Are College-Educated Minorities Also Contributing to Gentrification in Los Angeles County?

A Statistical Analysis

A thesis submitted in partial fulfillment of the requirements
For the degree of Master of Arts in Geography,
GIS Program

By

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May 2016
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ACKNOWLEDGMENTS

I would like to thank my committee chair, Dr. Regan Maas, for her patience, advice, and guidance. As an older student leaving the field of law, Dr. Regan Maas has shown me that one can never be too old to learn and to be passionate about something new. I would also like to thank Dr. Ronald Davidson who taught me to see and appreciate my urban environment in a new and positive way. I would also like to thank Dr. Steven Graves who taught me the basics of statistics and a few Excel Jedi tricks along the way as well as teaching me to appreciate Ohio State football.

I would also like to thank my wife Emilia Simental and my son Anthony Simental for their love, support, and most of all for having the patience of a saint while I pursued my Master’s Degree and completed this thesis.
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ABSTRACT

Are College Educated Minorities Also Contributing to Gentrification in Los Angeles County? A Statistical Analysis

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The purpose of this thesis is to determine whether college educated minorities and other neighborhood-level characteristics including industry participation are having an effect on gentrification in Los Angeles County using statistical analysis methods such as Ordinary Least Squares (OLS) Regression, spatial lag, spatial error, and spatially mixed autoregression models, and geographically weighted regression (GWR). This study demonstrates that the presence of college educated minorities as well as diversity in the population have a positive relationship to gentrification in Los Angeles County.

This thesis contributes to the understanding of the process of gentrification in Los Angeles County and how race, education, and industry employment classifications contribute to the gentrification process.
Chapter 1: Introduction

1.1 Purpose of the Study, Research Question and Thesis

The purpose of this study is to examine gentrification and the impact that college educated minorities have on the gentrification process in Los Angeles County. To begin, there is no generally accepted definition of gentrification. Despite this, there is a common belief that gentrification is a process where middle class, college educated Whites move into predominately poor and minority urban areas that have certain attractive attributes like historic housing stock, proximity to central business districts, etc., which leads to higher rents and home values, neighborhood transformation, and the displacement of many of the original residents. The research question is whether college educated minorities are also a contributing factor to gentrification in Los Angeles County. Despite the common belief that gentrification is a White, middle class driven process, gentrification in Los Angeles County is also being driven by the presence of college educated minorities and that gentrification does not automatically lead to less diversity.

1.2 Background, Scope, and Significance of Gentrification

The world population is becoming more urban. According to the United Nations, slightly more than half of the world’s population currently live in urban areas and the urban population is expected to increase to 66 percent by 2050. As a result, how urban areas are managed and further developed will affect the majority of humanity directly. If urban growth is managed poorly, this could encourage more segregation and the creation and maintenance of concentrations of poverty. The impact of increasing urbanization ensures that in the future, mayors and city councils of cities around the world will have a
more direct impact on people’s lives than Presidents, Prime Ministers, and national legislative bodies.

The subject of gentrification intersects with urbanization because it involves issues of race, class, education, economic development, economic opportunity, and public policy. Urban areas generally have the highest land values and are often, if not always, the economic, political, and cultural centers of society. Although it is desirable to have economically and culturally vibrant urban cores, it is not in society’s best interest that these areas become the exclusive urban playground for the affluent at the expense of the poor and minority. Many cities around the world have gone through some form of gentrification or another, including places such as London and Sydney, Australia. In the United States, cities like San Francisco, Seattle, Boston, and Austin are synonymous with gentrification and these areas have a tendency to attract growth industries and highly skilled college educated people (Florida, 2014; Moretti, 2012). Gentrification has also resulted in conflicts between poorer, urban residents and higher income “gentrifiers” due to increased competition for housing. Gentrification leads to higher housing costs and widening income and wealth disparities. One recent example of the conflict is in San Francisco where citizens have protested against high income technology workers (i.e. the gentrifiers) and their private “Google busses”. Protestors blame the high rents on gentrification and “greedy” landlords with their Ellis Act evictions. In the City of Los Angeles, neighborhoods such as Silverlake, Echo Park, Venice, and downtown Los Angeles are also associated with gentrification and the subject of gentrification and housing affordability are major concerns there as well. Alternatively, cities like Detroit and other rust belt cities tend to have stagnant economies, poorly educated, lower skilled
workers, lower wages and decreasing opportunities and these cities would welcome an infusion of gentrification (Moretti, 2012).

The subject of gentrification is a highly political subject that arouses passionate feelings for both those who are in favor of the urban revival that it produces and those who believe that gentrification leads to the wholesale displacement of these vulnerable populations. For example, Hector Tovar stated in an article published in the New York Times regarding the Highland Park neighborhood of Los Angeles, that gentrification had the effect of ending de facto racial segregation and has benefited many Latinos, including Latino entrepreneurs who have opened up businesses in the area. A contrary point of view regarding gentrification is expressed by Newman and Wyly (2006) who argue that gentrification leads to increasing housing costs, which results in the displacement of many local residents as well as transforming these neighborhoods into areas that are too expensive for lower income people to live in.

The scope of the problems addressed in this paper concern the commonly held belief that more affluent, college educated Whites are the primary agents in the gentrification process and are displacing minorities in gentrifying areas of Los Angeles County. In a city like Los Angeles it is appropriate to also ask if college educated minorities are also contributing to the gentrification process and whether the ethnic composition of these gentrifying neighborhoods areas are dramatically changing. The practical significance of this study is to include in the overall discussion of gentrification the participation of college educated minorities in the gentrification process, a topic that has not been adequately studied. Because Los Angeles County has a large ethnic and immigrant population with a minority White population, it is possible that there could be
other models that have yet to be imagined that include minorities, immigrant entrepreneurs, and other industry segments that further explain the gentrification process. The premise for this statement is that there are currently different theories regarding urban economic growth and gentrification and a “one size fits all” model approach may not work with different areas with different economic profiles and local conditions. If middle class, college educated minorities are also contributing to gentrification and if gentrification is not leading to a significant drop in overall percentage of minority representation in these areas, then public policies should not be focused solely on stopping gentrification. As a result, public policy should be more focused on providing incentives for building and maintaining low to moderate income housing to accommodate some of the low income, minority renters who would otherwise be negatively impacted by gentrification and also strengthen Rent Control Laws.

1.3 Theoretical Framework

The literature review in this study will focus on four theories that are used to understand the process of gentrification. These theories are the Creative Class Theory, the Rent Gap Theory, the Human Capital Theory, and the Social Capital Theory. These are not the only theories available to explain urban and regional economic development and gentrification, but they inform this analysis most directly. As will be explained in more detail in the literature section, these theories have different focuses. To briefly summarize, under the Creative Class Theory, an area must possess the three T’s (technology, talent, and tolerance) to drive economic development in the post-industrial age. Florida argues that quality of life issues are key to attracting talented individuals. In turn, creative people who also possess highly sought after skills are attracted to areas that
are tolerant of difference. Talented people with technological skills concentrate in cities, which in turn creates a creative critical mass thus driving economic development (Florida, 2014). This could explain for example why a young, talented computer graphics designer who appreciates diversity and urban culture would more likely prefer to live in “Silicon Beach” in Santa Monica or Venice Beach and work for Electronic Arts in Playa Vista rather than live and work in Detroit.

Under the Rent Gap Theory, the basic concept is that in certain urban areas the land itself may be very valuable but the physical improvements on that land could be functionally obsolete or not being used in a way that could earn the highest potential market rent for the area (“highest and best use”) (Smith, 1979; Smith, 1987; Diappi, 2008). The Rent Gap Theory further explains that when the gap between the current rent and the highest potential market rent for that area becomes too great, the property owner will become motivated to reuse, rehabilitate, or redevelop the property in order to capture the highest potential market rent (Smith, 1979; Smith, 1987; Diappi, 2008). This would explain for example why a developer would want to buy an obsolete warehouse building rented out occasionally for movie shoots in the gentrifying Arts District in downtown Los Angeles, demolish it and replace with a mixed use residential and commercial retail building to maximize the potential market rent on the property.

The Human Capital Theory is based on the idea that it is the concentration of educated individuals in a particular area that generates economic growth (Hoyman and Faricy, 2009). The Social Capital Theory is based on the concept that dense social networks is an important factor for economic development (Putnam, 1994).
This study will examine whether there is a positive correlation between college educated minorities and gentrification in Los Angeles County. In addition, it \textbf{will address} the Creative Class Theory by testing whether there are positive correlations between certain industry groups, that could fairly be categorized as “creative class” industries, and gentrification. Furthermore, it \textbf{will also analyze} the Human Capital Theory by determining whether there is a positive correlation between people who have a college education generally and gentrification. Finally, this study \textbf{will analyze} whether racial diversity is correlated with gentrification, which could be the basis for an argument that social capital involving large and different racial and ethnic communities living in close proximity is a factor in maintaining diversity in gentrifying communities.
Chapter 2: Literature Review

2.1 What is Gentrification?

There is no generally accepted definition of gentrification. According to Hannigan (1995), Ruth Glass (1964) was the first person to use the term “gentrification” to describe how formally low-income areas of London were transformed by new middle-class arrivals who occupied and renovated the local housing stock. Another point of view on gentrification focused on the economics of urban real estate, otherwise known as the Rent Gap Theory (Hackworth, 2005). A more expansive point of view regarding gentrification includes the redevelopment of industrial, warehousing and port lands, which does not have the effect of dislocating any local residents (Hannigan, 1995). Hartley (2014) described the effects of gentrification as follows:

“Gentrification is a form of neighborhood change. While it does not have a precise definition, it is commonly associated with an increase in income, rising home prices or rents, and sometimes with change in the occupational mix and educational level of neighborhood residents.” (p. 23)

One common belief regarding gentrification is that it is a rejection of suburbia and the suburban lifestyle in favor of inner-city living that offers diversity and a more cosmopolitan lifestyle (Hannigan, 1995; Hackworth, 2005). In addition, gentrification could also be seen as a cyclical process in which young people move into the city, get married and start a family, then move out to the suburbs only to be replaced by a new group of young people and empty nesters, who benefit from the renovations made to the housing stock by the previous owners (Helms, 2003). Helms also notes, “Housing rehabilitation, which is the most visible evidence of gentrification, improves the city’s physical health by forestalling further decay of the housing stock and improves its fiscal health by boosting the property tax base” (2003, p. 475).
As described above, there are different points of views regarding gentrification and there is no consensus as to what causes gentrification. Consequently, there are competing theories to explain this process. The theories discussed in this study include the following: 1) Creative Class; 2) Rent Gap; 3) Human Capital; and 4) Social Capital. Below is a description of each theory and their critiques as well as how they conflict and complement each other.

