

# Urban Metamorphosis: The Effect of Gentrification on Community Evolution

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## Abstract

This paper seeks to examine the relationship between gentrification and the reason behind racial change at the county level in North Carolina. As gentrification is difficult to measure empirically this study accounts for the common themes behind gentrification including housing price and median income in an area and derives them into a statistical model nicknamed G-Score. I assume that as gentrification increases, the Black population decreases. Using the data from the Federal Reserve of Economic Data, this study uses a random selection of 12 counties across North Carolina in the years from 2001 to 2019 as a sample, to study the effects of gentrification. Using regression analysis, the study fails to find a hypothesized relationship between a county's G-score and its Black population but does find a directional and substantive impact between the G-score and the Black population of North Carolina based on variable and data analysis.

## Introduction

As a Black student at the University of North Carolina Asheville and coming from a predominantly Black community in the DC metropolitan area, it is hard to ignore the sharp demographic difference in Asheville compared to the other cities and metropolitan areas I have lived in and visited, especially in the South. I was introduced to the speaker Professor Dwight Mullen who works on the Asheville reparations committee and one of the things he said that resonated with me was the fact that most major cities have a prevalent Black population but Asheville was seemingly missing this factor. I wanted to know the answer to these questions as well. Professor Mullen in his talk spoke about how Asheville had a sprawling Black population in West Asheville and the Montford historic district but gentrification pushed this demographic out. So when charged with the task of how I would frame and test this statement the only logical jump I could make is that gentrification is the reason why Asheville was so white. Then the next puzzle that was proposed was how can I measure gentrification? It is easy to see a new juice cleanse bar or the 5th Starbucks and Whole Foods being built in town and scream gentrification. But that is not enough to truly say that an area is being gentrified. I had to come up with an empirical way to measure gentrification- a way to quantify it with numbers. After pouring over previous researchers' work I amalgamated their most common measures of gentrification and created my own formula to quantify gentrification which I aptly named the "G-score". With this G-score, I hoped to compare it to the Black population to see if it is the cause of the Black population decrease.

Now that I was led to my research question which was: What effect does G-Score have on the Black population in certain counties, and is Gentrification the driving force behind a decrease in Black populations in North Carolina? Hopefully, if my thesis is correct as the

G-score increases, which was formulated using the housing price index and the average income of the areas of study, the Black population would decrease showing that there is a direct correlation between gentrification and decreases in Black populations. If this is correct then I can rationally apply this idea as to why Asheville is so white my original question. After conducting my research I was able to find a correlation between the G-score and the Black population as well as really strong correlations between my controlled variables.

The reason why this is important to me is because as a resident of Asheville, I wonder why a city that champions diversity would lack diversity and now I am aiming to find the exact reasons why and hopefully make Asheville a more culturally diverse melting pot of a city that it claims to be. Or I could subsequently propose these ideals to the higher-ups in city government that are aware of this issue and moving forward want to actively make the city a destination spot for people of color. I am also hoping to find out if Asheville is inadvertently lowering the diversity of the city and whether these effects can be reversed.

After proposing my research question and finding a way to statistically analyze gentrification I poured over research that would help and guide my research. The research that has been aptly referenced in the literature review and the annotated bibliography helped me craft the G-score and the controls I would use in my study as correlation is not enough to prove causation. After drafting up my variables I was able to compile the data, apply a regression analysis to it, and come up with results. I later substantively and statistically analyzed the data and was able to provide context that would help round out my hypothesis.

## Research Question

Asheville is a desirable city to many in the South. Many people know it for its beautiful Blue Ridge Parkway and many tourist attractions making it a very desirable spot for travel in the South. What I have personally noticed is that usually cities are hubs for people of color, historically. Asheville seems to not follow this trend that is common in many other cities. What makes this observation so glaring to me is that using the knowledge of the past grievances of American history I know that the South famously has a high Black population due to slavery so the Black populations in cities should be especially higher. Asheville is a part of the “Black Belt” of the United States, a region known for its agricultural fertility which made it a prime source for slavery which then increased the Black population in this region. However this is not the case in Asheville; I have noticed the Black population is significantly lower than in other cities like Atlanta, Charlotte, Houston, and other cities in the South. This then led me to my early question “Why is Asheville so white?”

