE	** .011
INFOEMP	** .009	OTHER	0.004
FINANCEEMP	** .026	SOCIAL	0.005
PROEMP	** .016	UTILITY	** .008
EDUEMP	*.013		
ARTSEMP	**-.015		
OTHEREMP	** .010		
ADMINEMP	** .010		
BACHELORS	** .039	BACHELORS	** .054
MEDAGE	0.022	MEDAGE	0.017
MARRIED	** .074	MARRIED	** .098
NONPROFIT	*-.033	NONPROFIT	-0.027
NC	-0.002	NC	0.008
MSA	0.007	MSA	*.007
POPDENSITY	*.015	POPDENSITY	** .030
OWNERHOME	** .136	OWNERHOME	** .144
DIVERSE	** .143	DIVERSE	** .125
Rho	** .371	Rho	** .389
Lambda		Lambda	
F		F	
R2	0.435	R2	0.395
* Coefficient is significant at .05 level			
**Coefficient is significant at the .01 level			
Improves Economic Wealth and Quality of Life			
Declines Economic Wealth and Quality of Life			

Provided in recent literature and research, income levels are a good proxy to measure economic wealth levels, however in support of the MEDINCOME findings, there are varied results with the significance and direction of the economic capital independent impacts. Employment LQ's of AGEMP, CONEMP, MANEMP and ARTSEMP all had a significant negative impact on economic wealth, while all significant industry LQ's, except WHOLESale, had a positive impact on MEDIANINCOME. Community capacity also impacts economic wealth and quality of life through significant positive impacts of Human Capital (BACHELORS) and Social Capital (MARRIED). Jobs (employment LQ's) in fact reduces income levels in about half of all employment variables that are significant. All significant community capacity, location and control variables had a positive impact on median income, with the exception of non-profit for the employment LQ's. Therefore, the research findings cannot reject the null hypothesis and accept the hypothesis. This once again leads to the type of approach of globalization and infinite economic growth does not support positive effects of economic wealth and quality of life; and supports a more understanding of the balance of these variables.

This adds to the existing research as it furthers the understanding of how economic capital. First economic concentrations alone cannot define the impacts on income of the local economy. Second, there are multiple ways to measure economic wealth despite the high correlations between the dependent variables. Third, when considering an income increasing strategy, policies associated with industry growth as opposed to employment growth are associated with a more complete understanding on impacts toward higher economic wealth levels.

*Hypothesis 2* H<sub>A</sub>: Hypothesis If import substitution levels increase then they will increase economic wealth as measured by a declining unemployment rate.

**Table 12**

**Unemployment Regression Summary**

	2		2
(Constant)	**-.028	(Constant)	**-.030
AGEMP	0	PRIMARYGOODS	0.001
CONEMP	-0.002	MANUFACTURE	** .168
MANEMP	0.014	REALESTATE	**-.029
WHOLETRADEEMP	0.006	WHOLESALE	-0.005
RETAILEMP	*.022	PROFESSIONAL	-0.005
TRANSPORTEMP	**-.019	LEISURE	0
INFOEMP	-0.006	OTHER	** .019
FINANCEEMP	-0.009	SOCIAL	**-.025
PROEMP	-0.004	UTILITY	*.014
EDUEMP	**-.035		
ARTSEMP	-0.014		
OTHEREMP	*.014		
ADMINEMP	-0.009		
BACHELORS	**-.072	BACHELORS	**-.075
MEDAGE	-0.14	MEDAGE	-0.132
MARRIED	*.102	MARRIED	** .108
NONPROFIT	*.054	NONPROFIT	*.055
NC	0.01	NC	0.017
MSA	0.01	MSA	0.007
POPDENSITY	0.005	POPDENSITY	0.007
OWNERHOME	** .120	OWNERHOME	** .127
DIVERSE	**-.237	DIVERSE	**-.223
Rho	** .027	Rho	** .194
Lambda		Lambda	
F		F	
R2	0.134	R2	0.141
* Coefficient is significant at .05 level			
**Coefficient is significant at the .01 level			
Improves Economic Wealth and Quality of Life			
Declines Economic Wealth and Quality of Life			

UNEMPLOYMENT has been a good estimate of the economic conditions of the economy. As stated previously, labor is necessary for economic wealth and if individuals are not employed within a local economy, then the economic wealth levels may drop based on other community capitals within the system. This once again provided varied significance and direction with economic capital impacts as well as community capacity.



Unemployment is not significantly affected by very many additional employment nor industrial concentrations. Furthermore, social capital variables all have a significant negative impact on unemployment levels. Therefore, the research findings cannot reject the null hypothesis and accept the hypothesis.

This adds to the existing research and literature as many economic development strategies show that reducing unemployment and creating Jobs solves many economic problems, however based on the results within the models with UNEMPLOYMENT as the dependent variables, additional industries still has varied results on what provides significant impact reducing the unemployment rate and what industrial sectors add to the unemployment rate. This support the premise established in the previous two (2) hypothesis that research on the balance of industry and employment and how they work together is critical to the understanding of the impacts on economic wealth. Once again DIVERSE and higher concentrations of whites lead to higher incomes, which brings forward equity issues with economic wealth.

*Hypothesis 3* H<sub>A</sub>: Hypothesis: If import substitution levels increase then they will increase economic wealth as measured by a declining poverty rate.

**Table 13**

**Poverty Regression Summary**

	3		3
(Constant)	**-.024	(Constant)	-0.023
AGEMP	**0.013	PRIMARYGOODS	-0.444
CONEMP	**0.029	MANUFACTURE	**0.014
MANEMP	*0.018	REALESTATE	-0.014
WHOLETRADEEMP	-0.003	WHOLESALE	0.019
RETAILEMP	0.002	PROFESSIONAL	**-.031
TRANSPORTEMP	-0.006	LEISURE	**-.021
INFOEMP	*-.015	OTHER	0.022
FINANCEEMP	**-.045	SOCIAL	-0.017
PROEMP	**-.027	UTILITY	**-.017
EDUEMP	**-.048		
ARTSEMP	0.002		
OTHEREMP	-0.002		
ADMINEMP	**-.021		
BACHELORS	**-.074	BACHELORS	**-.088
MEDAGE	**-.314	MEDAGE	**-.405
MARRIED	**-.134	MARRIED	**-.150
NONPROFIT	**0.102	NONPROFIT	**0.098
NC	0.002	NC	-0.011
MSA	*-.014	MSA	**-.022
POPENSITY	-0.013	POPENSITY	*-.038
OWNERHOME	**-.207	OWNERHOME	**-.211
DIVERSE	**-.345	DIVERSE	**-.390
Rho	**0.253	Rho	
Lambda		Lambda	**0.323
F		F	
R2	0.359	R2	0.337
* Coefficient is significant at .05 level			
**Coefficient is significant at the .01 level			
Improves Economic Wealth and Quality of Life			
Declines Economic Wealth and Quality of Life			

With both of the economic capital variables (employment and industrial) there was significant impacts, however there were varied directions of these impacts and there was no consensus on its impacts with POVERTY. AGEMP, CONEMP and MANEMP as well as MANUFACTURE had a significant negative impact on POVERTY while many other economic capital variables (both employment and industry LQ) had a positive

significant impact. All community capacity variables had a positive significant impact except for NONPROFIT, which had a negative significant impact. Location/Geography was consistent with MSA having a positive significant impact and control variables for OWNERHOME and DIVERSITY had a positive significant impact lowering POVERTY levels. Therefore, the research findings cannot reject the null hypothesis and accept the hypothesis. Furthermore, the impacts on POVERTY were different than the other economic wealth variables. The rigor was based on other similar research and provided a framework that allowed the results to meet reliability and validity tests.

These findings allow research to be furthered in multiple ways. First with the different significant impacts of the economic capital variables, this provides an understanding there needs to be a balance with the economic systems of a community. An infinite continuous approach will not lead to a true understanding of economic wealth based on POVERTY. Second, it provides a framework that POVERTY alone is not just an economic variable. Third, it appears that community capacity, location and social and economic control variables have a clearer impact on POVERTY than the economic capital variables. There are many different components to POVERTY and therefore should be viewed as more dynamic than this economic. This summary should lead to a deeper understanding of the causes of poverty and what community systems, in addition to economic, human and social capital as well as location and social and economic variables, lead to POVERTY levels.

SQ2 How do import substitution levels (location quotients-LQ) affect quality of life?

*Hypothesis 4* H<sub>A</sub>: Hypothesis If import substitution levels increase then they will increase quality of life as measured by a decrease in individuals who do not graduate from high school.

**Table 14**

**High School Drop Out Summary**

	<b>4</b>		<b>4</b>
(Constant)	-0.016	(Constant)	-0.004
AGEMP	0.005	PRIMARYGOODS	0
CONEMP	0.008	MANUFACTURE	<b>** .019</b>
MANEMP	<b>** .041</b>	REALESTATE	0.01
WHOLETRADEEMP	-0.012	WHOLESALE	0.02
RETAILEMP	0.024	PROFESSIONAL	<b>** -.034</b>
TRANSPORTEMP	0.008	LEISURE	<b>** -.027</b>
INFOEMP	-0.01	OTHER	0
FINANCEEMP	-0.019	SOCIAL	-0.005
PROEMP	0.007	UTILITY	0.01
EDUEMP	<b>** -.053</b>		
ARTSEMP	<b>** -.035</b>		
OTHEREMP	0.015		
ADMINEMP	-0.017		
BACHELORS	<b>** -.094</b>	BACHELORS	<b>** -.107</b>
MEDAGE	<b>** .670</b>	MEDAGE	<b>** .717</b>
MARRIED	<b>* .127</b>	MARRIED	<b>* .121</b>
NONPROFIT	-0.02	NONPROFIT	-0.016
NC	0.011	NC	-0.006
MSA	-0.004	MSA	-0.005
POPDENSITY	0.006	POPDENSITY	0.001
OWNERHOME	0.047	OWNERHOME	0.063
DIVERSE	<b>** -.178</b>	DIVERSE	<b>** -.182</b>
Rho	<b>** .126</b>	Rho	<b>** .148</b>
Lambda		Lambda	
F		F	
R2	0.175	R2	0.16
* Coefficient is significant at .05 level			
**Coefficient is significant at the .01 level			
Improves Economic Wealth and Quality of Life			
Declines Economic Wealth and Quality of Life			

High school graduation has been correlated within other research showing its relationship with quality of life. NOHIGHGRAD levels represent an improvement in quality of life if the levels decrease. With the economic capital LQ's, this varied among variables with significant independent variables moving in both directions, however there were only a few significant variables. MANEMP and MANUFACTURE had a significant negative impact increasing high school drop-out rates. EDUEMP, ARTSEMP, PROFESSIONAL and LEISURE had a positive significant impact decreasing drop-out rates. Therefore, the research findings cannot reject the null hypothesis and accept the hypothesis. DIVERSITY has once again provided a significant impact to the reduction of high school drop outs with race having a significant impact on the number of individuals not graduating high school.