2.2 Creative Class Theory

In classic economic theory, it was the “firm” or business entity that decided where to locate and cluster. As a result, the firm was considered the primary economic and social organizing unit for people (Florida, 2014). In contrast, Florida (2014) argued that instead of the firm, it was location or “place” that was the primary organizing unit for people as well as for the firms themselves and what makes a place attractive to businesses (i.e. the firm) is its ability to attract smart, talented people (Florida, 2014). What makes a place attractive to smart, talented people are a place’s natural, cultural and built amenities, including the presence of other talented people (Florida, 2014). Florida argues that to encourage economic development, development efforts should focus on attracting talented people and not on specific industries or firms (Florida, 2014).

The type of jobs that fall under the broad category of creative class jobs are jobs that produce new ideas, services, products, or are engaged in creative problem solving (Florida, 2014). Florida (2014) argues that the industry classifications that fall under the creative class include “…design, entertainment, and media; computer and mathematical sciences; management; law; architecture and engineering; medicine; finance; life, physical, and social sciences; education; and of course the super-creative occupations like
university professors, thought leaders, actors, musicians, dancers, novelists, and poets” (p. 197). Being a member of the creative class does not necessary mean that one has a college degree. According to Florida, less than 60% of the creative class have college degrees but three-fourths of college degree holders are members of the creative class (Florida, 2014). The point here is that the emphasis is on creativity and highly valued technical skills and the ability to create new ideas, products and services and it is these creative individuals that ultimately drive economic growth (Florida, 2014).

To attract smart, talented, and creative individuals that are critical to economic growth, a place must possess the “Three T’s,” 1) Technology; 2) Talent; and 3) Tolerance (Florida, 2014). Technology (i.e. products, services, or know-how) is the thing that allows the economy to evolve and grow. Talent is a catchall term to describe creative individuals that have the ability to create new or improved products and services or create entirely new markets. The concept of tolerance is based on the belief that talented individuals are attracted to areas that are more tolerant of new ideas and lifestyles (Florida, 2014).

Citing Jacobs (1961), Florida notes that there exists a long term connection between creativity, bohemian diversity, and “the vibrant life” (Florida, 2002). He posits that creative class individuals by their very nature are non-conformist, which also includes “bohemians” and artists. As early adopters and trend setters, bohemians and artists have the ability to identify and concentrate in certain urban areas that are high in cultural amenities, desirable neighborhood character, and also have the ability to create amenities themselves. This process eventually results in the local urban housing stock becoming more desirable, which attracts more creative class type individuals (Florida,
2009). This process results in the tendency for certain innovative economic activity to locate itself in or within close proximity to these creative and bohemian areas (Florida, 2002). This supports Florida’s third “T” for tolerance in that a large presence of bohemians indicate an openness to diversity, which in turn attracts smart, creative talent, or the second “T” element for economic development (Florida, 2002).

In criticizing the Creative Class Theory, Kratke (2010) argues that Florida failed to take into account the difficulty of defining what exactly are the limits of creative activity and that in our current contemporary industrial society, nearly all occupations involve a certain amount of creative activity in addition to simply following instructions or rote processes. According to Kratke (2010):

Technologically advanced manufacturing processes and today’s complex forms of economic organization would face severe disruption if a large share of the people in industrial manufacturing occupations did not possess highly developed ‘tactic (implicit) knowledge’ and creative problem-solving capacities in dealing with complex manufacturing facilities and organizational procedures. Furthermore, as Will and Keil (2008) have pointed out, creativity is also the working poor’s major resource for survival in the diverse urban worlds of capitalism….In addition to the problem of a lack of conceptual clarity in the notion of creativity, Florida’s delimitations of a creative class are also highly questionable with regard to the internal subgroups of this social construct (p. 837).

In terms of concentrating in certain geographic areas, Kratke (2010) argues that Florida’s creative class argument represents nothing more than different social and occupational groups co-locating in the same area, which does not support the assumption that there is a correlation or casual relationship between these diverse social and occupational groups and how and where they decide to locate. In response to Florida’s three Ts, Kratke (2010) argued that Florida did not factor the possibility that cities and regions could gain economic development on the basis of different economic industry
profiles and job classifications rather than those associated with the creative class. In addition, Hoyman (2009) argued that the Creative Class Theory failed across multiple statistical tests to explain either job growth, growth in wages, or absolute levels of wages. He stated that human capital is a strong and consistent predictor of job growth, average wage, average wage change, and the net immigration of college graduates. He concluded that human capital is also correlated with the influx of young, educated workers.

2.3 Rent Gap Theory

The issue of gentrification can also be analyzed through the filter of real estate economics by applying the Rent Gap Theory (Smith, 1979; Smith, 1987). Improving a property to its highest and best use could be accomplished by changing the existing uses of the property, rehabilitating the buildings on the land, tear down the buildings and other improvements on the land and redevelop the property (Smith, 1987). According to Smith (1987), the Rent Gap Theory can be used to explain how gentrification begins when certain urban areas experience a significant gap between actual and potential land values.

In a commercial real estate setting, this makes sense considering that real estate brokers and investors often make a determination of value for a commercial property based on its “Cap Rate,” which is calculated by using the net operating income of a property divided by the investor’s desired first year rate of return. For example, if an apartment building generated net operating income of $100,000 and a buyer wanted to purchase this property at a 6% “Cap Rate,” that buyer would make a purchase offer of $1.6 million dollars. If five years later, that investor is able to increase that net operating income up to $500,000 with certain renovations and improvements to the property and offered this property for sale at a 6% cap rate, the offer price would be $8.3 million
dollars. In this example, the buyer closed the rent gap. The issue here is that in certain areas such as the central and inner city, the rent gap may be greatest because of high land values and housing costs despite the lack of investment in an area and the resulting rent gap (Smith, 1987).

How the rent gap occurs and is eventually closed is an evolutionary process. First the process of decay sets in and with the increasing decay, rents and investments begin to collapse as investors and others seek less risk and more profits in less risky areas. Eventually the local population is affected and they begin to move out and are eventually replaced by lower income people to the point that local rents and housing values collapse (Diappi, 2008). Vandalism and crime accelerate this downward slide to a point where properties could become abandoned (Diappi, 2008). The rent collapse then creates the economic conditions for a rational market response, which is to take advantage of the significant rent gap by either changing the current use of the buildings, rehabilitating the buildings, or tear down the buildings and redevelop the property, which can have the effect of triggering gentrification (Diappi, 2008). “The crucial point about gentrification is that it involves not only a social change but also, at the neighborhood scale, a physical change in the housing stock and an economic change in the land and housing markets. It is this combination of social, physical, and economic change that distinguishes gentrification as an identifiable process or set of processes” (Smith, 1987, p. 463).

The basic difference between the Creative Class Theory and the Rent Gap Theory are numerous. The Creative Class Theory places creative, smart, technology savvy people (i.e. the creative class) as the main drivers of local and regional economic growth (Florida, 2009; Florida, 2002). The Rent Gap Theory places real estate economics and the
elimination of the rent gap as a major component of gentrification, which may create some measure of local economic growth (Diappi, 2008). Where there is overlap between these two theories is their attention on the built environment and amenities. Under the Creative Class Theory, many bohemians, artists and other creative class type are considered early adopters in identifying and occupying undervalued but high potential urban areas that have certain “amenities” such as historic buildings, etc. Once these bohemians and other creative types colonize these underutilized but high potential urban areas, these areas evolve to become known as “cool” places. After these urban areas develop a reputation for being “cool,” social and economic critical mass will continue to grow leading to further economic development and possibly leading to gentrification. Under the Rent Gap Theory, the focus is not on bohemians and artists but on people such as property owners and developers who are in a position to take advantage of changing real estate market conditions and maximize their potential market rent. Consequently, this could have the effect of triggering gentrification if accompanied by other social and economic changes (Smith, 1987).

2.4 Human Capital and Social Capital Theories

The Human Capital Theory’s focus is generally on college educated people. Under this theory, in order to create economic growth, cities and regions must have the ability to attract a large number of college educated people as well as certain industries, which in turn creates a multiplier effect which attracts yet more employers and results in higher wages and increasing productivity for all workers (Moretti, 2012). In contrast, those cities and regions with many poorly educated residents and the “wrong” mix of industries tend to be places with concentrations of dead-end jobs with low average wages
The common characteristics of declining cities are that they are both poor and have numerous poorly educated workers. Those cities that are losing residents tend to also have a significant loss of highly educated individuals (Glaeser and Gyourko, 2005). Hoyman and Faricy note, “Human capital theorists argue that concentrations of educated individuals, along with training, will produce high levels of long-term economic growth” (2009, p. 319). Hoyman and Faricy further note, “The importance of human capital to regional economic growth has been well documented. Human capital has been proven to correlate with urban growth both in the service and knowledge economies” (2009, p. 319).

There is a subtle but important difference between the Human Capital Theory and the Creative Class Theory. While the Human Capital Theory places a premium on college-educated people as the engine of economic growth, the Creative Class Theory puts a premium on people who work in certain industries and certain job categories requiring creativity and technical skills to develop new products, services and ideas. Under the Creative Class Theory, the majority of college educated people are in the “creative class” but not all people in the “creative class” have a college education. As for the Human Capital Theory, college education is an essential characteristic of having high human capital and this coupled with the right industries is an ingredient for economic growth.

