Economic Mobility and the Racial Wealth Gap in the United States

Report to Atlanta Emerging Markets, Inc.
Casey Barton, Graysen De Jong, Sarah Kallis, Rehan Khaki, Adam Lederer, Whit Lill, and Kyle Smith
PUBP 4020: Policy Task Force II
Dr. Diana Hicks and Dr. Jan Youtie
April 15, 2022

Executive Summary

As issues surrounding economic mobility and the racial wealth gap continue to gain national attention, policymakers at all levels of government are investigating strategies to achieve more equitable economic outcomes. We began this study by analyzing three prominent national studies that started the conversation about the large racial wealth gap and lack of economic mobility in American cities. While there is disagreement about which factors are most significant, these studies identified several root causes that play a role in the racial wealth gap and economic mobility. These factors include housing, income, inheritance, systematic racism, geography, and debt. Atlanta Emerging Markets, Inc. (AEMI) is seeking information regarding what policies they can use to minimize the racial wealth gap and improve overall economic mobility in Atlanta. To better inform their efforts, we answer the following research questions: 1) What factors play the largest role in the persistence of the racial wealth gap in Atlanta? 2) What actions can AEMI take to decrease the racial wealth gap in Atlanta?

We identified 24 different variables associated with the racial wealth gap. We designed a quantitative study using a regression analysis to determine which factors are most associated with a wider racial wealth gap in the largest American cities. We found that the variables most associated with a decreased racial wealth gap are minority business ownership rates, degree rates for black people, and homeownership rates for black people. We estimate that increasing these factors can result in an increase of over $2,000 in average income for black people in Atlanta.

From our findings, we present the following recommendations to reduce Atlanta's racial wealth gap:

- Promote minority business ownership.
- Promote degrees for black people.
- Encourage black homeownership.

Table of Contents

Introduction

Atlanta has some of the worst wealth disparities in the United States. A 2021 Brookings study found that Atlanta has higher disparities for median home value and credit score between black and non-black areas than any other large city in the country. The Atlanta Wealth Building Initiative reported that those born into poverty in Atlanta only have about a four percent chance of escaping poverty in their lifetime. On average, Atlanta's black residents are considerably worse off than white residents based on almost every economic metric.

Atlanta's inequalities are often discussed using one of two terms: economic mobility or the racial wealth gap. We define economic mobility as the ability of an individual over time to improve their economic status. Economic mobility is typically measured by income. We define the racial wealth gap as the difference in net assets between members of different racial or ethnic groups. Sufficient economic mobility is necessary for groups at the bottom of the income distribution to improve their status and shrink the racial wealth gap. This report shows how the concepts are intrinsically linked and contribute to overall economic inequity. In this report, we use the terms interchangeably.

Since its creation in 2005, Atlanta Emerging Markets, Inc. (AEMI) has focused on providing financing to deserving projects through New Market Tax Credits (NMTCs). The organization has grown over time and is now looking to expand its impact beyond New Market Tax Credits. AEMI is seeking information on what strategies it can use to lessen the racial wealth gap and improve overall economic mobility in Atlanta. As AEMI looks to have a larger impact on economic equality in Atlanta, a strong understanding of the root causes of economic inequality will be crucial. This information helps AEMI explain the need for funding of its programs by highlighting the primary challenges facing Atlanta. Additionally, it better informs any new programming the organization implements, thus enhancing the value brought to Atlanta's economic landscape.

Literature Review

Background and Significance

To understand Atlanta's contemporary challenges with economic mobility, it is important to understand how the city developed into the major economic center that it is regarded as today. This section briefly outlines the history of Atlanta from the twentieth century onward and the "Atlanta spirit" that allowed white and black business leaders to transform the city into an inclusive and advanced metropolis.

Often referred to as "the city too busy to hate," Atlanta has long been heralded as a major economic hub and a premier commercial capital of the Southeast. The city's growth in the first half of the twentieth century was thanks in part to a new economic strategy that featured a more diversified economy. With the launch of "Forward Atlanta," a national advertising campaign led by Ivan Allen Sr. and the Atlanta Chamber of Commerce, the city attracted new businesses and brought an estimated $34 million in annual payrolls to the city's economy (Ambrose, 2004). While the city witnessed its share of racial violence and the rise of Jim Crow throughout the first

half of the century, by the 1960s the city had turned a corner largely due to the wave of civil rights era lawsuits that removed barriers in education, housing, and politics for African Americans. The city's changing demographics and the fall of Jim Crow paved the way for Atlanta to elect its first African American mayor, Maynard Jackson, in 1973.