This adds to the existing literature and research by showing that despite correlation with the other dependent variables, the independent variable impacts vary in significance and direction. An increased concentration in education related jobs (EDUEMP) show a significant impact to reducing high school drop outs, which may be associated to student/teacher classroom ratios. Therefore, an understanding of a balance of these capitals is important to an understanding of the systems of the community, which include the local economy. The only consistent measure has been the direction and significance of DIVERSITY where higher graduation rates are significantly impacted if there are higher amounts of individuals of white race.

*Hypothesis 5* H<sub>A</sub>: Hypothesis If import substitution levels increase then they will increase quality of life as measured by reduction of the divorce rate.

**Table 15**

**Divorce Rate Regression Summary**

	5		5
(Constant)	**-.029	(Constant)	*-.024
AGEMP	**0.015	PRIMARYGOODS	0
CONEMP	**0.027	MANUFACTURE	**0.017
MANEMP	0.021	REALESTATE	-0.02
WHOLETRADEEMP	-0.004	WHOLESALE	0.02
RETAILEMP	0.005	PROFESSIONAL	**-.042
TRANSPORTEMP	-0.007	LEISURE	*-.02
INFOEMP	*-.017	OTHER	0.003
FINANCEEMP	**-.049	SOCIAL	-0.013
PROEMP	*-.036	UTILITY	*-.022
EDUEMP	**-.05		
ARTSEMP	-0.001		
OTHEREMP	-0.001		
ADMINEMP	-0.017		
BACHELORS	**-.081	BACHELORS	**-.104
MEDAGE	*-.311	MEDAGE	*-.319
MARRIED	*-.15	MARRIED	*-.183
NONPROFIT	**0.103	NONPROFIT	**0.096
NC	0.002	NC	-0.011
MSA	*-.018	MSA	**-.021
POPENSITY	-0.02	POPENSITY	**-.05
OWNERHOME	*-.0227	OWNERHOME	*-.0241
DIVERSE	**-.0383	DIVERSE	**-.0337
Rho		Rho	
Lambda		Lambda	
F	**27.057	F	**28.329
R2	0.33	R2	0.296
* Coefficient is significant at .05 level			
**Coefficient is significant at the .01 level			
Improves Economic Wealth and Quality of Life			
Declines Economic Wealth and Quality of Life			

DIVORCE has been identified as a dependent variable that correlates with quality of life levels with other research. In relation to existing literature and research, economic capital levels, both LQ's based on employment and industrial concentration have varied impacts on DIVORCE. The only negative significant LQ variables were AGEMP, CONEMP and MANUFACTURE increased overall divorce rates. Four employment economic capital and three industry economic capital variables had a positive significant impact decreasing divorce rates representing an improvement in quality of life. Not all are significant and the directions are mixed based on the linear regression results. Therefore, the research findings cannot reject the null hypothesis and accept the hypothesis. However, community capacity, location and social and economic control variables were very consistent in significance and direction. DIVERSITY once again leads to a positive significant impact on DIVORCE towards a reduction in the divorce rate, bringing equity issues to a theme within this analysis.

The adds to the existing research as previous research has shown that economic wealth and quality of life are related, however this quality of life variable has different independent variable outcomes that the economic wealth independent variables. Once again some economic capital LQ's have a positive significant impact, while have a significant negative impact. Community capacity, location and the social and economic control variables provided a significant consistent explanation where only NONPROFIT provided a significant negative impact with divorce rates representing an increase in divorce rates. This supports the notion with the economic wealth hypothesis that there is a balance between these economic capitals as opposed to an infinite continuous measure of growth that improves both of the community development outcomes.

*Hypothesis 6* H<sub>A</sub>: Hypothesis If import substitution levels increase then they will increase quality of life as measured by a decrease in the amount of time to commute to work.

**Table 16**

**Mean Travel Time to Work Regression Summary**

	6		6
(Constant)	**-.012	(Constant)	**-.012
AGEMP	0.002	PRIMARYGOODS	**-.002
CONEMP	**-.014	MANUFACTURE	0.002
MANEMP	**-.012	REALESTATE	**-.010
WHOLETRADEEMP	-0.002	WHOLESALE	0.002
RETAILEMP	-0.007	PROFESSIONAL	*-.008
TRANSPORTEMP	*.006	LEISURE	**-.012
INFOEMP	0	OTHER	0.003
FINANCEEMP	*.007	SOCIAL	*-.008
PROEMP	**-.019	UTILITY	0
EDUEMP	*.013		
ARTSEMP	**-.015		
OTHEREMP	0		
ADMINEMP	-0.003		
BACHELORS	0.002	BACHELORS	0.001
MEDAGE	**-.172	MEDAGE	**-.175
MARRIED	**-.161	MARRIED	**-.184
NONPROFIT	-0.015	NONPROFIT	0.008
NC	0.005	NC	0.002
MSA	**-.009	MSA	**-.012
POPENSITY	**-.037	POPENSITY	**-.025
OWNERHOME	*.047	OWNERHOME	**-.075
DIVERSE	**-.071	DIVERSE	**-.081
Rho	**-.401	Rho	**-.446
Lambda		Lambda	
F		F	
R2	0.479	R2	0.457
* Coefficient is significant at .05 level			
**Coefficient is significant at the .01 level			
Improves Economic Wealth and Quality of Life			
Declines Economic Wealth and Quality of Life			

With the increased amount an individual has to drive to work reduces time for personal and leisure, which has been associated with reduced quality of life.

MEANTRAVEL represents a quality of life indicator which explains that increases in time to work decreases overall quality of life. All significant employment, except for



ARTSEMP, LQ's increased commute times, while PROFESSIONAL, LEISURE and SOCIAL industry LQ's decreased commute times. This has varied significance and direction with the economic capital variables, however DIVERSITY has proven to provide a consistent control representing a positive significant impact in an increase of economic wealth and quality of life. Therefore, the research findings cannot reject the null hypothesis and accept the hypothesis.

## Drawbacks and Difficulties with Research

Research has a specific design to analyze certain data under a specific approach, therefore all research cannot encapsulate all resources and limitations are present. Steps were taken to remove any bias through secondary data, provide rigor through application of an appropriate framework for validation, reliability and trustworthiness.

This study was design to research conditions of a local economy at specific locations (ZCTA) in a specific time period (2013). This does not allow a multi-year analysis to discover the impacts of short term and long term changes. This study also provided a dependent variable based on economic wealth instead of growth. This provides results of a specific time period and does not provide a framework for changes in time. This is consistent with Laughlin (2012), however allows an expansion in future growth research.

The variables used (dependent and independent) were derived from existing research on the impacts of certain capital on community outcomes, location based research, economic wealth and quality of life control variables as well as economic wealth research. The research clearly identifies that there may be variables with greater accuracy, significance and lower errors, however the variables selected followed a three (3) part test of first, is it used in similar research, second is it available at a local economic level (ZCTA) and third is it available. Crime as a variable was consistent as a good indicator of quality of life, however was not available in a standard summary for ZCTA and if it was obtained, would not meet the project design within the time limits of

the research. Additionally, GDP is an appropriate variable to measure the wealth of an economy, however this is not available on a ZCTA level.

Finally, the application of the regression analysis as the main component of the research design was chosen in order to create a new baseline analysis on how local economies/economic capital impacts economic growth and quality of life. This expansion of community development and local economic development research will lead to new research opportunities and without application of additional analysis, testing and/or methods, provides an initial foundation of new research. This research recognizes that there are other ways to expand, however the intent of this research was to first create a new baseline understanding of how local economies impact community development outcomes, and second, apply methodologies that are consistent in location and community development research (bootstrap and spatial autocorrelation treatments) which were agreed upon by the research team.

## Comparison to Prior Research

Prior research has shown benefits to strong local economic activity and this embraces many of those previous findings, however, it is not entirely consistent with the previous research. Yes, this research shows that community capitals impact economic wealth and quality of life as well as other community descriptors and location, but in a different fashion than the regional/state economic capital models where increased economic concentrations improve economic wealth and quality of life. This dissertation shows there are impact, including positive significant impacts, however there are independent economic capital variables that also provide negative significant impacts. Whereas, these impacts may initially be considered in opposition to the existing research, they support findings that infinite continuous growth of certain variables may not provide positive outcomes of economic wealth or quality of life, however understanding the direction of these variables and balance between these community systems could show significant results and time impacts of balanced local economies.

The actual concentrations of economic concentrations provide a very interesting story on how employment levels impact economic wealth and quality of life. Whereas, increased concentrations of industry usually provided a significant positive impact to these dependent variables, higher levels of employment in many cases actually provided significant negative impacts to economic wealth and quality of life. Therefore, policies implemented to add jobs alone to the economy do not improve economic wealth and quality of life. The researcher is not stating that adding jobs to the economy is bad public policy, rather the researcher is stating that jobs alone cannot improve economic wealth

and quality of life. Since research has shown immense productive benefits of local economies over regional (state economies) it would not be good public policy to adopt job only stimulates.

The areas where there is consistency is that location plays a role in the outcomes of economic wealth and quality of life. Additionally, human and social capital also provide positive significant impacts many times, however not all of the time and NONPROFIT did not provide any positive significant impacts to the dependent variables. Social and economic control variables followed existing research a majority of the time showing positive significant impacts from POPDENSE and OWNERHOME, but DIVERSITY showed positive significant outcomes every model; this may bring a consistent message forward in this research on the impacts of DIVERSE, however this opens the door of the racial equity issues that exist with economic growth and quality of life.

Laughlin's (2012) research design of social capital was based on county data and the results were different for NONPROFIT variables on a local level, however the other social capital independent variables used in each study did provide a significant impact on a majority of economic wealth and quality of life factors.

Based on Chaskin's (2001) community capacity of social and human capital, coupled with Laughlin's social capital and economic wealth (2012) and Benhabib and Spiegel's human capital (1994), Levine and Renelt's economic capital (1992), Krugman's location and economic geography (1998) as well as Emory and Flora's community capital, quality of life and economic wealth (2006, Schumacher 1964, Jacobs,

1970) the results of the research have been consistent. The differences are present that all variables that may cause economic wealth do not necessarily cause higher levels of quality of life and vice-versa. It appears that there are different impacts, all not significant, from the independent variables and therefore research needs to understand the balance of these variables. Economic wealth does not necessarily mean a higher quality of life and therefore in order to achieve both of these community development outcomes, there must be a balance within the community system (Emory and Flora, 2006).

## Research Implications, Practical Advice, Future Research and Reflections

### *Globalization and regional/state economic development*

The results of this research show how globalization does not consistently provide a positive significant impact on economic wealth and quality of life in local economies. If this was to mirror a successful parallel with other comparable theories, all economic capital variables would show a positive significant impact on each of the dependent variables. All results show multiple capitals having different significant impacts.