Another theory to explain growth that is popular among sociologists and political scientists is the Social Capital Theory (Hoyman and Faricy, 2009). The basic idea behind the Social Capital Theory is that places with thick social networks encourage interaction,
reciprocity, coordination, and communication and also acts as filters to identify the trustworthiness of other individuals in the network or seeking to enter the network, which has the effect of encouraging economic activity (Putnam, 1994). In developing economies, social capital is believed to be an essential component for economic development. The reason for this is that social capital is often based on close knit family or ethnic ties, which can make doing business more efficient, lowers cost, and speed information and innovation. (Putnam, 1994). Social capital is also important in developed Western economies because activities such as starting a business, contracting or job searching are more efficient when social networks are used (Putnam, 1994). Hoyman and Faricy note that there is a relationship between social capital and greater economic performance because dense social capital networks can reduce the cost of doing business or taking some action that requires collaboration from other people, which can create a competitive advantage in certain geographic areas over other areas with weak social capital networks (2009).

The Social Capital Theory is different than the creative class and Human Capital Theory in that its focus is on the creation and density of social networks rather than on the individual themselves or place as a driver of economic growth. However, there is one subtle connection between the creative class, social capital, and Human Capital Theory. One of Richard Florida’s “T” is talent and concentrating talent in a place fosters creativity, new ideas, and new products (Florida, 2014). This is another way of saying that when talent is concentrated in a place, they tend to network and share ideas, visions and connections and in the process establish social capital, which results in deeper
connectivity and results in more economic activity. The same rationale applies under the Human Capital Theory.

### 2.5 The Debate in Favor of Gentrification

Proponents of gentrification make the argument that gentrification reduces poverty, decreases crime, raises housing values, stimulates the private and public sector investments in the area, causes new retail businesses to be established and grow, and improves public services (Sullivan, 2007). As for the poorest and most vulnerable original residents, Ellen and O’Regan (2011) found no evidence that these people were moving out at a higher level than normal, even in neighborhoods experiencing more intense gentrification. Ellen and O’Regan (2011) noted that gentrifiers were disproportionately attracted to the newly constructed units in gentrifying neighborhoods, which implied that many gentrifiers were focusing more on newer construction rather than older, and most likely functionally obsolete housing stock, where the original residents were more likely to reside.

While gentrifying neighborhoods attracted a greater share of Whites than other low-income neighborhoods, the racial composition of these neighborhoods did not actually shift in favor of Whites (Ellen and O’Regan, 2011). As for income gains, Ellen and O’Regan (2011) found that there was a form of “shifting” occurring with higher income households moving in to an area and the selective moving out of lower income households, coupled with increases in income among the original residents who stayed in the area. Individuals and households move for many reasons besides gentrification and Ellen and O’Regan (2011) found that even as average incomes rose along with rents in gentrifying areas, there was no evidence that the original residents were moving out at a
higher rate than normal.

According to supporters of gentrification, it has a beneficial effect in reducing racial segregation and poverty. Freeman (2009) observed that the class makeup of a neighborhood has a major effect on determining a person’s opportunities in life and that the concentration the poor in certain areas have very high negative effect on those residents. By segregating people by race, concentrations of poverty are created and maintained because the practical effect is that racial minorities in these segregated areas are located geographically away from employers and employment opportunities. This is especially the case for Blacks (Freeman, 2009). High levels of segregation by class also make it more likely that political boundaries will be drawn consistent with the divisions of race and class (i.e. higher income White neighborhoods separated from lower income racial minority neighborhoods with their own school districts, police department, council boundaries, etc.). This serves to reinforce political inequality by separating the “haves” and “have-nots” into separate political jurisdictions (Freeman, 2009). Duay (2001) argues that gentrification is usually a positive development because the maintenance of racially segregated poverty traps is unhealthy for a city and good urban areas are are not plentiful enough and boosts market value (Duay, 2001).

Freedman (2009), like Ellen and O’Regan (2011), concluded that at the neighborhood level, gentrification does not decrease diversity, which runs counter to the popular belief that gentrification leads to more affluent and educated Whites essentially taking over a neighborhood and displacing the low income and minorities (Freeman, 2009). Consistent with Ellen and O’Regan’s (2011) findings, Freeman (2009) did not find extensive displacement of the local residents but more of a “shifting” occurring. This
process could be described as some local residents, presumably the poorest renters, being replaced by higher income individuals but the neighborhood continues to remain diverse, often more diverse than other similar non-gentrifying neighborhoods or other neighborhoods in general (Freeman, 2009). Freeman (2009) observed that some neighborhoods were more diverse before gentrification and other neighborhoods became more diverse after gentrification and that the evidence on whether gentrification leads to more diversity is inconclusive. Hartley (2014) pointed out that in addition to higher home values, education levels, and incomes, the positive aspects of living in a gentrified neighborhood also include higher credit scores in comparison to areas that did not gentrify.

Sullivan (2007) conducted a survey in 2003 and 2004 of 460 residents of two neighborhoods in Portland that were traditionally Black and poor and experienced gentrification. According to Sullivan (2007), a majority of current residents in both neighborhoods liked how the neighborhood was changing. “Nearly 62% of respondents believed that their neighborhood had gotten better over the last five years” (Sullivan, 2007, pp. 586-587). There was a difference in opinion between Black newcomers and longtime Black residents with longtime Black residents somewhat less supportive of gentrification (Sullivan, 2007). “Nevertheless, these findings supported the belief that many current residents, including non-gentrifiers, liked the changes happening in their neighborhoods” (Sullivan, 2007, p. 587).

2.6 The Debate Against Gentrification

Opponents of gentrification argue that it has mostly negative impacts because it increases the probability that many poor residents will be displaced from their
communities due to rising housing prices and rents and transform the neighborhood (Sullivan, 2007; Lees, 2008). Despite the alleged desire for more diversity that gentrifiers often claim to possess, Lees (2008) argues that in fact there is little social mixing between the gentrifiers and long term local residents. Furthermore, Lees (2008) makes a Marxist argument that “…gentrification is part of an aggressive, revanchist ideology design to retake the inner city for the middle class” (p. 2457). Citing Peach (1996), Lees (ibid.) seems to support segregation by arguing that there are positive aspects to “segregation and concentration” for low income and ethnic minorities because it creates a “refuge” for these people who are politically weak. Lees (ibid. p. 2461) follows up this point by further arguing that gentrification destroys that “space” or “refuge” and the protective social capital and networks built up within those areas by low income and ethnic minorities and replaces it with another kind of social capital and network.

On the issue of displacement, Newman and Wyly (2006), who studied gentrification in New York City, argued that displacement occurred in the location. According to Newman and Wyly (2006), as the economy improved, there was more pressure on housing and the competition for housing increased, which resulted in displaced renters having to search for housing further away. One key point in their analysis is that Newman and Wyly (2006) did not make a distinction between renters that were forced out directly by landlords or decided to move out to other areas on their own due to cost or other considerations and their research acknowledged that harassment by landlords or other non-governmental players were rarely cited as primary reasons for moving. As noted by Ellen and O’Regan (2011), there has been a tendency for scholars to assume that the classic pattern of gentrification is the displacement of low-income
people and minorities from gentrifying neighborhoods by higher income Whites and in the process change the racial composition of the neighborhood, which is harmful and disruptive to the original residents.

2.7 Who Are Gentrifying Neighborhoods and Issues of Displacement

Several studies indicate that gentrification is a more complicated and fluid process that involves the movement of both college educated Whites and college educated minorities into certain working class low income neighborhoods, which does not necessarily lead to displacement of the local residents. For example, McKinnish and Walsh noted in their research that although neighborhood gentrification is associated “with disproportionate in-migration of college graduates, particularly White college graduates under 40 without children,” they found no evidence of a disproportionate out migration of low-education people or ethnic minority households from those neighborhoods. (2010, p. 181). This finding is consistent with Freeman (2009) and Ellen and O’Regan (2011). In terms of ethnic gentrifiers, McKinnish and Walsh (2010) found that gentrification of predominantly Black neighborhoods also attracted middle-class Black families or Black elderly householder, which could be interpreted to mean that as these Black neighborhoods were diversifying and increasing in income, they also became more desirable for the Black middle class as well. In contrast, in gentrifying areas that did not start out with a large Black population, there was a disproportionate number Black high school graduates who left the area (McKinnish and Walsh, 2010). McKinnish and Walsh (2010) speculated that the reason for this was that for Black high school graduates, the rising housing costs were not offset by the benefits of living in a predominately Black neighborhood that is becoming more gentrified. This suggests that a form of “shifting” is
occurring in gentrifying neighborhoods in that Black high school graduates who move out of the area are often replaced by a sufficient number of in-bound middle class Blacks and that Black high school graduates are more likely to move from non-gentrifying areas than from gentrifying areas (McKinnish and Walsh, 2010).

In a study of two predominately minority neighborhoods in Chicago, predominately Black Bronzeville neighborhood and predominately Latino Pilsen neighborhood, both neighborhoods experienced a form of minority gentrification (Anderson and Steinberg, 2012). This form of gentrification was the displacement of a low-income minorities by more affluent minorities (Anderson and Steinberg, 2012). For example, low-income Blacks were displaced by a mostly affluent Black population, a form of “Black gentrification.” (Anderson and Steinberg, 2012). As for previously predominant low-income Latino areas including Pilsen in Chicago, these areas experienced a mixed form of Latino gentrification that also included Whites (Anderson and Steinberg, 2012).

What occurred in Black Bronzeville and Latino Pilsen is reflective of the emerging trend of ethnic minority gentrification, which is the result of significant growth in both the Black and Latino middle class population (Anderson and Steinberg, 2012). In distinguishing the difference between Black and Latino gentrification, citing Hydra (2008) and Inwood (2010), Anderson and Steinberg (2012) speculated that gentrifying Black neighborhoods were more likely to operate as “sites of identity constitution” that appealed to a Black middle class for its African-American culture and economic vitality. In contrast, gentrifying Latino neighborhoods were seen as more capable of attracting a
wider diversity of individuals and consumers because these areas were considered more safe and acceptable to a mainstream audience (Anderson and Steinberg, 2012).