During the last several decades, Atlanta saw an expansion both in its population and economy that led to the city becoming the commercial capital of the Southeast. Already a major railway hub, Atlanta also became one of the busiest cities for air travel. Major corporations such as Coca-Cola, Home Depot, United Parcel Service, and Delta Airlines established their headquarters in the city, stimulating the economy. An economy so robust in a city with such a large minority population created the narrative that the Atlanta economy works for all. In every sector of the Atlanta economy, black-owned businesses seemed to be thriving and growing in number and size. Many in the economic mobility space as well as then-Mayor Kasim Reed's office were therefore surprised by a 2015 Bloomberg study deeming Atlanta the worst large city for economic mobility in the country (Trubey, 2015).

Economic Mobility Analysis

Our group compared economic mobility studies from Bloomberg and Brookings. The purpose of this section is to compare the methodologies used, how inequality was defined, and what variables were measured across different economic mobility studies. We found that the studies varied in how they defined and measured economic mobility, whether they looked at income or wealth inequality, and how they chose cities to study. We summarize the results of these studies in Table 1.

Bloomberg

In 2018, Bloomberg analyzed income inequality in large cities across the United States (Foster & Lu, 2018). Bloomberg defined a "large city" as a city with a population greater than 250,000 and measured inequality using the Gini Index as calculated by the US Census Bureau. The Gini Index is calculated on a scale from 0 to 1, where 0 represents perfect equality and a coefficient of 1 represents perfect inequality. Bloomberg's analysis found that Atlanta had the worst income inequality of all the cities studied with a Gini coefficient of 0.58. At the economic extremes, around 18 percent of Atlanta households earn more than $150,000 a year, while around 9 percent of households make less than $10,000 a year.

Critics of this study find fault in Bloomberg's use of income to define inequality. Wealth is commonly cited as a better metric for defining inequality. Wealth includes multiple monetary assets such as properties, stocks, and accrued cash. Mehrsa Barandaran, author of *The Color of Money: Black Banks and the Racial Wealth Gap*, said that income is much more flexible and can change over a lifetime while wealth tends to last intergenerationally (Rivera & Prescott, 2018). Those born with lots of wealth tend to maintain that wealth throughout their lifetime, and those without much wealth are unlikely to gain more wealth in their lifetime.

Brookings

Study 1.

Beginning in 2014, Brookings published a series of comparisons of income inequality across the 50 largest cities in America. The researchers used data from the American Community Survey to calculate the 95/20 ratio for each city in 2007 and 2012; the 95/20 ratio divides the income earned by someone in the 95th percentile by the income earned by someone in the 20th percentile for each city, thereby comparing the income of the richest 5 percent of the population with the income of the poorest 20 percent. In 2012, Atlanta had the highest 95/20 ratio at 18.8; the richest 5 percent of households in Atlanta were earning over $280,000, while the poorest 20 percent were earning less than $15,000. San Francisco had the second-largest ratio at 16.6, and also had the largest growth in income inequality between 2007 and 2012. Virginia Beach had the smallest 95/20 ratio at 6.0 (Berube, 2014).

In 2016, Brookings released an updated version of their study based on American Community Survey data from 2014. In this version, they included both the 100 largest cities and the 100 largest metropolitan areas. Atlanta had the third-largest 95/20 ratio at 17.5. Boston and New Orleans respectively replaced Atlanta and San Francisco as the top two most unequal cities. The Atlanta Metropolitan Area, including Atlanta, Sandy Springs, and Roswell, had the 36th highest 95/20 ratio of the metropolitan areas at 8.8; this gap in inequality between city and metropolitan area was the highest out of those included in the study. Excluding Atlanta, in general, cities with a high income inequality ranking tended to be located inside metropolitan areas that also had high income inequality rankings (Berube & Holmes, 2016).