Many factors could lead me to an answer to this question. For many it is easy to look at the buildings and infrastructure of a city and think “things have changed” but is there a way to measure the change with empirical numbers and statistics and not just through an observational lens? In this study, I have developed a way to measure gentrification through the numbers and to be able to quantify its effects and also compare it to the percentage of Black people in Asheville over the years to determine if gentrification is indeed the culprit. To round out my study I will also be studying several counties in North Carolina to see if they also have the same problem Asheville does. I will also be seeing if there are other causal mechanisms influencing gentrification like poverty, job opportunities, and other factors. Understanding the driving forces and causal mechanisms behind this phenomenon is crucial for creating policies and strategies

that reduce displacement and promote inclusive development, while also addressing the challenges faced by Black communities.

### **Literature review**

There are many ways authors choose to empirically measure gentrification. In the work of (Freeman and Braconi 2004), they study the dynamics of change within low-income neighborhoods in New York while McKinnish's work focuses on the identification of the individuals or groups responsible for gentrifying low-income neighborhoods. McKinnish and Munn measure the factors and motivations that lead to the potential negative consequences of gentrification in North Carolina especially in areas designated as "Opportunity Zones" (Munn, William, Andrea 2019). This is reminiscent of Yonto, and Thill's work, which centers around understanding gentrification dynamics in African American communities in Charlotte, North Carolina (Yonto and Thill 2020). Conversely, these sources differ from the Freeman and Reagan models because they focus on the South specifically, as opposed to how the previous models are focused on gentrification in New York, a completely different region of the United States and far from the target area of North Carolina.

These authors have a different framed approach to gentrification. Freeman explores whether gentrification, driven by factors such as rising property values and the influx of higher-income residents, contributes to the displacement of lower-income residents in the city (Freeman and Braconi 2004). As opposed to Reagan who investigates how and why low-income neighborhoods transform over time (Ellen and O'Regan 2011). They both argue changes in low-income neighborhoods are driven by various causal mechanisms which include factors such as economic growth, policy interventions, or demographic shifts, which influence

the entry of new residents, the exit of existing ones, and neighborhood enhancement(Allen and O'Regan 2011).

Reagan answers this question in her paper by investigating how and why low-income neighborhoods transform over time(Allen and O'Regan 2011). Following the same method Mckinnish measures the factors and motivations that lead to gentrification while Munn follows a different path by finding how certain policies, like Opportunity Zones, positively correlate to gentrification and community well-being which is very reminiscent of the Reagan model in which policy is the main factor of gentrification(Munn, William, Andrea 2019).

Many of the causal mechanisms suggested in the readings involve gentrification leading to increased housing costs, specifically rent and changes in the neighborhood's socioeconomic composition(Freeman and Braconi 2004). As property values rise due to gentrification, it becomes unaffordable for existing low-income residents, pushing them out of their homes and communities. This mechanism involves attracting investments and new development, increasing property values, and pushing out long-term residents), showing how property values are a major factor in the process of gentrification(Munn, William, Andrea 2019). Which involves various factors such as economic development, demographic shifts, and policy changes influencing gentrification outcomes in these communities(Yonto and Thill 2020). In my paper, I will use these models to depict that the increase in gentrification score “G-score” in low-income neighborhoods is a significant cause of increased housing costs and displacement of the long-term, Black population over time. These models work well with my argument because the variables they choose to measure like income and housing price support the data I was able to source and measure in the census.

To evaluate their claims, the authors use a combination of quantitative methods like education, marriage status, race, and neighborhood rating throughout the 1990s to see if gentrification is occurring (Freeman and Braconi 2004). Freeman looks at changes in housing prices, population demographics, and displacement patterns in gentrifying neighborhoods during the 1990s (Freeman and Braconi 2004). What Freeman does in his study that is different from my study is that he factors education as a variable. Instead of using education as a variable, my study will focus on the ratio of income to the housing price index (HPI). I chose to observe the HPI because it is the best measure of the fluctuation of the price in housing. This data comes from the Federal Research Division. An increase in this ratio typically should, if my hypothesis is correct, correspond to a decrease in the Black population in the areas under study.