2.8 Historic Housing and Amenities as an Attraction for Gentrification

According to Helms (2003), the common perception of gentrified areas are that these areas contain historic, low-density, architecturally distinct housing that are usually accompanied by parks and views and are close to central business districts. In addition, this includes promixity to public transportation and are usually away from highways, public housing projects, and other undesirable attributes (Helms, 2003). Helms (2003) concluded that the likelihood of renovation increases with a building’s age and building age was the only variable in his research that had a statistically significant influence on the likelihood that a household will improve its property.
Chapter 3: Data and Methodology

3.1 Study Area, Source of Data, and Preparing the Data for Use

This study analyzed the relationship between gentrification and other neighborhood-level characteristics including education and industry participation though the use of regression analysis. In identifying the study area, the purpose was to focus on certain poor Los Angeles County census tracts to determine whether these poor census tracts experienced gentrification and whether certain neighborhood-level characteristics had a positive or negative relationship to gentrification. The study area was determined by identifying poor Los Angeles County census tracts that met the following criteria for year 2000: 1) median household income was no greater than eighty (80%) percent of the value of Los Angeles County as a whole; 2) the median value of owner occupied dwellings was eighty (80%) percent or below the Los Angeles County median owner occupied dwelling value; and 3) the median contract rent was eighty (80%) percent or below the Los Angeles County median for contract rent. The time period for this study was between year 2000 and 2014. All demographic data that were used in this study were obtained from the 2000 U.S. Census and from the U.S. Census’ 2014 American Community Survey.

The 2000 Census for Los Angeles County was based on 2055 census tracts. The 2014 American Community Survey for Los Angeles County was based on 2344 census tracts, based upon redrawing of the boundaries after the 2010 decennial census. To resolve this discrepancy, the demographic data from the 2000 U.S. Census and the 2014 American Community Survey were combined and the demographic data was reconciled based on the 2010 census tract boundaries using the simple area weighting method.
3.2 Dependent Variables and Principal Component Analysis

To study the relationship of certain neighborhood-level characteristics on gentrification, the concept of gentrification needs to be identified and reduced to a usable variable for further analysis. Because there is no agreed upon definition on what exactly constitutes gentrification, a need arose to create one from data sources. One author notes that despite an agreed upon definition of gentrification, it is usually associated with an increase in income, home prices and rent (Hartley, 2013). Therefore it is reasonable to use the change in median household income, the change in median value of owner occupied dwellings, and the change in median contract rent from year 2000 to 2014 as variables to measure gentrification. To combine change across these three variables into one useful dependent variable for regression analysis, principal component analysis was used. A similar approach was used to analyze the relationship of gentrification on voter turnout in Atlanta, Georgia (Knotts and Haspel, 2006). In this study, various census variables, including change in median household income, contract rent, and housing value, were combined into one measure of gentrification using principal component analysis to study the relationship between gentrification on voting turnout (Knotts and Haspel, 2006). Thus, using principal component analysis to reduce the number of demographic data variables for use in regression analysis is not unique.

The basic concept behind principal component analysis is to take the original number of inter-correlated variables and create an equal number of uncorrelated variables, or principal components, that explain all the variance in the data set (Wahab, 2005). This analysis uses three inter-correlated variables, which are change in median household income, change in contract rent, and change in value of owner occupied
dwellings from year 2000 to 2014. By applying the principal component analysis, three uncorrelated corresponding principal components were created in diminishing order beginning with the first principal component (PC1), which explained most of the variance in the data set, followed by principal component (PC2) and finally principal component (PC3). The proportion of variance was calculated for each principal component, which indicates how much of the information from the original data set (i.e. change in median value of owner occupied dwellings, change in median contract rent, change in median household income) is described by each new principal component. Adding the proportion of variance of all the principal components explains all of the variance in the data set (Wahab 2005). Because most of the variation in the data set is contained in PC1, PC1 was used as a latent variable for gentrification in the regression analysis. The decision to use PC1 as a latent variable for gentrification was further supported by the high correlation between PC1 and the variables for change in median household income, change in value of owner occupied dwellings, and change in contract rent, which is discussed in the Results Section below.

### 3.3 Independent Variables

The following categories of demographic data were used as independent variables to test, via regression analysis, the strength and direction of their relationship to gentrification: 1) population based on race; 2) college educational attainment; 3) college education by race; 4) industry classification; 5) age of owner occupied dwellings and 6) travel time to work. The population data was based on the percent of Black, Asian, and Latino in each census tract. To test whether race generally was having a greater effect than college education and college education by race, the percentages of population by
race were also chosen as independent variables. College educational attainment data, based on the percent of individuals who were 25 years or older with a college degree or greater per census tract was included to test whether college education generally was a better explanatory variable than education by race. College education by race was calculated as percent of individuals (i.e. White College, Black College, Asian College, and Latino College) who were 25 years or older with at least a bachelor’s degree comparison to the overall number of individuals with a college degree. This was included to test the main hypothesis that college educated minorities contribute to gentrification along with Whites.

The industry classification data included the percentage of individuals employed in the following industry classifications: Retail Trade; Information; Finance, Real Estate, Insurance Rental & Leasing (Finance and Real Estate); Professional, Scientific, Management, Administrative, and Waste Management Services (Professional and Management); Arts, Entertainment, Recreation, Accommodation and Food Services (Arts); and Education and Health Care (Education and Health). Industry classification was specifically chosen to test the Creative Class Theory and whether individuals employed in these creative class type industries were positive explanatory variables for gentrification.

Owner occupied dwellings (Building Age) was calculated by subtracting the median year the dwelling was built per census tract from year 2016. For example, if the median age for owner occupied dwellings in a specific poor census tract is 1950, then 1950 would be subtracted from 2016 to arrive at a median building age of 66 years. This data was used to analyze the correlation between gentrification and housing age, so that
notions about the role of older, more historic, urban neighborhoods can be evaluated. For median year owner occupied dwellings, any dwelling with a median age older than 1939 or 1940 was categorized by the U.S. Census Bureau as either 1939- or 1940- depending on whether the data originated from the 2000 Census or the 2014 American Community Survey.

The travel time to work variable was obtained from the U.S. Census Bureau as average commute time in minutes to work per census tract and was chosen to test whether shorter commuting time to work was having a positive effect on gentrification, as the literature proposes that gentrification is the byproduct of many individuals’ desires to move back to the city in areas nearer to work. Once these variables were calculated for year 2000 and 2014, the changes in percentage between the two time periods were calculated and subsequently used in regression analysis as independent variables.

3.4 Statistical Models

The statistical models used in this analysis were Ordinary Least Square (OLS) Regression, Spatial Lag Regression, Spatial Error Regression, Spatially Mixed Regression, and Geographically Weighted Regression. The statistical confidence level that was chosen for this analysis was 95% (p-value <= 0.05). These models were chosen because linear regression are commonly used in demographic studies and spatial regression models specifically accounts for spatial autocorrelation, which are not accounted for under traditional linear regression models (Chi and Zhu, 2007).

A traditional modeling technique used in spatial analysis is based on OLS Regression (Devkota et al., 2014). The aim of OLS Regression is to estimate observed values with zero error and minimize the sum of the square of the distances between
observed and estimated values (Akbilgic and Akinci, 2009). A precondition for using OLS Regression is that the observations must be independent (Yang and Jin, 2010). To test for the normality of residuals of the OLS Regression model, a Shapiro-Wilk Test was used. OLS regression does not account for location in the analysis of the relationship between the variables. Therefore, OLS Regression results should be considered as global statistics (Devkota et al., 2014).

Spatial autocorrelation occurs when certain attributes or characteristics of an area exert an effect on other areas. When spatial autocorrelation exists, it undermines the assumption under the global models that the observations are independent. Thus, the estimates and statistical inferences resulting from the global models could be unreliable (Chi and Zhu, 2007). There are different methods to test for spatial autocorrelation, but one of the most common method is the Moran’s I statistic (Chi and Zhu, 2007). For this analysis, Moran’s I statistics were used to determine whether spatial autocorrelation of residuals was occurring in the global models. For this analysis, the “queen’s case” contiguity weights matrix were used. Global spatial regression models, Spatial Error, Spatial Lag, and Spatial Mixed, were also considered in an attempt to control for the spatial dependence in the residuals. Spatial error regression is an appropriate model when the errors are not independent and are influencing each other over space. Spatial lag dependence suggests a diffusion process in that events in one place influence the values of events in neighboring places. If the event diffuses, there cannot be an assumption of independence. The spatially mixed model incorporates both spatial error and spatial lag in its analysis. The Lagrange Multiplier Test was used to determine the best global spatial model to use.
In many cases, global spatial models are unable to fully account for variability in model performance across space. Therefore, Geographically Weight Regression (GWR), and extension of OLS, was used in the end as it allowed parameter estimates to vary spatially. GWR is often referred to as a local model and provided local model estimates for each unit of analysis (census tracts) in the study area.
Chapter 4: Results

4.1 Principal Component Results

As noted in Chapter 3, principal component analysis was conducted in order to synthesize all the variance in the data. A correlation matrix of a subset was then created. The change in median household income were strongly positively correlated with the change in contract rent (67%) and change in median house value (57%). The change of median contract rent had a positive correlation with the change of median value of owner occupied dwellings (49%) (Table 1).