Globalization is a process of modernity and colonialism providing an economic blanket of control where its economic capital models show increased economic concentrations (LQ's) leading to increased economic wealth and quality of life. This rational, methodology and its local advantages are not evident based on the results of this research as all the economic capital variables do not show significant positive effects on economic wealth and quality of life.

The initial stage of growth is based on the self-sufficiency of a local economy; however, a regional model of export promotion and growth has been applied to strategies of self-sufficiency. Despite a self-sufficient balance, a focus of globalization has been applied to an understanding of local economic development; the research outcomes create a strong argument against this statement. This research provides significant results that an infinite continuous growth model does not provide a clear understanding of local economic activity on economic wealth and quality of life. The measure of import substitution has remained a significant representative proxy of local economic activities, as evidence by previous literature and the research results presented, however a regional

model implied that continuous economic activity would improve economic wealth and quality of life; this has been proven false based on this research. Furthermore, neo liberal economic development research has also provided a pathway that increased economic activity would increase economic wealth and quality of life. This has also been proven false, based on the existing sample. Different concentrations of local economic activity have provided different significant directions for both economic wealth and quality of life.

Finally, in all cases of economic wealth and in almost all cases of quality of life dependent variables, higher employment concentrations have provided significant negative impacts against these community outcomes, thus in conflict with existing economic approaches of globalization. Additional concentrations of jobs do not have a positive relationship, rather in local economies they detract from economic wealth and quality of life. This refutes the acceptance of globalization as a stand-alone explanation of positive free market outcomes. There must be other considerations.

### *Local Economic Development*

Different concentrations of local economic development activity have different significant impacts on economic wealth and quality of life. The challenge is that they do not have the same significant impact for the same dependent variable. Once again, neo liberal economic development strategies support ongoing increased economic concentrations would improve economic wealth and quality of life, however there is a much different picture from the results of the research. There are different impacts economic concentrations have on economic wealth and different impacts on quality of



life. These impacts are significant, which supports import substitution measurements (LQ) serving as an appropriate proxy for local economic activity. Furthermore, many community, location and social and economic control variables are supported that the community itself increases each of the referenced dependent variables.

The results at first glance may be counterintuitive to recent research and literature that stronger local economies improve economic wealth, however there are many variables moving in multiple directions. This shifts to the strength of the local economy should be measured not in infinite growth of economic concentration, but rather a balance of economic concentration and community variables. The true economic wealth may be measured not in how much is possible, but what balance is obtainable. This serves as a significant argument to an unchecked economic growth model that improves wealth and life. Furthermore, with recent literature and research showing advantages of local economic development over regional economic development, this research sets in motion of moving towards understanding how all capitals balance the economy and the impact of the system of these capitals.

The overall balance of the local economy would provide clarification of not how much economic capital, but the balance between the types of economic capital. By using the results provided for the research, this would lead to further research on what expected levels of economic capital would be introduced into communities based on its community systems (capitals, location and control).

Once again, additional employment concentrations, based on this research and sample, do not support a local economic development strategy based on solely a higher

concentration of employment. This was proven significant in many cases based on the outcomes of the employment regressions. Higher concentrations of industrial activity supported positive outcomes, and should be considered as an appropriate strategy for local economic development.

### *Quality of life and Economic Wealth*

Based upon this research, strong local economies can result in a higher quality of life for individuals in communities (Schumacher, 1974; Jacobs, 1970; Emery and Flora, 2006). However, this research has inconsistent results with the findings with independent variables having different causal relationships with economic wealth and quality of life. Therefore, based on this research, economic concentrations have different effects on economic wealth and quality of life. Instead of economic capital providing a significant positive impact on these dependent variables, there are different capitals and intervening variables moving in different directions. This would imply an opportunity to understand the balance of these variables and the systems within the balance. As stated earlier in this research, quality of life results from communities that have balanced community capitals providing systematic support for community development.

### *Public Policy*

The research shows that there are significant impacts that move in different directions impacting economic wealth and quality of life. Therefore, public policy should not support linear solutions to improving equity for economic wealth and quality of life based on globalization and regional/state economic development, but rather toward policy that serves as a stimulate to certain capitals within a system benefiting the local

economy. Porters cluster approach is consistent with this (2000), if there are industries present in the surrounding communities which would support a balance of multiple capitals balanced within the community system. Furthermore, policy that only focuses on higher concentrations of employment LQ's do not support improved economic wealth and quality of life. Processes and outcomes that are focused on Jobs do not improve community conditions as a stand-alone policy.

Recognition of community capitals and different impacts within a system can redirect funding toward appropriate capitals, steer legislation away from linear tax advantages toward economic concentrations to targeted economic concentrations that provide balance for local economies. Based on the literature, research and current findings, this policy shift would improve local economic performance and ultimately improve regional economic performance. This is supported through both economic schools of thought. Classical economics would support this through perfecting the information available to the economy would provide more perfect competition and Keynesian economics would support policies that provide interjection into the economy with this information. Furthermore, expanding on Porter's competitive model (2000) this would merge into the cluster strategy that clusters could actually exist if there was a balance of capitals within communities.

There is a need to explore a community's diversity and how its racial consistency affects economic wealth and quality of life. This control variable was the only independent variable that had a positive significant impact on economic wealth and quality of life through all of the model and the rigorous standards used for this research.

The results of the control variable DIVERSITY shows a positive significant impact on economic wealth and quality of life. With higher amounts of white concentrations, there are benefits within these communities. This equity issue needs to be explored in greater detail as well as scenarios where equity and higher amounts of diverse races have higher levels of economic wealth. As an unintended finding, this consistent result provides a foundation for further local economic research and community empowerment. Despite the research design as developed to explore the impact of local economic concentrations, this variable fell within the rigorous standards for the research, provided reliability in repeated samples as well as valid significance and direction based on these different variables.

There needs to be further research to determine the short term and long term impacts of local economic concentrations. This research was to provide a baseline understanding of what impacts economic capital influenced economic wealth and quality of life. Other existing research looks at long term impacts and using this model as a baseline and the changes over different period of years would be helpful in order to determine policy impacts and the time it takes to make changes to the overall condition of the community. Whereas, short term research could be completed at this time, in order to look at the long-term impacts of economic capital, research would either have to wait until the 2020 census is complete or look at previous decades as the overall geographic shape of a ZCTA may change every 10 years.

This research provides justification for Gross Domestic Product (GDP) to be measured on a local economic level. Currently GDP is not available at the ZCTA level

due to size constraints as well as protecting information on US citizens. Therefore, there are difficulties comparing economic wealth with all dependent variables to a regional level. The research is clear that local economies have many benefits in comparison to regional and global economies and this research builds a platform to progress local economic research, however common variables will need to be present in order to provide increased reliability and validity for comparable dependent variable outcomes of economic wealth and quality of life.

Finally, the results of the control variable DIVERSITY shows a positive significant impact on economic wealth and quality of life. With higher amounts of white concentrations, there are benefits within these communities. This equity issue needs to be explored in greater detail as well as scenarios where equity and higher amounts of diverse races have higher levels of economic wealth. As an unintended finding, this consistent result provides a foundation for further local economic research and community empowerment.

### *Research Implications*

This dissertation research and results provide a baseline understanding of the impacts economic capitals have on economic wealth and quality of life. It clearly shows that there are multiple significant impacts moving in different directions which make a case to understand the balance of these capitals within a local economic system. Previous local economic research can be expanded into quantitative models using the regression outcomes as a baseline towards understanding short and long term impacts as well as the

balance of community capitals with location/geography and social and economic control variables.

The findings of employment concentrations and their impacts on economic wealth and quality of life are not consistent with mainstream economic development frameworks and provide a non-consistent, if not opposite, result of other neo liberal economic approaches. Furthermore, higher industrial concentrations in many cases improved these community conditions. Therefore, researching a balance not only between all capitals, but between these variables would be an appropriate next step in this progressive research framework.

Research showing how a global structure does not benefit local economies by improving economic wealth and quality of life can be expanded towards the relationship of the balance within a local economies and other existing economic clusters in the region. Understanding this balance and how it connects with other economic systems is prevalent in this research.

Finally, understanding a deeper meaning of the capitals and controls used in this research. Equity is the consistent outcome in this research and understanding how to diversify to additional races to have the same community benefits is set forth in this dissertation. Further research on race, equity and culture has an incredible foundation based on the unintended results of this dissertation.

## *Reflections*

Empowered communities have current research findings and empirical evidence supporting better decisions are be made with better information; in the best interest of the community. This supports community development as well as economic development theory how increased knowledge improves human outcomes. Strong local economies have incredible amounts of evidence that support the benefits of these capital impacts and reframing this information how these economies impact economic wealth and quality of life supports progress of community development. These outcomes provide a critical piece for communities understanding their economic conditions and opportunities. This is the fundamental core of this dissertation and the purpose for expanding this knowledge base.

Within a capitalistic economic system, globalization and infinite economic growth has varied impacts on economic wealth and quality of life. The results of this dissertation do not explain the effects of increased economic concentrations; but rather understand a balance of economic capitals in relation to the capacity of the community; social and human capitals. With the varied directions of the capital impacts lead to the economic balance provides a more complete understanding than the current economic development justification of global growth.

These results lead to a better understanding of the local economic system within communities and policy supporting stronger local economies would seek to understand the balance as well as impacts that move local economies out of balance. With other existing research showing the benefits of location, agglomeration and clustering of

economic activity, these benefits are stimulated when the local systems are balanced and connect with these research efforts.

Finally, research expanding on these findings have an opportunity to explore the overall balance of community capitals and their impact on community outcomes as well as decisions community stakeholders make when this information is presented. This research platform is relevant to the existing needs of the economy and support other expanding areas of research that stem from the community. This should be supported and expanded based on a platform of community empowerment, community capitals/systems and the overall output this has on economic wealth and quality of life.

The evolution of improving human lives has progressed to continue understanding different levels of human analysis and how they impact the overall human condition. Moving toward a complete understanding of the economy from a global system of investment to the balance of community systems and capitals allows a focus to improve local lives within the current economic conditions and approach. Analysis based on a local level, when community decisions are made in the best interest of community stakeholders, truly allows an understanding how economic productivity to increase at higher levels and a focus of economic balance and its impacts on an improved quality of life. Ultimately, this micro-local understanding provides the ultimate foundation to improve lives on a macro-global level.