My conjecture implies that as more “rich” individuals and families move into a neighborhood, it drives up property values and rents, making housing less affordable for the existing Black population. Reagan looks at the findings to show patterns of neighborhood change such as entry, exit, and enhancement lead to the outmigration of lower-income residents which conversely, led to neighborhood stability (Ellen and O'Regan 2011). This is in stark contrast to my hypothesis that said that an influx of affluent members of society would lead to a decrease in racial diversity and an increase in rent prices. Similarly, Munn, William, and Andrea examine changes in property values, demographic shifts, and community well-being indicators in areas affected by these policies to evaluate their claims including research methods, data analysis, and case studies. To evaluate their claim, the Yonto employs empirical research as they collected data on neighborhood characteristics, property values, income levels, and the influx of new residents to assess how different types of African American communities experience gentrification differently and use SSI census tracts to quantitate their data (Yonto and Thill 2020). Again

highlights the important role property values and income play in the measure of gentrification. The findings in the work reveal that gentrification is associated with increased housing costs and some level of displacement of low-income residents, but that the major harm is rent fluctuation(Freeman and Braconi 2004).

Potential issues included in Freeman's measurement of gentrification are challenges in accurately measuring displacement and the extent to which gentrification is the main driver of change. Specifically, housing costs and demographics because of the problems with the limitations in capturing the complexity of neighborhood change, or the complexity of gentrification dynamics, are the problems with Freeman, Reagan, and Walsh's work. For this reason, it is important to examine the data holistically and understand that gentrification is not the only reason residents move to the area. Data is a large issue as it is the potential problem with the work of Munn, William, and Andrea because the existing answers or methods include issues related to data availability about the census, and the complex nature of measuring the gentrification processes empirically about policy, strengths include raising awareness of the potential negative consequences of well-intentioned policies. The difficulties present in data collection will mostly not be present in my study because the period I chose from 2000-2019 has an abundance of data. Conversely, if I wanted to observe a larger time block I experience similar problems

While similar to other authors' works, limitations in data availability miss other factors at play Yonto, and Thill's work provides insights into the difference in gentrification experiences within African-American communities(Yonto and Thill 2020). Freeman sheds light on the gentrification-displacement relationship in a specific urban context which is the Bronx while Mckinnish research contributes to a better understanding of the causes behind



gentrification, but it involves challenges in capturing the motivations and behaviors of gentrifiers like increased GDP or better economic opportunities. Freeman poorly includes the limitations in capturing the full complexity of gentrification and how these processes influence other factors. The common theme in this work along with the others is how property values and income influence gentrification. Reagan poorly includes the challenge of identifying all relevant causal factors and the conflict of variable analysis of the Freeman model; fewer of the variables noted are empirical and would be harder to gather from a census than something more empirical like income.

### **Theory**

Gentrification is a difficult to measure urban phenomenon with large implications for low-income communities, particularly Black populations. Gentrification is caused by an increase in economic growth and policy changes that can lead to demographic shifts which is what I intend to study (Richardson, Mitchell, Franco 2019). This paper will show that these variables attract higher-income residents, investors, and developers to low-income, predominantly Black neighborhoods, which has resulted in the displacement of the Black population. I intend to investigate whether increased gentrification leads to a lower Black population in the areas of study.

Understanding the underlying assumptions when discussing gentrification is crucial to drive my hypothesis forward. These assumptions are not random; they are based on observations and preliminary research findings based on the Census. One important assumption is that gentrification is a complex process that can be measured in a variety of ways and comes from heavy research on its complex nature. There are many variables affecting gentrification like tourism, different economic opportunities, and education and it is also hard to measure the fact