Table 1 – Correlation Matrix of Subset of Dependent Variables

<table>
<thead>
<tr>
<th></th>
<th>Change Median Household Income</th>
<th>Change Median Contract Rent</th>
<th>Change Median House Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change Median Income</td>
<td>1.00</td>
<td>0.67</td>
<td>0.57</td>
</tr>
<tr>
<td>Change Median Rent</td>
<td>0.67</td>
<td>1.00</td>
<td>0.47</td>
</tr>
<tr>
<td>Change Median Value</td>
<td>0.57</td>
<td>0.49</td>
<td>1.00</td>
</tr>
</tbody>
</table>

In reviewing the importance of components (Table 2), the principal component analysis calculated the standard deviation of the new variables, which was PC1 (1.4675), PC2 (0.7217), and PC3 (0.5637). Generally, a larger standard deviation means a better variable, and in this case PC1 had a larger standard deviation. The cumulative proportion of variance for PC1 was 0.7179. This describes how much of the information from the original data was described by this new PC variable, which in this case was 72% (Table 2).
Table 2 – Importance of Principal Components

<table>
<thead>
<tr>
<th></th>
<th>PC1</th>
<th>PC2</th>
<th>PC3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Deviation</td>
<td>1.4675</td>
<td>0.7271</td>
<td>0.5637</td>
</tr>
<tr>
<td>Proportion of Variance</td>
<td>0.7179</td>
<td>0.1762</td>
<td>0.1059</td>
</tr>
<tr>
<td>Cumulative Proportion</td>
<td>0.7179</td>
<td>0.8941</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

Interpretation of the principal components was based on finding which variables were most strongly correlated with each component (Table 3). Here the correlation values for PC1 were very high with change in median household income (0.88), change in median contract rent (0.85) and change in median value of owner occupied dwellings (0.79). Thus, under PC1, all three criteria are strongly positively correlated and move together.

Considering the strong correlation between the three “gentrification” variables of change in median household income, change in median value of owner occupied dwellings, and change in median contract rent in comparison, the first principal component (PC1), which contained the majority of the variability (72%), was used as a latent variable for gentrification in the regression analysis and will therefore be referred to as Gentrification for the rest of this study.

Table 3 – Correlation Matrix of Principal Components

<table>
<thead>
<tr>
<th></th>
<th>PC1</th>
<th>PC2</th>
<th>PC3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change Median Household Income</td>
<td>0.8887937</td>
<td>-0.1489184</td>
<td>0.4334387</td>
</tr>
<tr>
<td>Change Median Contract Rent</td>
<td>0.8522719</td>
<td>-0.3975703</td>
<td>-0.3399566</td>
</tr>
<tr>
<td>Change Median House Value</td>
<td>0.7983168</td>
<td>0.5902365</td>
<td>-0.1196294</td>
</tr>
</tbody>
</table>
4.2 Demographic Description of Los Angeles County and Poor Census Tracts

On average, across Los Angeles county, household incomes increased considerably from 2000 ($34,201) to 2014 ($53,475) (Table 4). Income gains increased more drastically in the poor subset region, from 2000 ($15,720) to 2014 ($42,292), but was still below the countywide median household income in 2014 by $11,183. In the top three gentrifying quadrats of poor census tracts, which were defined as a subset of poor census tracts with positive gentrification values ranging from 0.318 to 8.735, household income gains increased even more dramatically from 2000 ($15,901) up to 2014 ($51,049). This was a level almost identical with the 2014 countywide average. In the top two gentrifying quadrant of poor census tracts, which were defined as a subset of poor census tracts with positive gentrification values ranging from 1.616 to 8.735, housing income gains exceeded the countywide average gains increasing from 2000 ($15,682) to 2014 ($65,659). The same trend for household income was also present for value of owner occupied dwellings and contract rent (Table 4). On average, across Los Angeles county, the value for owner occupied dwellings increased considerably from 2000 ($164,306) to 2014 ($369,600). For poor census tracts, the gains were more dramatic, starting from 2000 ($75,201) to 2014 ($321,400), eventually reaching a gain in the top two gentrifying quadrant of $489,500, exceeding the countywide average in 2014. Across Los Angeles county, the median contract rent increased considerably from 2000 ($596) to 2014 ($1,133). In poor census tracts, the median contract rent increased more dramatically from 2000 ($291) to 2014($1,025) a 252% increase, eventually reaching a gain in the top two gentrifying quadrats of $1,432, again exceeding countywide averages.

Thus, the overall trend was that for income, housing value, and rent, poor census tracts
began year 2000 significantly behind Los Angeles county averages but as gentrification increased in these poor census tracts, on average they gained and eventually exceeded Los Angeles county averages.

One noteworthy trend was that for poor census tracts, the more dramatic the gain in gentrification, the higher was the initial White population. The percent of Whites in Los Angeles County was 24% in 2000, decreasing to 17% in 2014. For poor census tracts, the percentage of Whites went from 15% to 11%. In the top three gentrifying quadrats of poor census tracts, the percentage of whites was 20% in 2000 and decreased to 17% in 2014, matching county averages. However, for the top two gentrifying quadrants of poor census tracts, the percentage of Whites was significantly higher at 40%, increasing to 45%, which was much higher than the Los Angeles county average. The same but much less pronounced pattern emerged for the Asian population with their percent of population rising from 6% to 8%. Additionally, the highest quadrats for poor tracts rose from 11% to 15% Asian.
### Table 4 – Average Demographic Characteristics for both Los Angeles County & Poor Census Tracts

<table>
<thead>
<tr>
<th>Los Angeles County</th>
<th>Year 2000</th>
<th>Year 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median HH Income</td>
<td>$34,201</td>
<td>$53,475</td>
</tr>
<tr>
<td>Median Contract Rent</td>
<td>$596</td>
<td>$1,133</td>
</tr>
<tr>
<td>Median Owner Occupied Housing</td>
<td>$164,306</td>
<td>$369,600</td>
</tr>
<tr>
<td>White Population Pct.</td>
<td>0.24</td>
<td>0.17</td>
</tr>
<tr>
<td>Black Population Pct.</td>
<td>0.03</td>
<td>0.03</td>
</tr>
<tr>
<td>Asian Population Pct.</td>
<td>0.06</td>
<td>0.08</td>
</tr>
<tr>
<td>Latino Population Pct.</td>
<td>0.40</td>
<td>0.45</td>
</tr>
<tr>
<td>Poor Census Tracts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median HH Income</td>
<td>$15,720</td>
<td>$42,292</td>
</tr>
<tr>
<td>Median Contract Rent</td>
<td>$291</td>
<td>$1,025</td>
</tr>
<tr>
<td>Median Owner Occupied Housing</td>
<td>$75,201</td>
<td>$321,400</td>
</tr>
<tr>
<td>White Population Pct.</td>
<td>0.15</td>
<td>0.11</td>
</tr>
<tr>
<td>Black Population Pct.</td>
<td>0.06</td>
<td>0.05</td>
</tr>
<tr>
<td>Asian Population Pct.</td>
<td>0.06</td>
<td>0.07</td>
</tr>
<tr>
<td>Latino Population Pct.</td>
<td>0.53</td>
<td>0.59</td>
</tr>
<tr>
<td>Top 3 Quadrats - Poor Census Tracts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median HH Income</td>
<td>$15,901</td>
<td>$51,049</td>
</tr>
<tr>
<td>Median Contract Rent</td>
<td>$286</td>
<td>$1,136</td>
</tr>
<tr>
<td>Median Owner Occupied Dwellings</td>
<td>$74,032</td>
<td>$370,900</td>
</tr>
<tr>
<td>White Population Pct.</td>
<td>0.20</td>
<td>0.17</td>
</tr>
<tr>
<td>Black Population Pct.</td>
<td>0.04</td>
<td>0.03</td>
</tr>
<tr>
<td>Asian Population Pct.</td>
<td>0.08</td>
<td>0.1</td>
</tr>
<tr>
<td>Latino Population Pct.</td>
<td>0.52</td>
<td>0.54</td>
</tr>
<tr>
<td>Top 2 Quadrats - Poor Census Tracts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median HH Income</td>
<td>$15,682</td>
<td>$65,659</td>
</tr>
<tr>
<td>Median Contract Rent</td>
<td>$273</td>
<td>$1,432</td>
</tr>
<tr>
<td>Median Owner Occupied Housing</td>
<td>$75,550</td>
<td>$489,500</td>
</tr>
<tr>
<td>White Population Pct.</td>
<td>0.40</td>
<td>0.45</td>
</tr>
<tr>
<td>Black Population Pct.</td>
<td>0.03</td>
<td>0.03</td>
</tr>
<tr>
<td>Asian Population Pct.</td>
<td>0.11</td>
<td>0.15</td>
</tr>
<tr>
<td>Latino Population Pct.</td>
<td>0.27</td>
<td>0.24</td>
</tr>
</tbody>
</table>

**Note:** For each census tract, the median Contract Rent above $2,000 is described by the U.S. Census Bureau as $2000+. For median value of Owner Occupied Dwelling above $1,000,000s, the U.S. Census Bureau describes this figure as $1,000,000+. 
4.3 Statistical Model for Poor Los Angeles County Census Tracts

In conducting preliminary statistical testing on the variables, it was discovered that there was a multicollinearity issue between the independent variables College Education and the non-Hispanic White population. To compensate for the multicollinearity issue, one model was developed that included industry classifications, population by race, with the exception of White population, College Education, College Education by Race, Age of Building Structures, and Travel Time to Work as independent variables and the variable for gentrification as the dependent variable.