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## APPENDIX A

### REGRESSION AND SPATIAL AUTOCORRELATION SUMMARIES

**Table**

**Dependent Variable Median Income Employment LQ**

	1	2	3	4	5	5 (SE)	5 (VIF)	6	6 (SE)	7
(Constant)	**0.011	**0.014	**0.022	**0.01	**0.031	0.008		**0.031	0.008	**0.028
AGEMP	0.002	0.002	0.002	0.001	0	0.003	1.394	0	0.004	0
CONEMP	-0.007	-0.007	-0.008	0	-0.003	0.007	1.13	-0.003	0.008	-0.002
MANEMP	**0.028	**0.026	**0.029	*0.02	*0.016	0.008	1.314	0.016	0.01	0.014
WHOLETRADEEMP	0.007	0.007	0.006	0.01	0.008	0.006	1.267	0.008	0.008	0.006
RETAILEMP	*0.019	0.017	*0.02	*0.023	*0.021	0.009	1.137	0.021	0.015	*0.022
TRANSPORTEMP	*-0.014	-0.012	-0.013	**0.018	**0.018	0.007	1.281	-0.018	0.009	**0.019
INFOEMP	-0.004	-0.004	-0.005	-0.006	-0.006	0.006	1.232	-0.006	0.007	-0.006
FINANCEEMP	-0.013	-0.01	-0.014	-0.01	-0.012	0.007	1.292	-0.012	0.009	-0.009
PROEMP	-0.008	-0.006	-0.01	-0.008	-0.008	0.009	1.318	-0.008	0.01	-0.004
EDUEMP	**0.031	**0.035	**0.032	**0.037	**0.037	0.012	1.143	*-0.037	0.015	**0.035
ARTSEMP	-0.012	*-0.016	-0.012	-0.015	*-0.016	0.008	1.244	-0.016	0.011	-0.014
OTHEREMP	*0.014	0.012	*0.014	*0.017	*0.013	0.007	1.088	0.013	0.009	*0.014
ADMINEMP	-0.002	-0.004	-0.001	-0.006	-0.009	0.006	1.147	-0.009	0.01	-0.009
BACHELORS		**0.078			**0.079	0.017	1.126	**0.079	0.018	**0.072
MEDAGE		-0.113			-0.134	0.085	1.683	-0.134	0.109	-0.14
MARRIED		-0.001			*0.098	0.042	1.544	0.098	0.073	*0.102
NONPROFIT		*0.051			0.052	0.027	1.418	*0.052	0.02	*0.054
NC			0.009		*0.012	0.006	1.091	0.012	0.006	0.01
MSA			0.008		0.011	0.007	1.348	0.011	0.007	0.01
POPDENSITY				0.017	0.006	0.014	2.513	0.006	0.015	0.005
OWNERHOME				*0.085	**0.119	0.044	1.356	0.119	0.091	**0.120
DIVERSE				**0.234	**0.25	0.033	1.312	**0.25	0.052	**0.237
Rho										**0.027
Lambda										
F	**3.822	**4.683	**3.551	**6.979	**6.864			**6.864		
R2	0.039	0.062	0.042	0.084	0.111			0.111		0.134
* Coefficient is significant at .05 level										
**Coefficient is significant at the .01 level										

**Table**

**Spatial Autocorrelation Test-Median Income Employment LQ**

	Value	Probability
Morans I	9.380	0.000
Lagrange Multiplier (Lag)	97.801	0.000
Robust LM (Lag)	16.570	0.000
Lagrange Multiplier (Error)	81.601	0.000
Robust LM (Error)	0.370	0.542

**Table**

**Dependent Variable Median Income Industry LQ**

	1	2	3	4	5	5 (SE)	5 (VIF)	6	6 (SE)	7
(Constant)	**-.005	-0.004	**-.029	**0.009	-0.005	0.005		-0.005	0.006	-0.003
PRIMARYGOODS	*-.003	-0.002	-0.002	0.001	0.001	0.001	1.19	0.001	0.001	0.001
MANUFACTURE	-0.002	-0.002	-0.002	-0.005	-0.004	0.003	1.08	-0.004	0.003	-0.001
REALESTATE	**0.033	**0.024	**0.031	**0.021	**0.016	0.004	1.188	*0.016	0.007	**0.012
WHOLESALE	**-.012	*-.011	**-.021	**-.011	**-.015	0.005	1.704	-0.015	0.007	*-.014
PROFESSIONAL	**0.031	**0.03	**0.024	**0.02	**0.02	0.005	1.416	**0.02	0.007	**0.014
LEISURE	**0.016	**0.018	**0.015	0.007	**0.011	0.004	1.215	*0.011	0.006	**0.011
OTHER	0.004	0.007	0.002	0	0.001	0.004	1.152	0.001	0.007	0.004
SOCIAL	-0.001	0.002	-0.002	0.002	0.004	0.005	1.103	0.004	0.007	0.005
UTILITY	**0.019	**0.017	**0.016	**0.013	**0.011	0.003	1.124	*0.011	0.005	**0.008
BACHELORS		**0.087			**0.066	0.01	1.13	**0.066	0.013	**0.054
MEDAGE		-0.021			0	0.051	1.635	0	0.077	0.017
MARRIED		**0.176			**0.113	0.025	1.47	0.113	0.067	**0.098
NONPROFIT		-0.007			-0.025	0.016	1.418	-0.025	0.016	-0.027
NC			*0.013		0.008	0.005	1.718	0.008	0.005	0.008
MSA			**0.025		**0.014	0.004	1.322	**0.014	0.004	*.007
POPDENSITY				**0.055	**0.045	0.008	2.218	**0.045	0.012	**0.030
OWNERHOME				**0.188	**0.163	0.026	1.314	*0.163	0.065	**0.144
DIVERSE				**0.195	**0.149	0.02	1.289	**0.149	0.028	**0.125
Rho										**0.389
Lambda										
F	**20.538	**26.616	**20.876	**37.135	**31.786			**31.786		
R2	0.131	0.221	0.158	0.268	0.321			0.321		0.395
* Coefficient is significant at .05 level										
**Coefficient is significant at the .01 level										

**Table**

**Spatial Autocorrelation Test-Median Income LQ**

	Value	Probability
Morans I	10.018	0.000
Lagrange Multiplier (Lag)	103.496	0.000
Robust LM (Lag)	10.511	0.001
Lagrange Multiplier (Error)	94.492	0.000
Robust LM (Error)	1.543	0.214

**Table**

**Dependent Variable Unemployment Employment LQ**

	1	2	3	4	5	5 (SE)	5 (VIF)	6	6 (SE)	7
(Constant)	**0.011	**0.014	**0.022	**0.01	**0.031	0.008		**0.031	0.008	**0.028
AGEMP	0.002	0.002	0.002	0.001	0	0.003	1.394	0	0.004	0
CONEMP	-0.007	-0.007	-0.008	0	-0.003	0.007	1.13	-0.003	0.008	-0.002
MANEMP	**0.028	**0.026	**0.029	*0.02	*0.016	0.008	1.314	0.016	0.01	0.014
WHOLETRADEEMP	0.007	0.007	0.006	0.01	0.008	0.006	1.267	0.008	0.008	0.006
RETAILEMP	*0.019	0.017	*0.02	*0.023	*0.021	0.009	1.137	0.021	0.015	*0.022
TRANSPORTEMP	*-0.014	-0.012	-0.013	**0.018	**0.018	0.007	1.281	-0.018	0.009	**0.019
INFOEMP	-0.004	-0.004	-0.005	-0.006	-0.006	0.006	1.232	-0.006	0.007	-0.006
FINANCEEMP	-0.013	-0.01	-0.014	-0.01	-0.012	0.007	1.292	-0.012	0.009	-0.009
PROEMP	-0.008	-0.006	-0.01	-0.008	-0.008	0.009	1.318	-0.008	0.01	-0.004
EDUEMP	**0.031	**0.035	**0.032	**0.037	**0.037	0.012	1.143	*-0.037	0.015	**0.035
ARTSEMP	-0.012	*-0.016	-0.012	-0.015	*-0.016	0.008	1.244	-0.016	0.011	-0.014
OTHEREMP	*0.014	0.012	*0.014	*0.017	*0.013	0.007	1.088	0.013	0.009	*0.014
ADMINEMP	-0.002	-0.004	-0.001	-0.006	-0.009	0.006	1.147	-0.009	0.01	-0.009
BACHELORS		**0.078			**0.079	0.017	1.126	**0.079	0.018	**0.072
MEDAGE		-0.113			-0.134	0.085	1.683	-0.134	0.109	-0.14
MARRIED		-0.001			*0.098	0.042	1.544	0.098	0.073	*0.102
NONPROFIT		*0.051			0.052	0.027	1.418	*0.052	0.02	*0.054
NC			0.009		*0.012	0.006	1.091	0.012	0.006	0.01
MSA			0.008		0.011	0.007	1.348	0.011	0.007	0.01
POPDENSITY				0.017	0.006	0.014	2.513	0.006	0.015	0.005
OWNERHOME				*0.085	**0.119	0.044	1.356	0.119	0.091	**0.120
DIVERSE				**0.234	**0.25	0.033	1.312	**0.25	0.052	**0.237
Rho										**0.027
Lambda										
F	**3.822	**4.683	**3.551	**6.979	**6.864			**6.864		
R2	0.039	0.062	0.042	0.084	0.111			0.111		0.134
* Coefficient is significant at .05 level										
**Coefficient is significant at the .01 level										

**Table**

**Spatial Autocorrelation Test-Unemployment Employment LQ**

	Value	Probability
Morans I	4.859	0.000
Lagrange Multiplier (Lag)	21.879	0.000
Robust LM (Lag)	1.063	0.302
Lagrange Multiplier (Error)	20.829	0.000
Robust LM (Error)	0.013	0.906

**Table**

**Dependent Variable Unemployment Industry LQ**

	1	2	3	4	5	5 (SE)	5 (VIF)	6	6 (SE)	7
(Constant)	** -0.011	** -0.014	** -0.02	0.001	** -0.033	0.009		** -0.033	0.009	** -.030
PRIMARYGOODS	0.002	0.002	0.003	*0.003	0.001	0.002	1.19	0.001	0.002	0.001
MANUFACTURE	**0.019	**0.017	**0.019	**0.013	**0.018	0.004	1.08	**0.018	0.005	** .168
REALESTATE	** -0.037	** -0.036	** -0.038	0.003	** -0.031	0.007	1.188	** -0.031	0.01	** -.029
WHOLESALE	*0.015	0.012	0.009	**0.018	-0.004	0.009	1.704	-0.004	0.011	-0.005
PROFESSIONAL	-0.006	-0.01	-0.007	*-0.016	-0.007	0.009	1.416	-0.007	0.01	-0.005
LEISURE	-0.002	-0.007	-0.001	-0.008	-0.002	0.007	1.215	-0.002	0.009	0
OTHER	**0.022	**0.018	**0.022	0.004	**0.02	0.007	1.152	0.02	0.01	** .019
SOCIAL	*-0.017	*-0.019	*-0.016	-0.013	** -0.026	0.008	1.103	*-0.026	0.01	** -.025
UTILITY	*0.014	*0.013	*0.013	*-0.01	*0.014	0.006	1.124	0.014	0.008	*.014
BACHELORS		** -0.083			** -0.083	0.017	1.13	** -0.083	0.017	** -.075
MEDAGE		-0.077			-0.123	0.083	1.635	-0.123	0.108	-0.132
MARRIED		0.019			**0.103	0.041	1.47	0.103	0.074	** .108
NONPROFIT		*0.054			*0.053	0.027	1.418	*0.053	0.02	*.055
NC			0.009		*0.019	0.008	1.718	0.019	0.009	0.017
MSA			0.005		0.009	0.007	1.322	0.009	0.007	0.007
POPENSITY				**0.054	0.009	0.013	2.218	0.009	0.015	0.007
OWNERHOME				**0.163	**0.125	0.043	1.314	0.125	0.1	** .127
DIVERSE				-0.003	** -0.236	0.032	1.289	** -0.236	0.049	** -.223
Rho										** .194
Lambda										
F	**7.557	**7.57	**6.35	**5.479	**9.234			**9.234		
R2	0.053	0.075	0.054	0.051	0.121			0.121		0.141
* Coefficient is significant at .05 level										
**Coefficient is significant at the .01 level										