that a neighborhood looks different (Richardson, Mitchell, Franco 2019). Because of this, my approach considers many factors to measure gentrification holistically. When we study gentrification we have to assume that “gentrifiers” do not intend to benefit the community and instead aim to displace. This comes from the idea that unchecked gentrification will lead to the displacement of vulnerable populations, especially Black communities(Lindner, Sandoval 2019). My research and case studies aim to show that without intervention, lower-income residents, including Black populations, are disproportionately affected. Additionally, there is the assumption that policy efficacy is influenced by successful policy implementations in various cities (Mueller 2020). This means that the policies that are implemented are based on tried and true efforts in other cities when in reality they are just implemented without caring about the effect it will have on the community. It stems from the belief that well-designed policies, such as affordable housing programs and rent control, can have a positive impact on lowering the adverse effects of gentrification(Mueller 2020). The idea of local context variation comes from empirical observations that the impact of gentrification can vary significantly depending on the specific characteristics of a city or neighborhood(Schnake-Mahl et al. 2020). My research aims to show that what works in one place may not be directly applicable elsewhere, emphasizing the need for context-specific solutions. Lastly, there is the assumption that it is not possible to strike a balance between neighborhood development and the preservation of affordable housing (Hickey, Sturtevant, Thaden 2019). Specifically, data is supported by successful examples where cities have managed to achieve this balance through insightful planning and policy implementation. These assumptions come from research findings, guiding efforts to address the challenges posed by gentrification while promoting equitable urban development.

In my paper I will show the increase in gentrification score “G-score” (independent variable) in low-income neighborhoods is a significant cause of increased housing costs and displacement of the long-term, Black population (dependent variable) over time. My conjecture implies that as more “rich” individuals and families move into a neighborhood, it drives up property values and rents, making housing less affordable for the existing Black population. This results in the displacement of Black residents as they are unable to afford the rising costs of living in the gentrifying area. Gentrification is a complex process influenced by various factors. More independent variables such as economic development, demographic shifts, and infrastructure can also play a role in gentrification and its effects. Because of this, my conjecture shows the important role of income disparities and demographic changes in the gentrification-population relationship.

Finding the causal mechanism driving the influx of higher-income residents into gentrifying neighborhoods will be a multi-step process. The leading cause in my paper is economic growth and development. Gentrification usually begins with economic growth and development in a city or specific neighborhoods (Munn, William, Andrea 2019). This is due to factors such as new job opportunities, business investments, or improved infrastructure (Ellen and O'Regan 2011). The next idea is very relevant to Asheville and it is the idea of increased attractiveness. As economic growth occurs, the area becomes more attractive to businesses, professionals, and higher-income individuals (Munn, William, Andrea 2019). Based on observations alone this seems to be the case in Asheville. The availability of well-paying jobs and improved quality of life can draw groups into the neighborhood. To account for this I have factored in the specific areas of GDP to factor in economic growth in the areas of study. Another causal mechanism could be investments in housing and infrastructure. With the increased

demand for housing in the area, investors and developers may start investing in real estate, leading to the construction or renovation of housing units(Freeman and Braconi 2004). This investment improves the overall infrastructure of the neighborhood. In the census, I can find the amount of new buildings created in the areas of study so this is how I plan to measure this factor. Because of this, it can lead to rising property values. The increase in higher-income residents and the improvements in housing and infrastructure can drive up property values. As more affluent individuals move in, they are often willing to pay more for housing, which further increases property prices which is the importance of measuring the housing price index(Freeman and Braconi 2004). This in turn spirals into rent and housing cost increases. Rising property values often translate into higher rents and housing costs(Freeman and Braconi 2004). This can make it more difficult for long-term, lower-income residents, including Black residents, to afford to live in the area. The final causal mechanism is displacement. As housing costs continue to rise, some lower-income residents may be forced to leave their homes due to affordability issues, leading to displacement(Munn, William, Andrea 2019). Black communities, in particular, may be disproportionately affected by this displacement due to historical inequities and existing socioeconomic disparities; this is also why I factored in the number of unemployed persons in the areas of study(Munn, William, Andrea 2019). The influx of higher-income residents in gentrifying neighborhoods is driven by a sequence of events starting with economic growth, leading to increased attractiveness, investment, rising property values, and ultimately, higher housing costs(Munn, William, Andrea 2019). This process can result in the displacement of long-term, lower-income residents, including Black populations.