In 2018, Brookings again updated their analysis of the 100 largest cities and metropolitan areas with data from the 2016 American Community Survey. Again, Atlanta ranked first for income inequality with a 95/20 ratio of 18.1. The Atlanta Metropolitan Area rose slightly to the 32nd spot for income inequality, but the 95/20 ratio stayed at 8.8. Again, exempting Atlanta, cities with high inequality tended to be located within metropolitan areas with high inequality (Berube, 2018).

Inequality increased in some cities and decreased in others over the course of the studies. In general, the poorest 20 percent of residents did not see a significant change in their incomes between 2012 and 2016; however, the richest 5 percent of residents did see an increase in their incomes, causing an increase in inequality levels in some cities.

The researchers offered some explanations for the results of this study. They pointed out that San Francisco had a very high level of income inequality because some of the population was extremely wealthy, causing their 95th percentile households to be wealthier than in any other city. Seattle has low income inequality, likely because the city has a $15 per hour minimum wage. The cities included in the study that had lower income inequalities compared to the others were mostly southern and western cities that contained many suburban-like areas with upper-middle-class households. In some cities, lower-income residents may have relocated to the suburbs due to rising housing costs, which would lower the inequality measure.

The results of Brookings' analyses were surprising to many who viewed Atlanta as a center for economic growth in the South and home to a thriving black middle class. WABE News

published an article summarizing these sentiments. One explanation for Atlanta's low ranking is the study's definition of Atlanta. The city limits used in the census are not representative of the Atlanta region or the neighborhoods contiguous with the city of Atlanta; certain neighborhoods that are contiguous to the city and consider themselves part of the city of Atlanta are not included (Stokes, 2018). While the group could not discern whether the communities excluded were affluent or poor, the exclusion of several neighborhoods could explain the gap in income inequality ranking between the city of Atlanta and its metropolitan area.

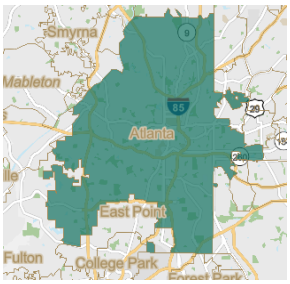
Study 2.

In September 2021, Brookings published a study entitled "Homeownership, racial segregation, and policy solutions to racial wealth equity" that compared measures of the racial wealth gap across seventeen cities in the United States. The researchers used data from the US Census Bureau's American Community Survey of 2019, the Federal Reserve System, and credit scoring bureaus to calculate the racial disparities in factors contributing to the racial wealth gap, including homeownership rates and values, access to adequate banking services, credit scores, and educational achievement in each of the cities. They measured the difference between the average measure for the black population and the average measure for people of all races in each city. The researchers then ranked the cities in order of largest disparity. Atlanta had the highest disparity in median home value and average credit score between black and white communities and the highest measure of physical segregation, as well as the second largest gap in educational achievement. These large disparities between racial groups could explain Atlanta's low rankings in Bloomberg's economic mobility study. (Elizando, 2021).

Brookings did not give any justification or explanation for the seventeen cities that they selected. They are not the largest cities by size or population, nor are they comparable in any other way that our group could decipher. We also struggled to connect the data collected by the study with the sources listed. The study compared each factor's average value for the black population with the average value for the entire population. While this method may provide a clearer picture of how the black population differs from the average, this method does not match most of the other economic mobility studies, which compare the black population to the non-black population.

Table 1: Summary of Economic Mobility Studies

Study	How it Defined Inequality	How it Defined Atlanta	Results
Bloomberg	Gini Index: calculated by creating a frequency distribution of all household incomes	Defined Atlanta based on data from the Census Bureau. The Census defines	Atlanta has the worst Gini Index and the worst ratio of mean household income of the top 5% to median

	for a particular area; measured on a scale of 0 to 1	Atlanta as such:  (Credit: United States Census Bureau, 2019)	household income for the city.
Brookings Study 1	95/20 ratio: measures distance between a household just barely in the top 5% of incomes and barely in the bottom 20% of incomes for the city	Looked at both city limits and metropolitan area	Atlanta has the highest 95/20 ratio for 2012, 3rd highest in 2014, and highest in 2016. The Atlanta metropolitan area had the 36th highest metropolitan income inequality in 2014 and 32nd highest in 2016.
Brookings Study 2	Compared the average measure for several variables for black population to average measure for population as a whole	City limits as used in the census (assumed)	Atlanta has the highest disparity for physical segregation, median home value, credit score between black and non-black areas, and the second-highest gap in educational achievement.