4.4 OLS Regression Analysis

OLS regression analysis was applied to the model. As stated previously, the criteria for selecting these poor census tracts were that they had to be eighty (80%) or less of the median for household income, contract rent, and value of owner occupied dwellings for year 2000. The goal was to determine if these poor census tracts improved economically and what contributed to this change. The OLS regression model showed that except for Retail Trade, Information, Art, Black College, and Latino College, all the variables were significantly related to Gentrification (Table 7). In terms of industry classification, there was a significant increase in tract-level Gentrification with increasing percentages of individuals in the Finance and Real Estate ($\beta=5.89$, $p<0.00$) and Education and Health Industries ($\beta=1.28$, $p < 0.00$). However, there was a slight decrease in tract-level Gentrification with decreasing percentages of individuals in Professional Services and Management ($\beta=-0.19$, $p < 0.00$). Building Age ($\beta=0.02$, $p < 0.00$) and Travel Time ($\beta=0.07$, $p < 0.00$) also led to increases in tract-level Gentrification.
Census tracts with increasing percentages of Black ($\beta=3.45$, $p<0.00$), Asian ($\beta=2.04$, $p<0.00$) and Latino ($\beta=1.34$, $p<0.00$) populations were also associated with Gentrification. Note that White population was not included in this model due to a multicollinearity issue with College Education. As for college education by race, White College ($\beta=7.72$, $p<0.00$) and Asian College ($\beta=4.67$, $p<0.00$) were strongly associated with Gentrification. Latino College ($\beta=3.33$, $p<0.08$) was also strongly associated with Gentrification but with a $p$-value slightly beyond the cutoff of 0.05. College Education ($\beta=-1.85$, $p<0.00$) was negatively associated with Gentrification. The adjusted R square result was 0.6154, which explained 62% of the variability in the Gentrification variable across the poor census tracts in Los Angeles County (Table 7). A Shapiro-Wilk score of 0.958 ($p<0.00$) concluded that the distribution of the residuals was not normal. A Moran’s I measure of spatial autocorrelation in the residuals for this model ($I=0.25$, $p=0.00$) showed moderate spatial clustering of the error. Consequently, the OLS regression analysis results were questionable and an alternative model must was used to take into account the spatial dependence of model errors.

4.5 Spatial Error Autoregression Analysis

To select an alternative spatial model to cope with autocorrelation, a Lagrange Multiplier Diagnostic was performed which determined whether movement toward an alternative global spatial model would create an improvement in model performance. In addition, Moran’s I tests were also done on spatial lag, spatial error, and spatially mixed autoregression models to determine which model was the most appropriate to use. The spatial error autoregression model was chosen as the most appropriate global spatial
model because the Robust Lagrange Multiplier diagnostic indicated that spatial error would result in model improvement (Score = 20.917, p < 0.00).

*Table 5 – Lagrange Multiplier Test*

<table>
<thead>
<tr>
<th></th>
<th>Score</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMerr</td>
<td>31.724</td>
<td>0.00</td>
</tr>
<tr>
<td>LMlag</td>
<td>12.495</td>
<td>0.00</td>
</tr>
<tr>
<td>RLMerr</td>
<td>20.917</td>
<td>0.00</td>
</tr>
<tr>
<td>RLMlag</td>
<td>1.6877</td>
<td>0.1939</td>
</tr>
<tr>
<td>SARMA</td>
<td>33.412</td>
<td>0.00</td>
</tr>
</tbody>
</table>

*Table 6 – Moran’s I statistic for Error and Lag*

<table>
<thead>
<tr>
<th>Model 1 (Poor Census Tracts)</th>
<th>Moran’s I Statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spatial Lag</td>
<td>0.15</td>
<td>0.00</td>
</tr>
<tr>
<td>Spatial Error</td>
<td>0.02</td>
<td>0.36</td>
</tr>
<tr>
<td>Spatially Mixed</td>
<td>0.04</td>
<td>0.20</td>
</tr>
</tbody>
</table>

The spatial error model showed that except for Retail Trade, Information, Art, Black College, and Latino College, all the variables were significantly related to Gentrification (Table 7). In terms of industry classification, there was a significant increase in tract-level Gentrification with increasing percentages of individuals in the Finance and Real Estate (β=5.96, p<0.00) and Education and Health Industries (β=1.73, p < 0.00). However, there was a slight decrease in tract-level Gentrification with decreasing percentages of individuals in Professional Services and Management (β=-0.21, p < 0.00).
Building Age ($\beta=0.222$, $p < 0.00$) and Travel Time ($\beta=0.067$, $p < 0.00$) also led to increases in tract-level Gentrification.

Census tracts with increasing percentages of Black ($\beta=2.78$, $p<0.00$), Asian ($\beta=1.67$, $p<0.00$) and Latino ($\beta=1.25$, $p<0.00$) populations were also associated with Gentrification. Note that White population was not included in this model due to a multicollinearity issue with College Education. As for college education by race, White College ($\beta=8.01$, $p<0.00$) and Asian College ($\beta=4.67$, $p<0.00$) were strongly associated with Gentrification. Latino College ($\beta=4.67$, $p<0.16$) was also strongly associated with Gentrification but with a $p$-value three times beyond the cutoff of 0.05. College Education ($\beta=-2.19$, $p<0.00$) was negatively associated with Gentrification.

**Table 7 – OLS and Spatial Error Model**

<table>
<thead>
<tr>
<th>Coefficients: Estimate</th>
<th>Model (Poor) OLS</th>
<th>Model (Poor) Spatial Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Intercept)</td>
<td>-1.66 (0.00)</td>
<td>-1.75 (0.00)</td>
</tr>
<tr>
<td>Retail Trade</td>
<td>0.09 (0.90)</td>
<td>0.85 (0.29)</td>
</tr>
<tr>
<td>Information</td>
<td>-1.72 (0.24)</td>
<td>-1.31 (0.34)</td>
</tr>
<tr>
<td>Finance &amp; Real Estate</td>
<td>5.89 (0.00)</td>
<td>5.96 (0.00)</td>
</tr>
<tr>
<td>Art</td>
<td>-0.31 (0.60)</td>
<td>-0.23 (0.67)</td>
</tr>
<tr>
<td>Professional Svc/Management</td>
<td>-0.19 (0.00)</td>
<td>-0.21 (0.00)</td>
</tr>
<tr>
<td>Education &amp; Health</td>
<td>1.28 (0.00)</td>
<td>1.73 (0.00)</td>
</tr>
<tr>
<td>Building Age</td>
<td>0.02 (0.00)</td>
<td>0.02 (0.00)</td>
</tr>
<tr>
<td>Black Population</td>
<td>3.45 (0.00)</td>
<td>2.78 (0.00)</td>
</tr>
<tr>
<td>Asian Population</td>
<td>2.04 (0.01)</td>
<td>1.67 (0.02)</td>
</tr>
<tr>
<td>Latino Population</td>
<td>1.34 (0.00)</td>
<td>1.25 (0.00)</td>
</tr>
<tr>
<td>College Education</td>
<td>-1.85 (0.00)</td>
<td>-2.19 (0.00)</td>
</tr>
<tr>
<td>White College</td>
<td>7.72 (0.00)</td>
<td>8.01 (0.00)</td>
</tr>
<tr>
<td>Black College</td>
<td>-1.19 (0.60)</td>
<td>-0.67 (0.75)</td>
</tr>
<tr>
<td>Asian College</td>
<td>4.67 (0.00)</td>
<td>4.67 (0.00)</td>
</tr>
<tr>
<td>Latino College</td>
<td>3.33 (0.08)</td>
<td>2.44 (0.16)</td>
</tr>
<tr>
<td>Travel Time to Work</td>
<td>0.07 (0.00)</td>
<td>0.06 (0.00)</td>
</tr>
</tbody>
</table>

*Note: Values in parentheses( ) are $p$-values*
4.6 Geographically Weighted Regression – L. A. County

Using GWR on countywide data, the minimum, maximum and global range coefficients showed the spatial variability of the independent variable coefficients in the model (Table 8). In addition, using GWR on countywide data also produced the spatial variability of adjusted R square figures for each census tract in Los Angeles county.
<table>
<thead>
<tr>
<th>Coefficients</th>
<th>Minimum</th>
<th>1\textsuperscript{st} Quarter</th>
<th>Median</th>
<th>3\textsuperscript{rd} Quarter</th>
<th>Maximum</th>
<th>Global</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Intercept)</td>
<td>-6.88200</td>
<td>-1.97800</td>
<td>-1.55600</td>
<td>-1.19300</td>
<td>6.78500</td>
<td>-1.64500</td>
</tr>
<tr>
<td>Retail Trade</td>
<td>-17.24000</td>
<td>-1.27200</td>
<td>-0.51860</td>
<td>0.35330</td>
<td>12.53000</td>
<td>-0.34300</td>
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<tr>
<td>Information</td>
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<td>-1.71900</td>
<td>0.29760</td>
<td>2.42000</td>
<td>37.93000</td>
<td>0.71690</td>
</tr>
<tr>
<td>Finance &amp; Real Estate</td>
<td>-14.47000</td>
<td>-0.12160</td>
<td>1.61900</td>
<td>2.95400</td>
<td>30.17000</td>
<td>3.54660</td>
</tr>
<tr>
<td>Art</td>
<td>-13.99000</td>
<td>-0.06375</td>
<td>0.67170</td>
<td>1.30500</td>
<td>19.99000</td>
<td>0.55510</td>
</tr>
<tr>
<td>Prof’l Services/Management</td>
<td>-11.67000</td>
<td>-1.72400</td>
<td>-0.92540</td>
<td>-0.19330</td>
<td>3.69600</td>
<td>-0.21560</td>
</tr>
<tr>
<td>Education &amp; Health</td>
<td>-13.12000</td>
<td>1.05800</td>
<td>1.74100</td>
<td>2.90100</td>
<td>17.82000</td>
<td>2.38920</td>
</tr>
<tr>
<td>Building Age</td>
<td>-0.04361</td>
<td>0.01347</td>
<td>0.01611</td>
<td>0.02180</td>
<td>0.14100</td>
<td>0.01750</td>
</tr>
<tr>
<td>Black Population</td>
<td>-15.39000</td>
<td>0.61270</td>
<td>2.19500</td>
<td>3.54800</td>
<td>9.99400</td>
<td>2.69670</td>
</tr>
<tr>
<td>Asian Population</td>
<td>-21.85000</td>
<td>0.17740</td>
<td>2.44100</td>
<td>3.73900</td>
<td>15.51000</td>
<td>2.33900</td>
</tr>
<tr>
<td>Latino Population</td>
<td>-15.38000</td>
<td>-0.08899</td>
<td>1.14300</td>
<td>2.42000</td>
<td>5.81800</td>
<td>1.25440</td>
</tr>
<tr>
<td>College Education</td>
<td>-40.24000</td>
<td>-4.06700</td>
<td>-3.09600</td>
<td>-1.60000</td>
<td>9.34900</td>
<td>-2.42580</td>
</tr>
<tr>
<td>White College</td>
<td>-14.90000</td>
<td>2.50300</td>
<td>5.20300</td>
<td>8.00000</td>
<td>13.03000</td>
<td>6.35590</td>
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<tr>
<td>Black College</td>
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<td>0.51950</td>
<td>2.92200</td>
<td>7.40200</td>
<td>55.88000</td>
<td>3.13960</td>
</tr>
<tr>
<td>Asian College</td>
<td>-13.31000</td>
<td>0.06039</td>
<td>3.17000</td>
<td>5.29400</td>
<td>47.66000</td>
<td>3.39300</td>
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<tr>
<td>Latino College</td>
<td>-46.62000</td>
<td>0.80270</td>
<td>3.07100</td>
<td>5.16300</td>
<td>36.11000</td>
<td>2.65630</td>
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<tr>
<td>Travel Time to Work</td>
<td>-0.05389</td>
<td>0.04518</td>
<td>0.05371</td>
<td>0.06861</td>
<td>0.16640</td>
<td>0.06320</td>
</tr>
</tbody>
</table>
As the GWR Map of Los Angeles County shows, the north county, Malibu Coast and the San Pedro and Long Beach areas had the highest R2 values, which means that the model had the highest predictive value in these areas (79% +) (Figure 1). The central urban region and the San Gabriel Valley eastward had lower R2 model predictability values, which was in the range of 44% to 66% (Figure 1). What constitutes an appropriate R2 value depends on the circumstances. In terms of predicting human behavior in their choice of where to live, a R2 model predictability range of 44% to 66% is an adequate model in this situation.
The majority of these poor census tracts were located predominately in lower adjusted R square areas (Figure 2). Small clusters of the subset of poor census tracts that had higher measures of Gentrification were observed in the Downtown Los Angeles area,
Northeast Los Angeles, the San Pedro area, Southeast portions of Los Angeles County, in scattered census tracts throughout the San Gabriel Valley, including a small cluster of census tracts in Pasadena, and certain census tracts in Glendale and spread throughout the San Fernando valley and into the Santa Clarita valley (Figure 3). The subset of poor census tracts with decreasing levels of measures for Gentrification were observed in South Los Angeles, the Long Beach area, scattered parts of the San Fernando Valley, and the Palmdale area (Figure 3).
Figure 2 – GWR Map of Poor Census Tracts and Adjusted R2