Has gentrification been the dominant factor behind the declining Black population in Asheville, particularly over the past two decades? My hypothesis suggests that as the level of

gentrification, represented by the 'G-score,' goes up, the proportion of the Black population is expected to decline. To demonstrate this, I intend to examine 12 randomly selected counties in the area to study how gentrification affects North Carolina. My chosen statistical measure for gentrification will be the ratio of income to the housing price index (HPI). An increase in this ratio typically should, if my hypothesis is correct- correspond to a decrease in the Black population in the areas under study.

### **Empirics**

As I have mentioned previously there are many ways to measure the effects of gentrification. In this paper I intend to measure the effects of gentrification in counties in North Carolina through the observational approach of comparing the mentioned “G-score” to the Black populations in the areas of study. For this project I have invented the formula of G-score, intended to empirically measure gentrification, excluding racial variables. G-score is calculated by multiplying income to the housing price index (HPI). More specifically, I intend to use a quantitative approach so that my study can look at how multiple variables have an effect on the flow of Black populations on the county level.

An increase in this score typically should, if my hypothesis is correct- correspond to a decrease in the Black population in the areas under research.

In this study, I have found a way to measure gentrification analytically, and quantify its effects to compare it to the percentage of Black people in Asheville over the years to determine if gentrification is the causal mechanism driving neighborhood demographics.

North Carolina will be the basis of my study because of local residency with my unit of analysis will be North Carolina at the county level which is the most appropriate way to measure cities with census data. The Black population will be the dependent variable, most importantly

comparing it to the G-score. In order to measure the effect, I will formulate an empirical measurement of gentrification over time along with regression analysis.

I will be using the variable of the white population to see if the chosen measure affects the Black population. The amount of the white population in a county can have a negative effect on the Black population. One of the strongest effects is the view on racial discrimination and police brutality which can cause a divide and distrust among the 2 groups in specific areas (Pew Research Center 2016). Differences in the views of racial tensions, fair treatment in the workplace and general day to day treatment can make counties with an extraordinarily high white population not a primary destination to Black people. Meanwhile the Black people living in primarily white counties might feel pressure to leave (Pew Research Center 2016). Economic booms and lows have an effect on Black populations as well. Research has shown that as the business cycle starts to reach a low point Black people are actually primarily hired and that they are the primary target for employment from groups of the unemployed. This would show that as the economy booms less Black people are hired and as the economy reaches a low point more Black people are hired. This all supports the theory that people are more likely to discriminate in high parts of the economy because “discrimination will cost less” (Couch, Fairlie 2010)

To contextualize the data further according to the census “In 2019, the share of Blacks in poverty was 1.8 times greater than their share among the general population. Blacks represented 13.2% of the total population in the United States, but 23.8% of the poverty population”(Creamer 2020). One can conclude that as poverty rate increases in an area Black people would be less likely to stay in an area and would instead choose to move to a county with more economic opportunities (Creamer 2020). With this knowledge, I will compare the

unemployment rate in the counties of focus to the Black population over time in the same way I am choosing to measure the G-score.

One of the ways researchers measure neighborhood change is by how much infrastructural development is happening in an area. That is why I have chosen the variable of the amount of private establishments for all industries. An establishment is an economic unit, such as a factory, mine, store, or office that produces goods or services. Establishments are a single location and are engaged predominantly in one type of economic activity. If a single location encompasses two or more distinct activities, these are treated as separate establishments, if separate payroll records are available, and the various activities are classified under different industry codes (FRED 2023). The number of private establishments may be a factor in the Black population because of North Carolina's position in the South. The South is where a primary amount of the Black labor force is concentrated and holds an estimated 60%. So as more private establishments in North Carolina counties become erected it presents more economic opportunities to Black people from other areas to come in and similarly as less are built it could cause a decrease in Black population(Hancock 2021).

Conversely, a county's Gross Domestic Product or GDP is the measure of the amount of monetary value in goods that a county is producing. Further, a county's GDP will also be a drawing in effect as more economic opportunities especially in the South will attract more Black people to counties with high GDPs as more opportunities to work and support a family become prevalent and as a GDP in a county decreases it would cause an exodus(Hancock 2021).