**Table**

**Spatial Autocorrelation Test-Unemployment Industry LQ**

	Value	Probability
Morans I	4.322	0.000
Lagrange Multiplier (Lag)	19.508	0.000
Robust LM (Lag)	3.260	0.066
Lagrange Multiplier (Error)	16.630	0.000
Robust LM (Error)	0.482	0.487

**Table**

**Dependent Variable Poverty Employment LQ**

	1	2	3	4	5	5 (SE)	5 (VIF)	6	6 (SE)	7
(Constant)	**-.014	*-0.011	-0.008	**-.026	-0.018	0.012		-0.018	0.013	**-.024
AGEMP	**0.013	*0.009	*0.011	0.005	0.005	0.005	1.394	0.005	0.005	**0.013
CONEMP	0.017	0.008	0.016	0.014	0.011	0.01	1.13	0.011	0.011	**0.029
MANEMP	**0.064	**0.051	**0.065	**0.054	**0.044	0.012	1.314	**0.044	0.014	*.018
WHOLETRADEEMP	*-0.019	-0.016	-0.017	-0.012	-0.013	0.009	1.267	-0.013	0.01	-0.003
RETAILEMP	0.023	0.022	0.024	0.026	0.026	0.014	1.137	0.026	0.016	0.002
TRANSPORTEMP	*0.022	0.011	*0.024	0.012	0.008	0.01	1.281	0.008	0.011	-0.006
INFOEMP	*-0.017	-0.01	-0.015	-0.01	-0.01	0.008	1.232	-0.01	0.011	*-.015
FINANCEEMP	-0.016	-0.02	-0.017	-0.012	-0.02	0.011	1.292	-0.02	0.011	**-.045
PROEMP	-0.002	0.005	0.002	0.005	0.007	0.013	1.318	0.007	0.014	**-.027
EDUEMP	**-.072	*-0.053	**-.075	**-.071	**-.057	0.017	1.143	*-0.057	0.024	**-.048
ARTSEMP	**-.047	*-0.039	**-.047	**-.042	**-.039	0.012	1.244	*-0.039	0.018	0.002
OTHEREMP	0.012	0.013	0.013	0.013	0.015	0.01	1.088	0.015	0.012	-0.002
ADMINEMP	-0.007	-0.011	-0.009	-0.011	-0.016	0.009	1.147	-0.016	0.012	**-.021
BACHELORS		**-.098		**-.051	**-.097	0.025	1.126	**-.097	0.028	**-.074
MEDAGE		**0.715		*0.159	**0.684	0.126	1.683	**0.684	0.19	**-.314
MARRIED		0.05		*-0.113	*0.129	0.062	1.544	0.129	0.144	**-.134
NONPROFIT		-0.024			-0.022	0.039	1.418	-0.022	0.041	**0.102
NC			0.009		0.011	0.009	1.091	0.011	0.009	0.002
MSA			*-0.019		-0.005	0.01	1.348	-0.005	0.01	*-.014
POPDENSITY					0	0.021	2.513	0	0.024	-0.013
OWNERHOME					0.058	0.064	1.356	0.058	0.125	**-.207
DIVERSE					**-.188	0.048	1.312	*-0.188	0.081	**-.345
Rho										**0.253
Lambda										
F	**11.497	**12.984	**10.341	**11.006	**10.959			10.959		
R2	0.109	0.154	0.113	0.127	0.166			0.166		0.359
* Coefficient is significant at .05 level										
**Coefficient is significant at the .01 level										

**Table**

**Spatial Autocorrelation Test-Poverty Employment LQ**

	Value	Probability
Morans I	6.478	0.000
Lagrange Multiplier (Lag)	39.284	0.000
Robust LM (Lag)	2.818	0.093
Lagrange Multiplier (Error)	37.994	0.000
Robust LM (Error)	1.529	0.216

**Table**

**Dependent Variable Poverty Industry LQ**

	1	2	3	4	5	5 (SE)	5 (VIF)	6	6 (SE)	7
(Constant)	**-.014	*.11	0.012	**-.029	-0.007	0.013		-0.007	0.014	-0.023
PRIMARYGOODS	0.005	0.001	0.004	0	0	0.003	1.19	0	0.003	-0.444
MANUFACTURE	**0.029	**0.021	**0.029	**0.027	**0.022	0.006	1.08	**0.022	0.006	**0.014
REALESTATE	0.018	0.001	0.02	0.017	0.008	0.011	1.188	0.008	0.013	-0.014
WHOLESALE	0.022	0.02	*0.032	*0.022	0.022	0.013	1.704	0.022	0.015	0.019
PROFESSIONAL	**-.062	**-.044	**-.056	**-.037	**-.038	0.013	1.416	*-.038	0.016	**-.031
LEISURE	**-.033	**-.032	**-.033	**-.024	**-.029	0.01	1.215	*-.029	0.012	**-.021
OTHER	0.001	-0.002	0.003	0.004	0	0.01	1.152	0	0.012	0.022
SOCIAL	-0.006	0.002	-0.006	-0.006	-0.004	0.011	1.103	-0.004	0.013	-0.017
UTILITY	0.006	0.007	0.009	0.01	0.009	0.008	1.124	0.009	0.01	**-.017
BACHELORS		**-.0121			**-.0112	0.025	1.13	**-.0112	0.029	**-.088
MEDAGE		**0.811			**0.739	0.125	1.635	**0.739	0.201	**-.405
MARRIED		0.057			*0.128	0.061	1.47	0.128	0.145	**-.150
NONPROFIT		-0.024			-0.017	0.04	1.418	-0.017	0.043	**0.098
NC			-0.015		-0.007	0.011	1.718	-0.007	0.012	-0.011
MSA			**-.025		-0.006	0.01	1.322	-0.006	0.011	**-.022
POPENSITY				**-.065	-0.005	0.02	2.218	-0.005	0.022	*-.038
OWNERHOME				**0.199	0.078	0.064	1.314	0.078	0.131	**-.211
DIVERSE				**-.0134	*-0.192	0.048	1.289	-0.192	0.08	**-.390
Rho										
Lambda										**0.323
F	**10.394	**14.494	**9.258	**11.445	**11.688			**11.688		
R2	0.071	0.134	0.077	0.101	0.148			0.148		0.337
* Coefficient is significant at .05 level										
**Coefficient is significant at the .01 level										

**Table**

**Spatial Autocorrelation Test Poverty Industry LQ**

	Value	Probability
Morans I	6.583	0.000
Lagrange Multiplier (Lag)	39.114	0.000
Robust LM (Lag)	1.724	0.189
Lagrange Multiplier (Error)	39.924	0.000
Robust LM (Error)	2.207	0.137



**Table**

**Dependent Variable High School Drop Out Employment LQ**

	1	2	3	4	5	5 (SE)	5 (VIF)	6	6 (SE)	7
(Constant)	**-.011	**-.116	*-.013	-0.004	-0.007	0.008		-0.007	0.009	-0.016
AGEMP	-0.002	-0.003	-0.003	0	0	0.003	1.394	0	0.004	0.005
CONEMP	0.011	0.011	0.01	0.012	*0.012	0.006	1.13	0.012	0.011	0.008
MANEMP	-0.006	-0.01	-0.006	-0.007	-0.01	0.007	1.314	-0.01	0.01	**-.041
WHOLETRADEEMP	**0.021	**0.021	**0.021	**0.018	**0.018	0.006	1.267	*0.018	0.007	-0.012
RETAILEMP	**0.045	**0.046	**0.046	**0.045	*0.046	0.008	1.137	**0.046	0.015	0.024
TRANSPORTEMP	0.001	-0.003	0.003	0.001	0	0.006	1.281	0	0.008	0.008
INFOEMP	-0.003	-0.002	-0.002	-0.007	-0.006	0.005	1.232	-0.006	0.006	-0.01
FINANCEEMP	-0.012	*-0.014	-0.013	*-0.014	**-.018	0.007	1.292	-0.018	0.01	-0.019
PROEMP	0.008	0.008	0.009	0.003	0.004	0.008	1.318	0.004	0.015	0.007
EDUEMP	**-.034	**-.033	**-.036	**-.035	**-.034	0.011	1.143	-0.034	0.021	**-.053
ARTSEMP	**-.03	**-.031	**-.03	**-.029	**-.031	0.007	1.244	**-.031	0.011	**-.035
OTHEREMP	0.006	0.008	0.007	0.006	0.008	0.006	1.088	0.008	0.008	0.015
ADMINEMP	**-.018	**-.017	**-.018	*-0.015	**-.015	0.006	1.147	-0.015	0.009	-0.017
BACHELORS		-0.023			-0.029	0.015	1.126	*-0.029	0.014	**-.094
MEDAGE		**0.414			**0.453	0.077	1.683	**0.453	0.123	**-.670
MARRIED		**-.099			*-0.085	0.038	1.544	-0.085	0.103	*.127
NONPROFIT		**0.079			*0.055	0.024	1.418	**0.055	0.023	-0.02
NC			0.008		0.007	0.006	1.091	0.007	0.006	0.011
MSA			-0.005		-0.004	0.006	1.348	-0.004	0.006	-0.004
POPDENSITY				**0.035	**0.048	0.013	2.513	**0.048	0.017	0.006
OWNERHOME				**0.136	*0.084	0.04	1.356	0.084	0.086	0.047
DIVERSE				-0.038	-0.034	0.03	1.312	-0.034	0.048	**-.178
Rho										**-.126
Lambda										
F	**6.614	**8.065	**5.934	**6.563	**7.160			**7.16		
R2	0.066	0.101	0.068	0.08	0.115			0.115		0.175
* Coefficient is significant at .05 level										
**Coefficient is significant at the .01 level										

**Table**

**Spatial Autocorrelation Test-High School Drop Out Employment LQ**

	Value	Probability
Morans I	2.654	0.007
Lagrange Multiplier (Lag)	8.522	0.009
Robust LM (Lag)	5.040	0.025
Lagrange Multiplier (Error)	5.681	0.017
Robust LM (Error)	2.198	0.138