Legend
R2 - Poor Census Tracts
- 0.557 - 0.665
- 0.665 - 0.727
- 0.727 - 0.789
- 0.789 - 0.881
- 0.881 - 0.995
- Los Angeles County

Map made by L. Carlos Simental
Figure 3 - Gentrification Map of Poor Census Tracts of Los Angeles County
In terms of higher education, most of the subset of poor census tracts contained mostly negative coefficients for college education and Gentrification, except for an arc of scattered poor census tracts located in the Southeast portion of Los Angeles County and in the Palmdale area, which in these areas college education was positively related to Gentrification (Figure 4).
A positive relationship to Gentrification for the White College-Educated variable was concentrated in the subset of poor census tracts located in downtown Los Angeles, Northeast Los Angeles, South Los Angeles area, and the mid-City area of the City of Los
Angeles, spreading out into scattered pockets of poor census tracts in the San Fernando valley, the San Pedro area, and the Southeast Los Angeles County area (Figure 5). These areas also had lower adjusted R square figures (Figure 5). As for the Black college educated variable, the Palmdale area and the center and west San Fernando Valley appeared to have the highest positive relationship to Gentrification (Figure 6). The adjusted R square score was particularly high in the Palmdale area (Figure 6). A concentration of the Latino college educated variable was positively related to Gentrification in the East Los Angeles, Northeast Los Angeles, Southeast Los Angeles county, the Northeast San Fernando Valley, and the Palmdale area (Figure 7). A concentration of the Asian college education variable was positively related to Gentrification in a subset of scattered poor census tracts in South Los Angeles, the San Gabriel Valley and in the Southeast portion of Los Angeles County (Figure 8).
Figure 5 – GWR Map of L.A. County and White College Coefficient

Legend
White College Coefficient
-5.657 - -0.111
-0.111 - 3.356
3.356 - 6.259
6.259 - 9.282
9.282 - 12.928
Los Angeles County

Map made by L. Carlos Simental
Figure 6 – GWR Map of L.A. County and Black College Educated Coefficient
Figure 7 – GWR Map of L.A. County and Latino College Educated Coefficient

Legend
Latino College Coefficient
-17.530 - -7.527
-7.527 - 0.319
0.319 - 4.112
4.112 - 11.618
11.618 - 25.169
Los Angeles County

Map made by L. Carlos Simental
In terms of population by race, a positive relationship to Gentrification was observed in certain poor census tracts between the Black population and South Los Angeles, Southeast Los Angeles County, the San Fernando Valley and scattered tracts in...
the San Gabriel Valley (Figure 9). A negative relationship between the Black population and Gentrification was observed in the Southbay, Pasadena/Altadena, and Lancaster/Palmdale area. For the Asian population, a positive relationship with Gentrification was observed in South Los Angeles, east San Fernando Valley, scattered tracts in west San Gabriel Valley, and in the Northeast Los Angeles area (Figure 10). A negative relationship to Gentrification was observed with the Asian population in the Southbay, East San Gabriel Valley, and Palmdale/Lancaster area. For the Latino population, a positive relationship to Gentrification was observed in South Los Angeles, the southeast portion of Los Angeles County, and scattered areas of the San Gabriel Valley (Figure 11). A negative relationship with the Latino population to Gentrification was observed in certain poor census tracts in downtown Los Angeles, Pasadena/Altadena, the Southbay, west San Fernando Valley, and the Palmdale/Lancaster area.

The results were mixed with certain industry classifications having a positive relationship to Gentrification in certain poor census tracts but having a negative relationship to Gentrification in other poor census tracts. One noteworthy case involves the Art industry classification, which has a positive relationship to Gentrification in the downtown and northeast Los Angeles area, which has a large number of historic structures and an area that is known for increasing gentrification (Figure 12).
Figure 9 - GWR Map Black Population Coefficient

Legend
Black Population Coefficient
-4.423 - -1.907
-1.907 - 0.272
0.272 - 2.018
2.018 - 3.676
3.676 - 7.941
Los Angeles County

Map made by L. Carlos Simental
Figure 10 - GWR Map Asian Population Coefficient

Legend
Asian Population Coefficient
-18.180 - -5.690
-5.690 - -0.006
-0.006 - 2.513
2.513 - 5.070
5.070 - 8.845
Los Angeles County

Map made by L. Carlos Simental
Figure 11 - GWR Map Latino Population Coefficient

Legend
Latino Population Coefficient
-7.536 - -4.626
-4.626 - -1.276
-1.276 - 0.680
0.680 - 2.460
2.460 - 4.955
Los Angeles County

Map made by L. Carlos Simental
Figure 12 - GWR Map Art Industry Coefficient

Legend
Art Industry Coefficient
-12.122 - -8.317
-8.317 - 0.116
0.116 - 1.243
1.243 - 4.342
4.342 - 12.265
Los Angeles County

Map made by L. Carlos Simental
Chapter 5: Discussion

5.1. Summary of Results – Poor Census Tracts

Despite the fact that the distribution of the residuals in the OLS regression analysis was not normal and that moderate spatial clustering of the error was occurring, the OLS regression analysis and spatial error autocorrelation analysis yielded the same overall conclusions for the model. White College, Asian College, Latino Population, Asian Population, Black Population, Travel Time, Building Age, Finance and Real Estate, and Education and Health were positively related to Gentrification and statistically significant (p-value < 0.05). Professional services and college education were negatively related to Gentrification and statistically significant (p-value < 0.05) under the OLS regression and spatial error autocorrelation analysis. Latino College Education was positively related to Gentrification but was beyond the statistical significance p-value cutoff (0.05) in both the OLS regression and spatial error autoregression analysis.

The results for the subset of poorer census tracts did lend support to the argument that diversity of race in education has a positive effect on gentrification, specifically White and Asian college educated, and to a lesser extent the Latino college educated. This was supported by the results for the college educated generally, which had a negative relationship with Gentrification. This points to the conclusion that although college education by itself was not positively related to Gentrification, the ethnicity of college educated mostly was. The argument that diversity itself plays a role in gentrification was further supported by the OLS regression and spatial error autoregression analysis that Black, Asian, and Latino population were positively contributing to Gentrification in the subset of poor census tracts.
As for whether creative class industry classifications were contributing to
gentrification, the results were mixed. In both the OLS regression and spatial error
autoregression analysis, only Finance and Real Estate and Education and Health were
positively related to Gentrification and Professional Services and Management were
negatively related to Gentrification, which appeared to contradict the Creative Class
Theory and suggested that other economic and social factors may be operating in this
subset of gentrifying poor census tracts. In both the OLS regression and spatial error
autoregression analysis, Time Traveled to Work had a positive relationship to
Gentrification. The assumption for including Time Traveled to Work was based on the
belief that in order to minimize commuting time to work, certain individuals would prefer
to move to urban, gentrifying neighborhoods that are closer to work. The expectation was
that Travel Time would have a negative relationship (i.e. smaller drive time to work,
higher gentrification measure) but the opposite occurred, which suggests that the more
time it takes to get to work, the more this contributes to gentrification. This suggests that
perhaps people in gentrifying neighborhoods may be working further from home than
others. This could also be explained by reverse commuting because Los Angeles may
have a peculiar commuting pattern versus East Coast cities where employment hubs may
be dispersed. Building Age was also positively related to Gentrification, which could
suggest that gentrifiers are attracted to older, historic homes but more research and better
research design would need to be done to further test this proposition.