Using the amount of new private housing in specific counties will give more information on the area. New private housing is defined more specifically as the total number of building permits issued for all structure types. Structure types include 1-unit, 2-unit, 3-unit, 4-unit, and

5-unit or more (FRED 2023). Similarly the amount of new private housing may have a positive effect on the amount of People of Color in an area. Specifically in reference to North Carolina's Turnkey program which aimed to provide more housing to low income individuals. The Washington Post states “Participants in the North Carolina program will be encouraged to take the title as early as possible after an initial two to five-year period, during which they build up accounts with the authority”(Roth 1981). This would likely increase the Black population in an area as Black people would be more likely to own a house .

Defining my main concepts more clearly, I will show that the increase in gentrification score “G-score” (independent variable) in the counties of focus is a significant cause of decreased Black population over time(dependent variable). When I use the word gentrification, I am simply talking about the increase of income and housing prices in an area. My study implies that as more “rich” individuals and families move into a neighborhood, it drives up G-score, making the area less affordable for the existing Black population and causing an increase in exodus. This results in the displacement of Black residents as they are unable to afford the rising costs of living in the area and leading to a decrease in the percentage.

In my quantitative observational study to see what effect gentrification has, I will do a regression analysis of the Black population over the G-score graph to see if there is a positive or negative correlation. To match the graph I will also have a comprehensive regression table showing the change in variables to get a holistic analytical approach. Because of this, the subjects of my study will be the Black populations in these counties. The case I am studying is gentrification and I will be looking at how this concept varies over time which will be the years. I will superimpose the Black population over the G-score I mentioned above to see what effect G-score has on the Black population. If my estimates are correct with the graph and regression I



will see a decrease in Black population and an increase in G-score meaning that there is a correlation, similarly I will look for correlation in other variables presented.

In my data I could see that the mean for all values of “G-score” increased over the selected period of 2000 to 2010 and 2019. Conversely the mean value for Black populations decreased slightly over the selected period. Specifically the variable of G-score showed an increase in standard deviation over 3 periods. When looking at Black population all variables decreased over time, specifically the standard deviation. Interestingly enough the same trend was shown with the white population begging the question who is moving into these counties if both races are decreasing? Unemployment when looking at the measures of central tendency seemed to increase with the peak being 2010 then dropping off in 2019. A very similar trend seemed to happen with the percent poverty as well showing exactly what effect a recession has. New private housing remained at relatively the same rate except in 2010 with a sharp drop off most likely relating to the recession a couple years prior. Private establishments did not seem to follow this trend however with an increase in buildings with a sharp increase in 2019. The GDPs of all counties in all measures increased over time as well. Summarizing the data it seems that G-score may seem to have an effect on the percentage of Black people in a given county but simultaneously does not positively impact the Black population. It all was shown that as Private establishments increased Black population decreased and similarly as GDP increased Black population decreased over time. The other variables measured seemed to be more affected by the recession than anything else.

Table 1: Descriptive Statistics

	Black population	G-score	Unemployment Rate	GDP(per 100k)	Poverty percent
Minimum	0.70000%	2.75140	3.00000%	\$1.83978	6.80000%
Median	19.00000%	5.096523	6.10000%	\$ 40.03445	15.30000%
Mean	21.27328%	5.59662	6.73036%	\$137.24520	15.82389%
Standard deviation	15.04376%	1.88440	2.54346%	\$240.85490	3.93924%
Skewness	0.843479%	1.70518	0.95167%	\$2.202539	0.4530439%
Kurtosis	3.38747%	6.69259	3.31604%	\$6.58357	3.00922%
Maximum	59.00000%	14.41244	15.90000%	\$1010.00300	29.00000%

Table 2: Regression Analysis

	Coefficient	Standard Error	T statistic	P>t	95 percent confidence level lower bound	95 percent confidence level lower bound
G- score	-1.906911	1.109972	-1.72	0.087	-4.094233	.2804112
Unemployment rate	3.537834	.8529638	4.15	0	1.856974	5.218694
GDP per 100k	.031389	.0053246	5.90	0	.0208964	.0418816
Poverty percent	1.388634	.3578248	3.88	0	.6835004	2.093767
Constant	-11.56658	10.67778	-1.08	0.280	-32.60834	9.475171