**Table**

**Dependent Variable High School Drop Out Industry LQ**

	1	2	3	4	5	5 (SE)	5 (VIF)	6	6 (SE)	7
(Constant)	**-.011	**-.017	-0.011	0.001	0.004	0.008		0.004	0.008	-0.004
PRIMARYGOODS	0.001	0.001	0.001	*0.003	*0.003	0.002	1.19	0.003	0.002	0
MANUFACTURE	**0.014	**0.013	**0.013	**0.013	**0.012	0.004	1.08	**0.012	0.005	**_.019
REALESTATE	0.004	0.003	0.004	0.003	0.003	0.007	1.188	0.003	0.01	0.01
WHOLESALE	**0.019	**0.019	**0.023	**0.018	**0.022	0.008	1.704	0.022	0.011	0.02
PROFESSIONAL	-0.007	-0.012	-0.009	*-0.016	**-.022	0.008	1.416	-0.022	0.013	**-.034
LEISURE	-0.003	-0.003	-0.004	-0.008	-0.009	0.006	1.215	-0.009	0.01	**-.027
OTHER	0.006	0.007	0.005	0.004	0.003	0.006	1.152	0.003	0.01	0
SOCIAL	-0.01	-0.012	-0.01	-0.013	*-0.014	0.007	1.103	-0.014	0.01	-0.005
UTILITY	-0.006	-0.005	-0.008	*-.01	-0.009	0.005	1.124	-0.009	0.008	0.01
BACHELORS		-0.013			*-0.032	0.015	1.13	**-.032	0.014	**-.107
MEDAGE		**0.383			**0.472	0.077	1.635	**0.472	0.129	**_.717
MARRIED		*-0.073			*-0.084	0.038	1.47	-0.084	0.103	*.121
NONPROFIT		**0.098			*0.059	0.025	1.418	**0.059	0.02	-0.016
NC			-0.006		-0.006	0.007	1.718	-0.006	0.008	-0.006
MSA			0.005		2.57E-05	0.006	1.322	2.57E-05	0.006	-0.005
POPENSITY				**0.054	**0.068	0.012	2.218	**0.068	0.017	0.001
OWNERHOME				**0.163	*0.101	0.039	1.314	0.101	0.091	0.063
DIVERSE				-0.003	0.005	0.03	1.289	0.005	0.052	**-.182
Rho										**_.148
Lambda										
F	**3.229	**5.86	**2.788	**5.479	**6.496			**6.496		
R2	0.023	0.059	0.025	0.051	0.088			0.088		0.16
* Coefficient is significant at .05 level										
**Coefficient is significant at the .01 level										

**Table**

**Spatial Autocorrelation Test-High School Drop Out Industry LQ**

	Value	Probability
Morans I	3.020	0.003
Lagrange Multiplier (Lag)	11.894	0.001
Robust LM (Lag)	7.584	0.006
Lagrange Multiplier (Error)	7.775	0.005
Robust LM (Error)	3.467	0.063

**Table**

**Dependent Variable Divorce Rate Employment LQ**

	1	2	3	4	5	5 (SE)	5 (VIF)	6	6 (SE)	7
(Constant)	**0.021	**0.031	-0.01	**0.027	**0.029	0.009		**0.029	0.009	-0.005
AGEMP	**0.017	**0.021	**0.015	**0.017	**0.015	0.004	1.394	**0.015	0.004	0
CONEMP	0.004	*0.016	0.004	**0.027	**0.027	0.008	1.13	**0.027	0.009	*.012
MANEMP	**0.029	**0.033	**0.029	*0.019	*0.021	0.009	1.314	0.021	0.011	-0.011
WHOLETRADEEMP	-0.013	*-0.015	-0.01	-0.006	-0.004	0.007	1.267	-0.004	0.009	**0.018
RETAILEMP	-0.002	-0.002	-0.002	0.005	0.005	0.01	1.137	0.005	0.014	**0.045
TRANSPORTEMP	-0.01	0	-0.009	-0.012	-0.007	0.008	1.281	-0.007	0.009	0
INFOEMP	*-0.015	**0.018	-0.013	**0.02	**0.017	0.006	1.232	*-0.017	0.008	-0.006
FINANCEEMP	**0.067	**0.055	**0.067	**0.056	**0.049	0.008	1.292	**0.049	0.011	*.017
PROEMP	**0.052	**0.046	**0.048	**0.045	**0.036	0.01	1.318	*-0.036	0.016	0.005
EDUEMP	-0.017	**0.045	-0.018	**0.035	**0.05	0.013	1.143	**0.05	0.017	**0.034
ARTSEMP	*0.02	0.004	*0.02	0.005	-0.001	0.009	1.244	-0.001	0.012	**0.030
OTHEREMP	-0.007	-0.008	-0.006	0.001	-0.001	0.007	1.088	-0.001	0.009	0.007
ADMINEMP	-9.90E-05	0	-0.001	*-0.017	*-0.017	0.007	1.147	-0.017	0.009	**0.015
BACHELORS		**0.085			**0.081	0.019	1.126	**0.081	0.018	-0.028
MEDAGE		**0.41			**0.311	0.096	1.683	*-0.311	0.123	**0.443
MARRIED		**0.306			**0.15	0.047	1.544	*-0.15	0.069	*.082
NONPROFIT		**0.115			**0.103	0.03	1.418	**0.103	0.026	*.055
NC			8.22E-05		0.002	0.007	1.091	0.002	0.006	0.005
MSA			*-0.018		*-0.018	0.007	1.348	*-0.018	0.008	-0.004
POPDENSITY				0.006	-0.02	0.016	2.513	-0.02	0.02	**0.046
OWNERHOME				**0.304	**0.227	0.049	1.356	*-0.227	0.12	*.081
DIVERSE				**0.465	**0.383	0.037	1.312	**0.383	0.04	-0.037
Rho										**0.122
Lambda										
F	**16.199	**23.23	**14.407	**30.933	**27.057			**27.057		
R2	0.147	0.245	0.151	0.289	0.33			0.33		0.122
* Coefficient is significant at .05 level										
**Coefficient is significant at the .01 level										

**Table**

**Spatial Autocorrelation Test-Divorce Rate Employment LQ**

	Value	Probability
Morans I	2.421	0.015
Lagrange Multiplier (Lag)	5.400	0.020
Robust LM (Lag)	0.964	0.326
Lagrange Multiplier (Error)	4.636	0.031
Robust LM (Error)	0.200	0.654

**Table**

**Dependent Variable Divorce Rate Industry LQ**

	1	2	3	4	5	5 (SE)	5 (VIF)	6	6 (SE)	7
(Constant)	** -0.021	** -0.029	0.012	** -0.036	* -0.024	0.01		* -0.024	0.011	0.005
PRIMARYGOODS	0.003	0.004	0.002	0	0	0.002	1.19	0	0.002	*.003
MANUFACTURE	*0.011	*0.012	*0.011	**0.017	**0.017	0.005	1.08	**0.017	0.006	** .011
REALESTATE	** -0.059	** -0.036	** -0.055	** -0.029	* -0.02	0.009	1.188	-0.02	0.011	0.002
WHOLESALE	*0.019	0.016	**0.033	0.016	*0.02	0.01	1.704	0.02	0.013	** .021
PROFESSIONAL	** -0.044	** -0.055	** -0.036	** -0.039	** -0.042	0.01	1.416	** -0.042	0.011	** .020
LEISURE	* -0.024	** -0.031	** -0.024	-0.013	** -0.02	0.008	1.215	* -0.02	0.009	-0.009
OTHER	-0.001	-0.005	0.001	0.006	0.003	0.008	1.152	0.003	0.01	0.002
SOCIAL	0.005	-0.007	0.005	-0.008	-0.013	0.009	1.103	-0.013	0.011	*.014
UTILITY	** -0.035	** -0.032	* -0.03	** -0.025	* -0.022	0.006	1.124	* -0.022	0.008	-0.009
BACHELORS		** -0.134			** -0.104	0.019	1.13	** -0.104	0.02	*.030
MEDAGE		** -0.326			** -0.319	0.097	1.635	* -0.319	0.12	** .462
MARRIED		** -0.317			** -0.183	0.047	1.47	* -0.183	0.082	*.082
NONPROFIT		0.081			**0.096	0.031	1.418	**0.096	0.027	*.058
NC			* -0.021		-0.011	0.009	1.718	-0.011	0.01	-0.007
MSA			** -0.031		** -0.021	0.008	1.322	** -0.021	0.008	-0.561
POPENSITY				** -0.042	** -0.05	0.015	2.218	** -0.05	0.018	** .066
OWNERHOME				** -0.339	** -0.241	0.05	1.314	* -0.241	0.123	*.098
DIVERSE				** -0.432	** -0.337	0.037	1.289	** -0.337	0.042	0.001
Rho										** .114
Lambda										
F	**15.48	**24.697	**14.478	**31.843	**28.329			**28.329		
R2	0.102	0.209	0.115	0.239	0.296			0.296		0.094
* Coefficient is significant at .05 level										
**Coefficient is significant at the .01 level										

**Table**

**Spatial Autocorrelation Test-Divorce Rate Industry LQ**

	Value	Probability
Morans I	2.239	0.025
Lagrange Multiplier (Lag)	4.675	0.030
Robust LM (Lag)	0.791	0.373
Lagrange Multiplier (Error)	4.058	0.044
Robust LM (Error)	0.172	0.678