These reports found Atlanta to have some of the highest rates of economic inequality in the United States. The studies measured inequality in a variety of ways and defined Atlanta differently as well. Some studies included the entire metro Atlanta area, and others only included Atlanta's city limits. Additionally, it was difficult to find the original data sources for some of the studies, further affecting our analysis. It is difficult to quantify the full scope of the wealth gap in Atlanta due to variations in the studies and their methods. The studies also do not clearly report

the factors behind city differences in economic mobility to allow us to understand why Atlanta ranks so poorly. However, it is clear that a wealth gap exists in Atlanta and has persisted for several decades.

Factors that Influence the Wealth Gap

Several factors have been identified as causes of the racial wealth gap and poor economic mobility across the relevant literature. The aim of this section is to describe the most prominent factors and how they contribute to inequality. Shapiro et al. (2013) found that housing, income, and inheritance are the biggest drivers of the increasing racial wealth gap. Additionally, systematic racism, geography, and debt were identified as important causes of the racial wealth gap. Although some of the factors discussed in this section were excluded from the research design due to a lack of available data, each of the prominent factors is discussed in the section below.

Housing

One of the most common ways of building wealth is through real estate investment. For black Americans, this strategy for building wealth has been exceptionally difficult. Redlining in real estate was prominent throughout the first half of the 21st century and caused suburbs to become increasingly white and inner cities increasingly black. Homeownership alone does not necessarily build wealth for everyone.

Income

There is a large difference in income by race with whites and Asians having higher incomes than blacks, Native Americans, and Hispanics. Whites represent a disproportionately large share of the top 10 percent of income earners, while blacks hold a disproportionately large presence in the bottom 10 percent and 1 percent of earners (Akee et al., 2019). Wealth remains more concentrated at the top of the income distribution.

Inheritance

Because black families generally hold fewer assets, large private wealth transfers have a higher impact on overall wealth for black individuals than white individuals (Herring & Henderson, 2016). These transfers, such as an inheritance, exacerbate the existing racial wealth gap. While the literature reveals that inheritance is a significant factor impacting the racial wealth gap, this factor was excluded from our research design due to a lack of available data.

Systematic Racism

Systematic racism contributes heavily to the persistence of the racial wealth gap. One example of systematic racism can be found in public school funding. Public schools are currently funded in large part from property taxes, so those areas with higher property values produce a larger tax digest, leading to more school funding. Black families are less likely to own a house and have lower-cost housing when compared to white families. Schools in predominantly black

areas typically have lower funding. Schools with less funding have lower graduation rates and college attendance, which lowers the potential income of the student and decreases their likelihood of upward economic mobility (Abott et al., 2020).

Geography

Different places in the United States are predisposed to have different levels of wealth inequality. Wealth inequality is high and rising in urban areas, although the degree varies across the country (Holmes & Berube, 2016). Places with historically high levels of racial segregation maintain high disparities in income and wealth (Andrews et al., 2017). They contain fewer resources like parks and well-funded schools than more integrated or majority-white places (Perry, 2020). Although these areas are not conducive to economic growth, black Americans are more likely to stay in impoverished neighborhoods than white Americans (Butler et al., 2020).

Debt

It is difficult for people to accumulate wealth if they already have significant debt. Black Americans have more debt on average than white Americans. The average amount of student debt for black Americans is higher than the average for white Americans (Oliver, et al., 2019). Black Americans also have a higher debt-to-asset ratio than any other racial group, meaning that black Americans have fewer resources to pay off debt, increasing the potential for financial instability (Copeland, 2020). This factor was excluded from our research design due to a lack of available data.