## Results

The data shows what I hypothesized was that as G- score increases the Black population in counties decreases. The chart shows that as the G-score increases by 1 point it causes the Black population to decrease by 2 percentage points and this data is very packed together with a value of 1.1 standard error. The standard error is the standard deviation of its sampling distribution or in layman's terms how packed the data is. T statistic is the way to measure how strong the relationship is with the dependent variable knowing this information the G-score value of -1.72 shows that there is a weak relationship between the G-score and the Black population this is supported by the p value of 0.087 meaning there is a minor relationship between G-score and the Black population in North Carolina; this is determined by the cutoff value being 0.05 and 0.087 is outside of the range of statistical significance. Although not statistically significant, an almost 2 percent decrease in the population is a lot of people so I would say this is very substantively significant and warrants further research.

When conducting the research I was mostly focused on G-score and how gentrification affects communities of color further research could be done on how the recession affects communities as well. In contrast as the unemployment rate increases in the selected counties as does the Black population as shown in the coefficient part of the regression. In the complete opposite direction as the unemployment rate as the coefficient increased by 1 point the Black population increased by 3.5 points with a 0.85 standard deviation. This is a very interesting result because one would assume as unemployment increases the population in an area would decrease. The unemployment rate had the second highest relationship to the Black population. This statement is supported by the p-value of 0, which means that the correlation is

strong and the interval of the unemployment rate does not contain 0 so this is further proof that the correlation is strong.

The data shows that as the unemployment rate increases it positively increases the Black population in a county, likely an influx of people looking for new employment. GDP may increase, although the previous statement shows that it is hard for Black people to find jobs in the actual workforce in the South it is majority Black as mentioned in the empirics section. The Black population followed the trend of a positive relationship coefficient as well but on a very small scale which was a 0.03 increase per one percent increase of the GDP. GDP had a wide range of data which is why its value of 0.005 is a very low standard error and since T statistic measures how strong the data is, the value of GDP is the highest of all the measures showing that it has the highest relationship in the field supported by the p value of 0 means that the statistical significance is strong with the GDP. Similarly the interval of GDP does not contain 0 so the correlation is strong. The substantive claim of GDP is very interesting as the number 0.03 is very small but when you look at the big picture and see that it is GDP per 100k this number becomes very significant.

Conflicting this result is how the poverty percentage increases meaning there may be other outside causal factors to the reasons why GDP increases in the selected counties in the South. The Poverty percent coefficient increased by a rate of 1.3 with a 0.35 standard deviation. Finally, since the value of poverty percent does not contain 0 this value of the interval is very strong and statistically significant.

### **Conclusion**

My results showed that there was not a relationship (statistically) between G-score and the Black population which is inconsistent with my argument and thesis. I expected to show

potentially that there was a negative relationship between G-score that the Black population was and G-score were tied together. Instead of a statistical correlation I found there was a substantive correlation which showed there was still a large change in Black population when the G- score increased. What I did find was that there was a correlation between the poverty percent, unemployment rate and the GDP of the counties studied.

The implication of my result is that the G-score which means that gentrification as a whole does not have an effect on the Black community -statistically- but although not statistically significant, an almost 2 percent decrease in the population is a lot of people so I would say this is very substantively significant and worth further research. Which means that there is a larger problem at hand as to why going back to me wanting to study Asheville, is so white. My research points to a different question which is why is the Black population getting lower? The research shows that poverty percent and unemployment increase the Black population but it does explain why and certainly does not answer the question what makes them increase. In my study I also previously studied white populations as a control and could see that both the white population and Black population would decrease in the same county so much so that white populations had to be removed from the data because of collinearity, so then it proposed an interesting question which was if both of these populations are decreasing who is replacing them?

One of my pitfalls in my study was that I do not think my formula for the G-score was thorough enough. If I could do this all again I would like as I mentioned previously would make the G-score more thorough which would entail adding in more variables to the formula to make it more statistically thorough and more precise data wise I would have loved to pull data from the

70s till current day but I was limited to 2001-2019. It also would have been fantastic to study all 100 counties in North Carolina if I had the time and resources.

My research opens avenues to study what other racial groups are affected by gentrification and what effect a recession has on housing price. In my opinion any of my variables can be thoroughly measured with another to create a very interesting study.

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