**Table**

**Dependent Variable Mean Travel Time to Work Employment LQ**

	1	2	3	4	5	5 (SE)	5 (VIF)	6	6 (SE)	7
(Constant)	0.003	**0.007	0.007	**0.012	**0.014	0.004		**0.014	0.004	**0.012
AGEMP	**0.01	**0.007	**0.01	0.001	0.002	0.002	1.394	0.002	0.002	0.002
CONEMP	**0.027	**0.021	**0.028	**0.021	**0.019	0.003	1.13	**0.019	0.005	**0.014
MANEMP	**0.025	**0.02	**0.025	**0.018	**0.014	0.004	1.314	**0.014	0.006	**0.012
WHOLETRADEEMP	*-0.007	-0.005	-0.006	0.001	-0.001	0.003	1.267	-0.001	0.003	-0.002
RETAILEMP	-0.008	-0.009	-0.008	-0.005	-0.006	0.004	1.137	-0.006	0.007	-0.007
TRANSPORTEMP	**0.021	**0.015	**0.021	**0.012	**0.009	0.003	1.281	0.009	0.004	*0.006
INFOEMP	-0.005	-0.002	-0.005	0.004	0.002	0.003	1.232	0.002	0.003	0
FINANCEEMP	*0.008	0.003	*0.008	**0.012	0.006	0.004	1.292	0.006	0.005	*0.007
PROEMP	**0.02	**0.02	**0.02	**0.028	**0.023	0.004	1.318	**0.023	0.005	**0.019
EDUEMP	9.18E-05	**0.015	0.001	0.003	**0.014	0.006	1.143	0.014	0.01	*0.013
ARTSEMP	**0.031	**0.023	**0.031	**0.025	**0.022	0.004	1.244	**0.022	0.006	**0.015
OTHEREMP	0	0.001	0	0.001	0	0.003	1.088	0	0.005	0
ADMINEMP	0.001	-0.001	0.001	-0.002	-0.004	0.003	1.147	-0.004	0.005	-0.003
BACHELORS		-0.011			-0.004	0.008	1.126	-0.004	0.007	0.002
MEDAGE		**0.301			**0.179	0.041	1.683	*0.179	0.066	**0.172
MARRIED		**0.135			**0.169	0.02	1.544	**0.169	0.038	**0.161
NONPROFIT		**0.054			-0.016	0.013	1.418	-0.016	0.01	-0.015
NC			-0.004		0	0.003	1.091	0	0.003	0.005
MSA			-0.003		**0.01	0.003	1.348	**0.01	0.003	**0.009
POPDENSITY				**0.07	**0.055	0.007	2.513	**0.055	0.008	**0.037
OWNERHOME				**0.096	**0.058	0.021	1.356	**0.058	0.037	*0.047
DIVERSE				-0.021	**0.085	0.016	1.312	**0.085	0.02	**0.071
Rho										**0.401
Lambda										
F	**28.908	**38.552	**25.158	**38.948	**37.703			**37.703		
R2	0.236	0.351	0.237	0.339	0.407			0.407		0.479
* Coefficient is significant at .05 level										
**Coefficient is significant at the .01 level										

**Table**

**Spatial Autocorrelation Test-Mean Travel Time to Work Employment LQ**

	Value	Probability
Morans I	8.953	0.000
Lagrange Multiplier (Lag)	118.535	0.000
Robust LM (Lag)	48.977	0.000
Lagrange Multiplier (Error)	74.154	0.000
Robust LM (Error)	4.594	0.032

**Table**

**Dependent Variable Mean Travel Time to Work Industry LQ**

	1	2	3	4	5	5 (SE)	5 (VIF)	6	6 (SE)	7
(Constant)	0.003	**0.005	0.004	**-.008	**-.017	0.004		**-.017	0.004	**-.012
PRIMARYGOODS	**0.007	0.005	**0.007	**0.003	**0.003	0.001	1.19	**0.003	0.001	**0.002
MANUFACTURE	**0.006	0.002	*0.006	0.004	0.002	0.002	1.08	0.002	0.002	0.002
REALESTATE	**0.025	**0.011	0.025	**0.02	**0.011	0.004	1.188	*0.011	0.005	**0.010
WHOLESALE	0.005	0.005	0.008	0.006	0.003	0.004	1.704	0.003	0.006	0.002
PROFESSIONAL	**-.023	**-.015	**-.024	-0.005	-0.008	0.004	1.416	-0.008	0.006	*-.008
LEISURE	**-.021	**-.02	**-.021	**-.015	**-.016	0.003	1.215	**-.016	0.005	**-.012
OTHER	0.004	0.003	0.003	0.005	0.004	0.003	1.152	0.004	0.005	0.003
SOCIAL	**-.011	-0.005	*-.011	*-.009	-0.007	0.004	1.103	-0.007	0.005	*-.008
UTILITY	0.001	-7.11E-05	0.001	0.004	1.26E-06	0.003	1.124	1.26E-06	0.004	0
BACHELORS		**-.017			-0.007	0.008	1.13	-0.007	0.007	0.001
MEDAGE		**0.315			**0.186	0.042	1.635	**0.186	0.071	**0.175
MARRIED		**0.168			**0.202	0.02	1.47	**0.202	0.039	**0.184
NONPROFIT		-0.022			0.009	0.013	1.418	0.009	0.011	0.008
NC			-0.004		0.002	0.004	1.718	0.002	0.004	0.002
MSA			0.002		**0.015	0.003	1.322	**0.015	0.003	**0.012
POPENSITY				**-.049	**-.043	0.007	2.218	**-.043	0.008	**-.025
OWNERHOME				**0.149	**0.097	0.021	1.314	*0.097	0.046	**0.075
DIVERSE				-0.031	**-.097	0.016	1.289	**-.097	0.021	**-.081
Rho										**0.446
Lambda										
F	26.781	**39.712	**22.007	**35.618	**37.906			**37.906		
R2	0.165	0.298	0.166	0.26	0.36			0.36		0.457
* Coefficient is significant at .05 level										
**Coefficient is significant at the .01 level										

**Table**

**Spatial Autocorrelation Test-Mean Travel Time to Work Industry LQ**

	Value	Probability
Morans I	11.090	0.000
Lagrange Multiplier (Lag)	155.435	0.000
Robust LM (Lag)	40.228	0.000
Lagrange Multiplier (Error)	116.328	0.000
Robust LM (Error)	1.103	0.294

APPENDIX B

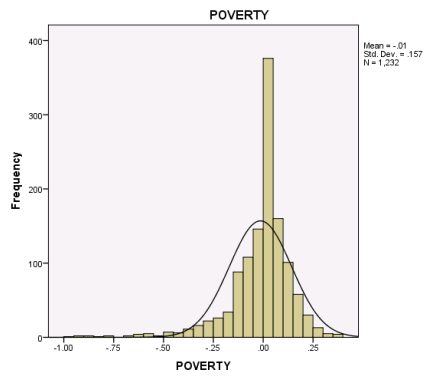
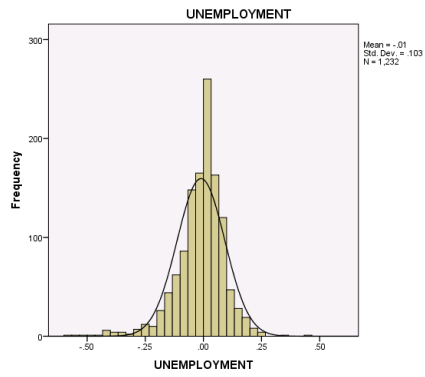
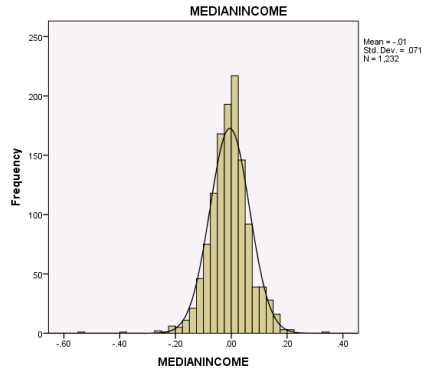
HISTOGRAMS

# Independent and Dependent Variables

## Histogram

### Dependent Variable

### Economic Wealth

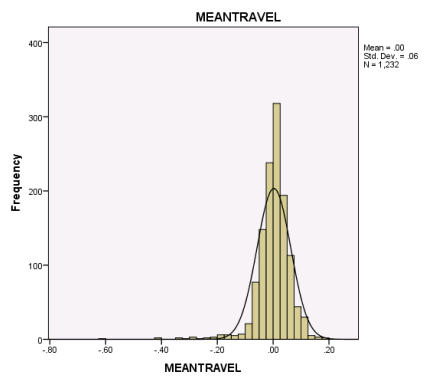
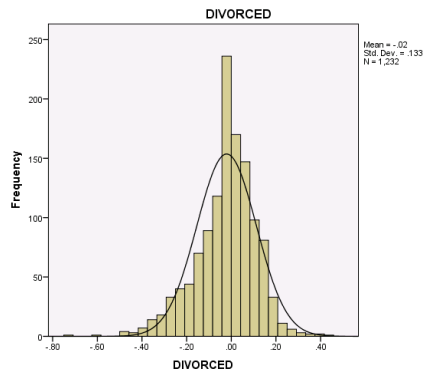
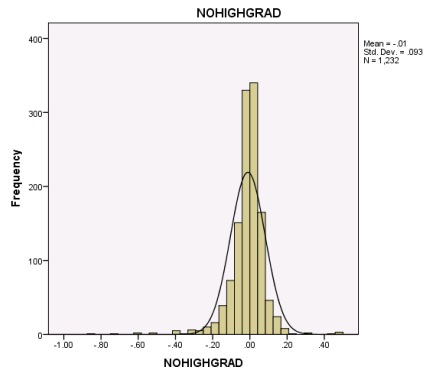




# Histogram

## Dependent Variable

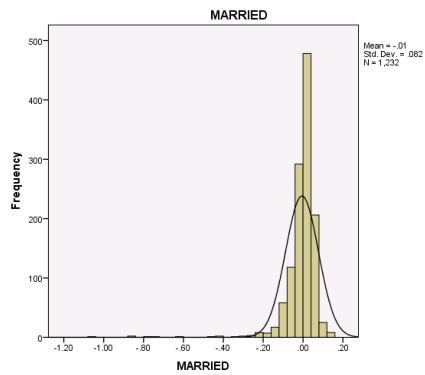
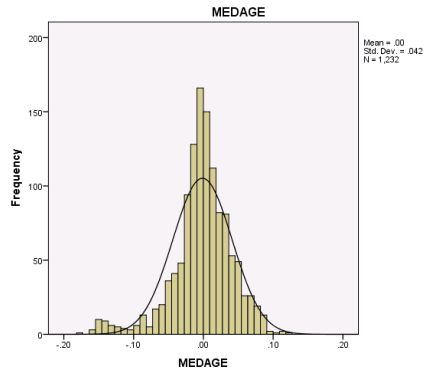
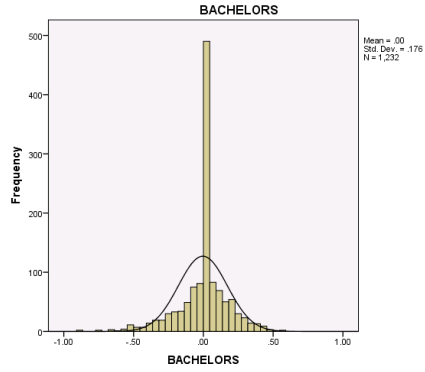
### Quality of Life