Entrepreneurship and Wealth Mobility Studies

Entrepreneurship in minority communities is touted as a promising way to reduce the racial wealth gap and increase economic mobility in the US. According to the US Census Bureau, in 2017 approximately 18 percent of businesses were owned by minority owners (United States Census Bureau, 2021). This section is devoted to assessing the benefits and problems facing entrepreneurship in minority communities.

Challenges Facing Minority-Owned Businesses

Minority communities face more challenges when starting a business because they have less access to capital than their white counterparts. Financial and social constraints limit the number of new minority-owned businesses and their long-term success. Black Americans have less existing wealth from homeownership, inheritance, and income. Without a foundation of existing wealth, business loans become the primary method of financing a new business. The lack of access to loans is the most important financial inhibitor to entrepreneurship in minority communities (Bates, 2006). People with more wealth are more likely to receive larger loans with lower interest rates. Additionally, investors tend to be white and male, and they are more likely to invest in other white males (Pantin, 2018). Minority entrepreneurs have a higher discouraged borrower rate. This discouraged borrower rate points to why minority groups are less likely to apply for bank loans than their equally creditworthy white counterparts (Bates & Robb, 2015).

Social barriers also present an issue for minority business owners. Racial segregation has a negative effect on minority-owned business growth. According to a 2020 study, racial segregation affects the consumer perception and profitability of small businesses. Black-owned businesses are more likely to fail within four years than white-owned businesses, and when the business fails, the downward mobility experienced from a failed business is usually greater for black business owners than white ones (Kroeger, 2021).

Promoting Minority-Owned Businesses

There are many ways to promote minority entrepreneurship and ensure the success of these new businesses. The two most prominent ideas include the continued funding of small businesses throughout the first several years of ownership and training to support good financial decisions. Some argue that funding should be focused on promoting existing black-owned businesses rather than encouraging the creation of new ones. Encouraging black people to start new businesses has the potential to exacerbate the wealth gap due to higher rates of business failure. Until there are equitable opportunities for black-owned businesses to succeed, it will be exceedingly difficult for these businesses to decrease the racial wealth gap. Increasing the odds of business success for entrepreneurs who have already established businesses is more likely to decrease the racial wealth gap (Kroeger, 2021). Providing access to social capital through mentorship and inclusive business incubators will improve entrepreneurial success in minority communities (Pantin, 2018).

Gaps in the Literature

After the literature review, we were left with several questions concerning the weight of each of the above factors in contributing to the racial wealth gap. While many of the studies cited a lack of homeownership as a principal cause of the wealth gap, others claimed that larger debt-to-asset ratios among black populations and less inheritance were to blame. All of the above factors have an important role in creating the racial wealth gap. No single factor can be identified as the sole cause of the gap as many of these economic barriers are directly related. Nevertheless, most studies would look at one factor and examine its effects on the wealth gap and the general economy. Better would be to determine which factors were most consequential.

Additionally, many of these economic factors are not studied specifically within the context of Atlanta. While there is an abundance of literature concerning the racial wealth gap and lack of economic mobility city by city and nationally, there was little material that covered a specific factor's relation to the racial wealth gap in Atlanta alone. Studies that did examine one factor of the racial wealth gap in Atlanta were primarily concerned with housing and the fallout from the 2009 financial crisis. Though these studies were able to explain why Atlanta's housing market is so hostile to low-income minorities, other studies that examined this issue in a national context had similar findings. The questions we had concerning Atlanta-specific studies and racial wealth gap studies and the desire to look at all factors together guided the formulation of our research questions.

Research Questions

AEMI's principal goal is to understand what solutions can be used to alleviate Atlanta's racial wealth gap. Economic mobility and the racial wealth gap are intrinsically linked, and the factors listed above have similar associations with both of these variables. As such, we will refer to these issues under the umbrella of the racial wealth gap for the remainder of this report. We concluded that the most effective solution to the racial wealth gap would need to address multiple factors. By studying the magnitude of all the possible factors that contribute to the racial wealth gap, we hope to get a better picture of what factors exactly should be targeted in order to combat the problem most effectively. Consequently, our research questions are as follows: 1) What factors play the largest role in the persistence of the racial wealth gap in Atlanta? 2) What actions can AEMI take to decrease the racial wealth gap in Atlanta?