Under the GWR analysis, very few gentrifying poor census tracts showed a
positive relationship between college education and Gentrification. However, college
education by race had a much stronger positive relationship to Gentrification than college
education generally but the effects were focused geographically on certain census tracts depending on race. For example, White college educated individuals had the most positive relationship to gentrifying poor census tracts in downtown Los Angeles, parts of mid-city Los Angeles and parts of the Southeast San Fernando valley and Southbay areas. Black college graduates had a negative relationship with Gentrification in these census tracts but had a positive relationship with Gentrification in certain parts of the San Fernando Valley. Asian college educated graduates had a positive relationship with Gentrification in the South Los Angeles County area and the San Gabriel Valley. Latino college educated graduates had a positive relationship to Gentrification in the South Los Angeles County area, scattered parts of the San Gabriel Valley area, East Los Angeles, Northeast Los Angeles, Northeast San Fernando Valley and the Palmdale/Lancaster area.

In comparing college education by race and population by race and their relationship to Gentrification, there were inconsistencies under the GWR analysis. For example, in poor census tracts in East Los Angeles, there was a negative to very weak positive relationship to Gentrification with Latino population. However, in these same census tracts, Latino college education had a strong positive relationship to Gentrification. In other areas such as southeast Los Angeles County, both Latino population and college educated Latinos were consistent in having a positive relationship to Gentrification. The same type of inconsistent pattern existed for Blacks and Asians as well. This inconsistency could possibly be explained as follows. If a census tract had a very high population of racial minorities such as Latinos in East Los Angeles, increasing the number of Latinos in East Los Angeles would not contribute to gentrification. However, increasing the number of both college educated Latinos and Whites would
have a positive relationship to gentrification in East Los Angeles. In South Los Angeles’ poor census tracts, an area that has not generally experienced gentrification, more diversity and more diverse college educated individuals are elements South Los Angeles requires to generate positive relationships to gentrification. Applying the GWR analysis, these examples suggests that both college education by race and population by race had a positive relationship to gentrification. However, diversity of population could possibly be a more important positive factor on gentrification, specifically when an area is almost exclusively dominated by a particular minority group. This also implies that a certain level of diversity in a population is necessary to create the conditions for gentrification to take root in a neighborhood. This observation is supported by the spatial error regression model, which indicated that Black, Asian and Latino population had a positive relationship to Gentrification along with White and Asian college education and to a lesser extent the Latino college educated.

Under the GWR analysis, the results for industry classifications were mixed and positive relationships to Gentrification were focused on different geographic areas throughout Los Angeles County depending on the industry involved. However, it should be noted that for the Art industry classification, there was a positive relationship to Gentrification in downtown Los Angeles and northeast Los Angeles, as well as in scattered census tracts in southeast Los Angeles and in the Lancaster/Palmdale area. What is notable about this is that in downtown Los Angeles and northeast Los Angeles, there is a large number of historic buildings, more pedestrian friendly neighborhoods, and a reputation for being more “bohemian.” For these areas under the GWR analysis, this supports Richard Florida’s concept of the “Bohemian index” and how the presence of
artists in an area could have a positive relationship to gentrification (Florida, 2002). This contradicted the spatial error and OLS regression models, which showed that the Arts industry classification had a negative relationship to Gentrification.

5.2 Limitations of Research

There were several limitations to this study. The most obvious limitation is that there is no generally accepted definition of gentrification. In this study, median household income, home values and contract rent were combined using principal component analysis to create one dependent variable for regression analysis based on U.S. Census data. The results could vary, possibly substantially, if other variables or sources of data were used to define gentrification. In addition, the criteria used to create the ‘poor’ subset of Los Angeles County census tracts for analysis was also based on the author’s subjective decision to use only those census tracts that were eighty (80%) percent or less of the median for household income, home value, and contract rent. Using other variables to benchmark poorer census tracts could have substantially altered the census tracts selected and the results. In addition, it should be noted that the industry classifications used were broad U.S. Census classifications and more specific industry or job classifications could have resulted in less ambiguous results. In addition, U.S. Census Bureau data did not include values above $1,000,000 for owner occupied dwellings and values above $2,000 for contract rent instead listing them as $1,000,000+ and $2,000+ respectively. The result being that housing and rental value data was less accurate than desired.

Two other limitations to this research are the issue of scale and the simple area weighting method used to reconcile census tract boundaries. The scale used for this
research was based on census tract boundaries. The results could differ if census block group boundaries were used instead of census tracts. In addition, the simple area weighting method used to reconcile census tract boundaries between year 2000 and year 2014 assumed that the population was evenly distributed over each census tract. Reconciling census tract boundaries and assigning overlapping populations based on 2010 census tract boundaries could result in less than precise estimates of population and possibly create outliers in the data.

5.3. Future Research

The general belief regarding gentrification describes a process where college educated Whites move into poor and heavily minority neighborhoods, which leads to transformation of these neighborhoods and eventual displacement of many of the original minority residents. There appears to be a lack of research regarding the role of middle class and educated minorities in the gentrification process in Los Angeles County. More research needs to be done on how middle class and educated minorities impact the gentrification process, which should include their economic, social and psychological reasons for moving into or staying in gentrifying areas. In addition, the role of immigrants, entrepreneurs and the self-employed in gentrifying areas needs to be researched and expanded as well. In a geographic region such as Los Angeles County, with its large immigrant population of Latinos and Asians, it is possible that a new model could be developed that includes economically prospering immigrant “gentrifiers” and how they could also be a factor in gentrifying certain neighborhoods.

The regression analysis results for industry classifications used as proxies for the “creative class” industries were mixed. In criticizing Richard Florida’s Creative Class
Theory, Kratke (2010) argued that there could be different profiles of an economy’s sector mix. It is possible that for Los Angeles County, with its large minority and immigrant populations, that the Creative Class Theory is incomplete or another theory could better explain the results. Further research is needed in identifying Los Angeles County’s economic sector mix to determine what economic sectors and employment profiles are having a positive or negative effect on gentrification. It is possible that an expanded theory explaining gentrification that shifts the narrative of minorities and immigrants as non-actors and victims of gentrification into the center along with the White college educated middle class can be developed to explain the gentrification process. Finally, land use designations, regulations, and policies regarding the rehabilitation of historic buildings could be the focus of new research regarding these factors’ effects on gentrification, as this research found a potential relationship between age of housing and gentrification.

5.4 Policy Implications

It would be very difficult to find someone who would argue publicly that herding the poor, ethnic minorities, and immigrants into certain urban neighborhoods that operate as poverty traps with little to no commercial activity, that are far away from job centers, and have low investment in public services and infrastructure is not a bad situation. What these depressed areas require is a dose of economic development and some form of desegregation without creating too many negative impacts on the local residents. In other words, some measure of gentrification could be good medicine for economically depressed, racially segregated neighborhoods if the local residents have a say in the direction of how this gentrification takes place and gentrification does not lead to major
displacement of the long term local population. To benefit from gentrification, the public and private sector should provide incentives for local, long term residents to purchase homes and start businesses in the area. This could be accomplished in the form of special loan programs for homes and businesses, entrepreneurial training programs, and expedited permitting processes targeting certain depressed neighborhoods targeting local residents.

Many depressed neighborhoods have many commercial buildings that sit vacant and are functionally obsolete. The City of Los Angeles’ Adaptive Reuse Ordinance has had a great influence on adapting previously obsolete historic buildings for new uses and stimulating gentrification in downtown Los Angeles. Applying an adaptive reuse type policy throughout Los Angeles County would allow functionally obsolete historic buildings to be changed for new uses and thus preserve these historic buildings, which in turn would encourage economic development for local residents and newcomers to start businesses. In relation to adapting older, historic buildings for new uses, parking policies have a big effect on the development process. Most people can agree that when one thinks of gentrification, people think of walkability and mixed use. In the City of Los Angeles, parking policies generally require businesses to provide a certain number of parking spots per customer, which encourages mini mall development and parking centric development. The parking laws and regulations can spur or inhibit the development of walkable communities and parking issues need to be considered when discussing economic development of older, economically depressed communities.

Gentrification is normally associated with rising housing costs and rising rents. To address rising housing costs associated with gentrification, local governments could
consider requiring developers as a condition for new development to reserve a percentage of their housing for low and moderate income people. In addition, rent control is another tool to minimize the effect of rising rents on low income renters and current rent control laws could be amended to expand and provide more protection for low income renters.

5.5 Conclusions

The results of this study showed that the diversity of population had a positive relationship to gentrification. In terms of college education, this study showed that although having a college education by itself did not result in a positive relationship to gentrification, the diversity of college graduates did in fact have a positive relationship to gentrification. This strongly suggests that diversity itself may be a very significant factor for those wanting to live in a gentrifying neighborhood. This study also showed that despite the stereotype of the tech savvy creative class and bohemian types moving into and taking over gentrifying neighborhoods, the stereotype is not supported. This suggests that there are other unexplained variables at work and that the creative class model may be inadequate for studying gentrification in Los Angeles County and that there could be other models that better explain economic development and gentrification in the region.

This study suggests that gentrification in Los Angeles County did not lead to major changes in the racial makeup of the subset of poor census tracts. This is not the same as “displacement.” This suggests that in order to explain the higher housing costs, rents and household income, rather than displacing the local minority population, some “shifting of population” at the lower economic scale in favor of higher income, college educated minorities could be happening that would explain the overall stability in the racial composition of these gentrifying areas. Finally, the data clearly shows that the
more a poor census tract gentrified, the higher was the initial white population at the beginning of the study period. This could mean that the study period was either too short and the analysis caught poor census tracts that were already in the process of gentrification or that an area still needs to have a certain critical mass of whites to trigger the gentrification process. The implications of this are that if an area is too poor, too minority dominant, the gentrification process will not be ignited or will not advance as much as other gentrifying areas with a larger initial population of Whites. If this is true, this suggests that one plausible strategy to combat urban poverty is to focus on alleviating racial segregation in these urban “poverty traps” by attempting to make these poor, urban neighborhoods more livable and attractive to other people without excessive displacement of local residents.
References


Moore, Kesha S. "Gentrification in black face?: The return of the black middle class to urban neighborhoods." *Urban Geography* 30, no. 2 (2009): 118-142.