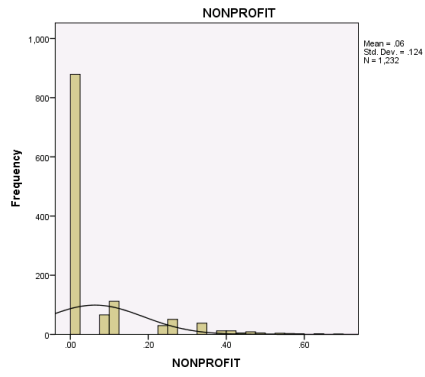


# Histogram

## Human Capital (Bachelor's Degree and Median Age)

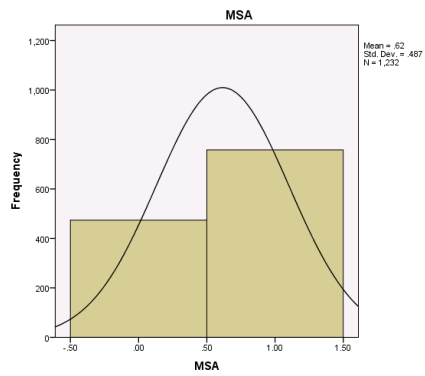
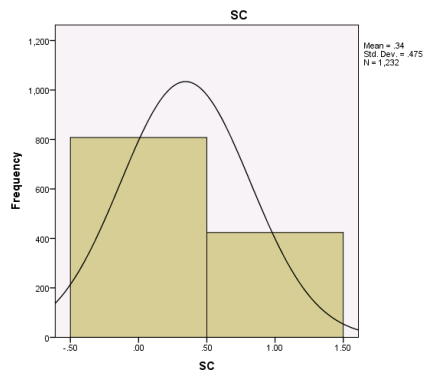
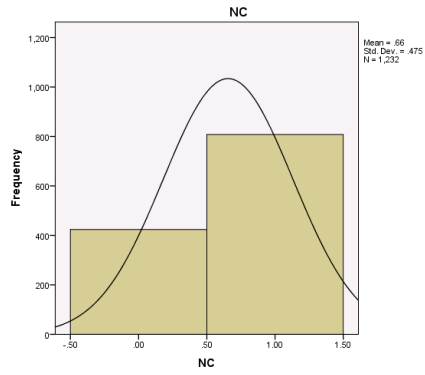
## Social Capital (Marriage Rates and Non-Profits)





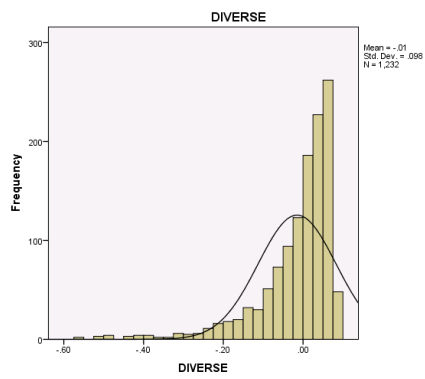
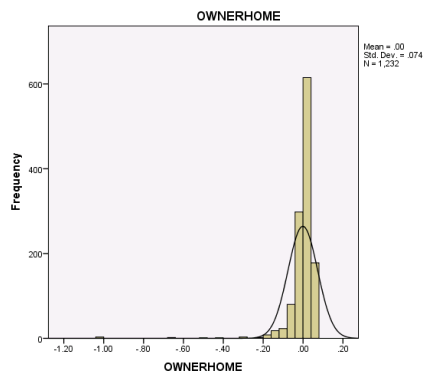
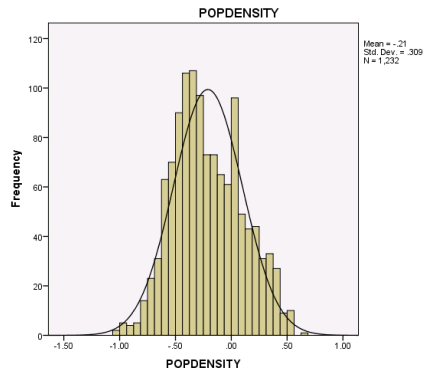
# Histogram

## Geography/Location State and Metropolitan Statistical Area (MSA)



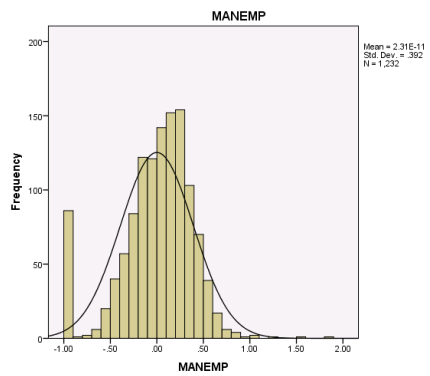
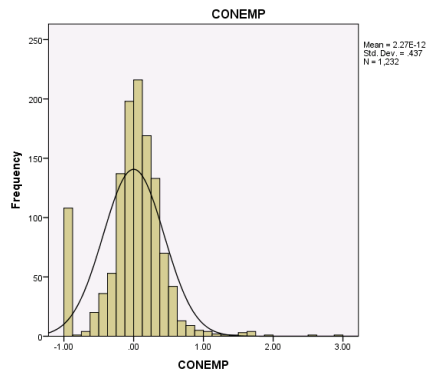
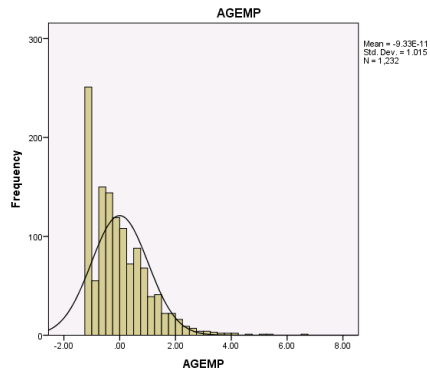
# Histogram

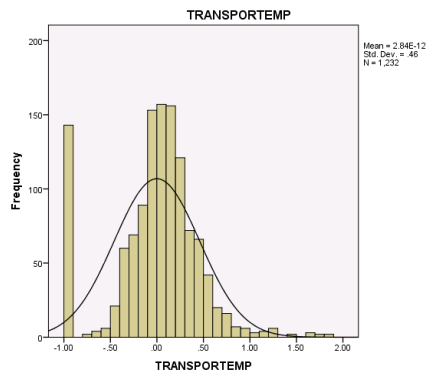
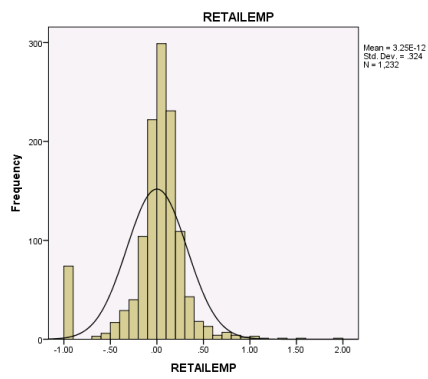
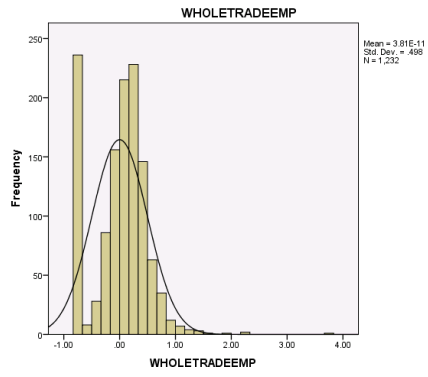
## Social and Economic Control

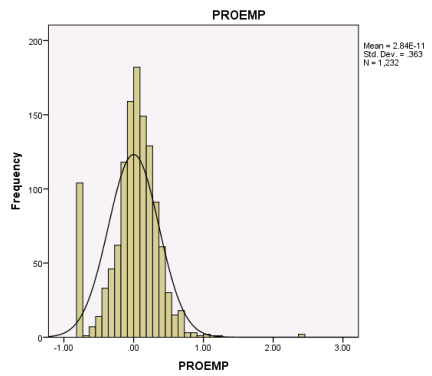
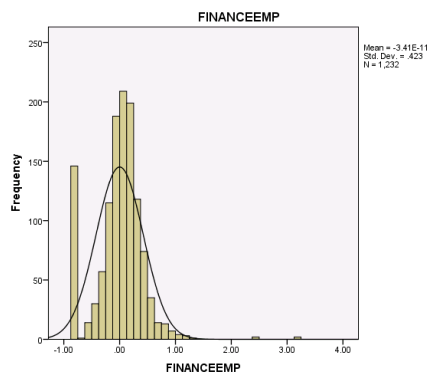
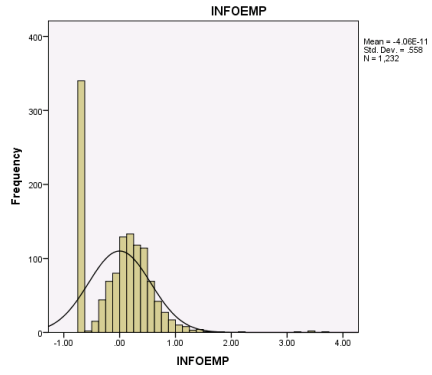


# Histogram

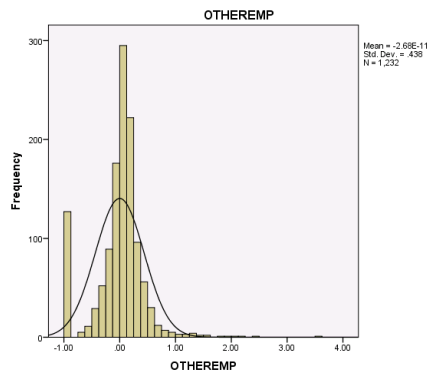
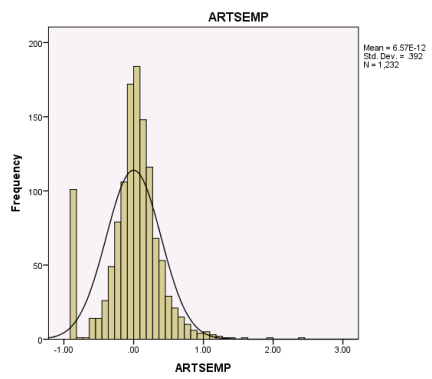
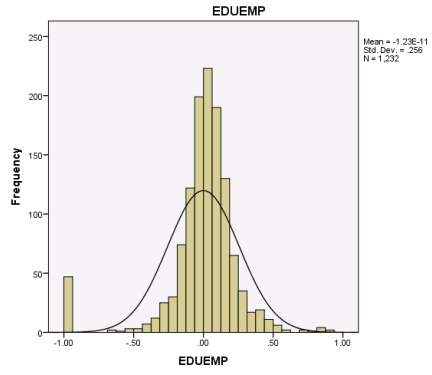
## Employment Location Quotients-Economic Capital

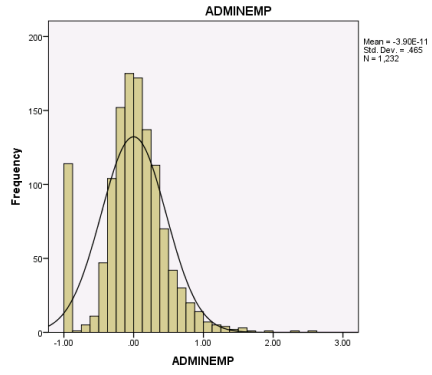












# Histogram

## Industry Location Quotients-Economic Capital