Research Design

Our design aims to analyze which factors contribute the most to the racial wealth gap. We divided the 24 independent variables we identified into the following six categories: economic, education, entrepreneurship, housing, policy, and social.

Our research design is a quantitative study that uses a regression analysis to isolate the factors from the literature that most exacerbate the racial wealth gap in the largest cities in the United States. Using quantitative data allows us to accurately identify the biggest drivers of the racial wealth gap for cities around the country, rather than relying on theories about obtaining and growing wealth. Our data comes from averaging values from the years 2017 and 2018, but our data for the racial wealth gap comes from 2019 to account for the time delay between a change in a factor and the effect that may have on wealth. We chose these years as they are the most recent years prior to the COVID-19 pandemic of 2020 and therefore provide the data least impacted by global events. By averaging each factor across the two years, we control for anomalies in the data that might occur in a single year.

We used public data from the United States Census, the Bureau of Economic Analysis, the Bureau of Labor Statistics, the Economic Policy Institute, Opportunity Insights, Social Explorer, AdvisorSmith, and World Population Review. Tables 2, 3, and 4 include our variables and sources. We elected to look at the 100 cities with the largest populations as of the 2020 Census in the United States. We chose to use population as the metric for choosing cities in accordance with how Bloomberg and Brookings conducted their studies. Based on the availability of data and how the data was collected, we used the metropolitan statistical area (MSA) as the unit of analysis for our regressions. We included all of the MSAs that make up the 100 largest cities by population. Since more than one city can be included in an MSA, we have 70 metropolitan areas included in our study, which contain the one hundred most populous cities.

Variables

Dependent Variables

Our dependent variable is the racial wealth gap. We used the income ratio between black and white city citizens as a proxy for the wealth gap. The income ratio is measured by

calculating the median income for black and white people and finding the ratio between them. We chose this variable to estimate the wealth gap because it is the most commonly used measure in frequently-cited wealth gap studies. The income ratio fails to account for sources of wealth outside of income like debt, homeownership, and intergenerational transfers; therefore, our analysis will likely underestimate the impact that these factors have on the racial wealth gap. See Table 2 for a description of our dependent variable.

Table 2: Dependent Variable

Variable	Description	Years	Source
Inc_Ratio	The ratio of median black household income and median white household income in the city	2019	Social Explorer

Independent Variables

The following independent variables were factored into a regression model using the above variable as the dependent variable. Our independent variable categories mimic what we found in the literature review. We retained the categories of entrepreneurship and housing. We decided to drop the intergenerational transfers and the debt category because we were unable to find city-level data about inherited wealth or individual debt. We also decided to remove the systematic racism category because we were unable to find a viable metric for citywide racism levels. To compensate for the exclusion of systematic racism, we included a new social category that accounts for social factors that may have an impact on economic equity. We added three additional categories to our analysis: economic, education, and policy. These categories were intended to fill in the gaps regarding the overall city health and its impact on the racial wealth gap. All of our independent variables are summarized in Table 3. While most of the variable sources are well-known, Social Explorer and School Digger are not. Social Explorer gathers data from a variety of sources including the US Census Bureau, Pearson Publishing, and other public and private entities. School Digger collects data from each state's department of education.

Economic

Our economic variables measure the general economic factors in a city associated with the wealth gap. The first two factors included in our economic category are GDP per capita and the number of new jobs in the city within the past year. These variables measure the amount of economic growth that the city has experienced. GDP per capita is the value of goods and services sold per person in a year. The inclusion of the variable number of jobs added in the city in the past year checks if black economic success has followed general economic success in order to avoid assuming that a general upward trend means that the racial wealth gap is closing. The third factor in this category, the poverty rate for black and white populations, was included to assess the association between poverty and race in large cities. Though a city with high economic inequality indicates a wide range of wealth, poverty rates indicate exactly how many of the city's poorest residents are critically poor. The last variable in this category is the unemployment rate for black and white people. Including this rate helps us identify how much employment

influences the racial wealth gap.

Education

The second category is education. While we concluded from the literature review that education is often overemphasized as a factor for black business failure, it remains a good predictor of future income (Darity et al., 2018). We looked at three factors for education: the high school graduation rate for black and white populations, the percentage of black and white residents with a bachelor's degree or higher, and local school rankings. The graduation rate is defined as the percentage of high school students who graduate on time. We chose to study the percentage of residents with degrees because postsecondary education is associated with financial success. We also included local school rankings to gauge the general education level available to all city residents.

Entrepreneurship

We chose to have a separate category for entrepreneurship because it is the primary factor that AEMI is interested in addressing. For this category, we looked at the percentage of minority-owned businesses in the city. We hope to establish whether the presence of minority-owned businesses affects the magnitude of the racial wealth gap.

Housing

The housing category includes average monthly rent, the homeownership rate for black and white people, and median home value. Homeownership is one of the most effective ways to build wealth at low-income levels. In cities with a larger racial wealth gap, the homeownership rate can give a clear picture of how much homeownership can actually help build wealth. The median home value will indicate the general value of owning property in an area. Average monthly rent indicates how much a family who does not own a home spends on housing.

Policy

The policy category takes into account how differences in cities' social safety nets, general expenditures, and economic policies may affect the racial wealth gap. We chose three factors: the minimum wage, the threshold for qualifying for Medicaid in that state, and the school system's expenditure per student. By understanding the Medicaid qualification threshold, we aimed to see how a city's social safety net (which may trace back directly to state policy) affects the racial wealth gap. Studying school expenditures shows how much investment in public education impacts racial income differences. Examining the minimum wage helps us understand how income differences are minimized by higher wages. It also helps to answer the question of whether income or generational wealth contributes more to the racial wealth gap.

Social

The final category, social, includes two factors that significantly affect the racial wealth gap but are not explicitly economic measures: the crime rate and the rate of single motherhood. The crime rate is an independent variable that we studied to determine how local safety can

affect incomes. We found that the rate of single motherhood was highly correlated with wealth, so we tested for the correlation with the racial wealth gap (Mathur & McCloskey, 2014).

Table 3: Independent Variables

Variable	Category	Description	Source
GDP	Economic	The value of goods and services produced in the city per person	Bureau of Economic Analysis
Job_Inc	Economic	The number of jobs added in a city in the past year	Bureau of Labor Statistics
Pov_B	Economic	Percent of black city residents in poverty	US Census Bureau
Pov_W	Economic	Percent of white city residents in poverty	US Census Bureau
Unemp_B	Economic	Percent of black city residents that are unemployed	US Census Bureau
Unemp_W	Economic	Percent of white city residents that are unemployed	US Census Bureau
Deg_B	Education	Percent of black residents with degrees	US Census Bureau
Deg_W	Education	Percent of white residents with degrees	US Census Bureau
Grad_B	Education	High school graduation rate of black citizens in the city	US Census Bureau
Grad_W	Education	High school graduation rate of white citizens in the city	US Census Bureau
Star_Rank	Education	Average high school ranking in the city limits	School Digger
Min_Business *	Entrepreneurship	Percent of minority-owned businesses in the city	American Business Survey
Avg_Rent	Housing	The average monthly rent in the city	Social Explorer
Homeown_B	Housing	Percentage of the black population that owns a home in the city	US Census Bureau
Homeown_W	Housing	Percentage of the white population that owns a home in the city	US Census Bureau
Med_Home	Housing	Median home value in the city	Social Explorer
Medicaid	Policy	The Medicaid threshold in the state	World Population Review
Min_Wage	Policy	Minimum wage inside the city limits	Economic Policy Institute

Student_Exp	Policy	The school spending per student in the city adjusted for inflation	National Center for Education Statistics
Crime	Social	Number of crimes per 100,000 people in the city	FBI Crime Data
Single_Moth	Social	The percent of households with a single mother as the head of the household in the city	Social Explorer

* Minority business data was only available for 2018

Control Variables

We used three control variables in our study to account for factors that change over the course of our study and represent inherent differences between cities (Table 4). Our first control variable is the city's population, which controls variables that are not measured on a per capita basis. We also included the percentage of white and black city residents so that we can better compare cities with different racial compositions.

Table 4: Control Variables

Variable	Description	Source
Pop	Total city population in thousands	US Census Bureau
Per_B	Percentage of black citizens in the city	US Census Bureau
Per_W	Percentage of white citizens in the city	US Census Bureau

Research Methods

Our team ran a multivariate linear regression that models the causes of income inequality in the 70 MSAs containing the 100 most populous cities in the United States and includes income data by race. Linear regressions are useful for analyzing the linear relationship between dependent and independent variables (Tranmer et al., 2020). In the instance that data was available at the city level, rather than by MSA, we calculated the average for all of the cities included in the MSA, weighted by population. In the instance that data was only available at the county level, we again calculated the data using averages that were weighted by population.

The complete list of MSAs is listed in Appendix A. The MSAs are spread across the United States and include every region.

Model

The dependent variable in this regression is racial income inequality. Racial income inequality is represented by the ratio of median household income between black and white families in the MSA. We chose this analytical approach to see which economic and social variables have the most significant impact on the racial income gap. The traditional linear regression model takes the following form:

$$inc\_ratio = \beta_0 + \beta_1 deg\_b + \beta_2 deg\_w + \beta_3 avg\_rent + \beta_4 crime + \beta_5 gdp + \beta_6 grad\_b + \beta_7 grad\_w + \beta_8 homeown\_b + \beta_9 homeown\_w + \beta_{10} jobs\_inc + \beta_{11} med\_home + \beta_{12} medicaid + \beta_{13} min\_bus + \beta_{14} min\_wage + \beta_{15} per\_b + \beta_{16} per\_w + \beta_{17} pop + \beta_{18} pov\_b + \beta_{19} pov\_w + \beta_{20} single\_moth + \beta_{21} star\_rank + \beta_{22} student\_exp + \beta_{23} unemp\_b$$

In this model, y_i represents income inequality in the *i*th MSA. The x_i variables represent the independent variables, and β_1 ..., β_p are the coefficients associated with each of our independent variables. These coefficients tell us how much and what kind of an effect each of the listed independent variables will have on y_i, racial income inequality.

Results and Analysis

This section describes the results of the black-white income ratio regression and explains the conclusions that can be drawn nationally and for the city of Atlanta. Table 5 includes a summary of the statistics from the 2019 regression which includes data from the years 2017-2018 from 24 variables**.** Only three of the variables have missing cases for the MSAs. The differences in the mean values reflect how the underlying variables are measured. GDP, population, and median home values have larger means and ranges, while the variables measured in ratios and percentages have smaller ranges.

Table 5: Summary Statistics 2019 Model

Variable	Observations	Mean	Std. Dev.	Min	Max
inc_ratio	69	0.56	0.13	0.30	0.93
deg_b	70	0.21	0.06	0.09	0.41
deg_w	70	0.41	0.13	0.18	0.89
avg_rent	70	1057.19	280.73	705.00	2135.00
crime	70	6270.04	7615.39	112.00	46273.00
gdp	70	179226.60	258103.60	11143.51	1740551.00
grad_b	70	0.86	0.04	0.71	0.97
grad_w	70	0.90	0.06	0.68	0.98
homeown_b	70	0.39	0.07	0.24	0.54
homeown_w	70	0.63	0.09	0.44	0.83
jobs_inc	70	0.01	0.13	-1.00	0.25
med_home	69	269270.00	190775.90	50900.00	942950.00
medicaid	70	0.96	0.53	0.18	2.21
min_bus	70	0.14	0.01	0.11	0.16
min_wage	70	8.48	1.42	7.25	12.38

per_b	70	0.22	0.18	0.00	0.79
per_w	70	0.61	0.17	0.15	0.96
pop	70	1471527.00	2992726.00	218146.50	2.02e+07
pov_b	70	0.28	0.07	0.09	0.42
pov_w	70	0.12	0.04	0.05	0.36
single_moth	70	0.10	0.03	0.03	0.16
star_rank	70	1.74	1.17	0.00	5 .00
student_exp	68	12728.76	3840.86	8462.00	30762.00
unemp_b	66	0.09	0.03	0.05	0.17

2019 Black-White Income Ratio Model

Table 6 reports the results of the income ratio regression model from the years 2017-2018. After performing a stepwise regression using the variables in Table 6, we identified the variables with the greatest predictive power and statistical significance to create the 2019 income ratio regression model. This model includes the following variables: percentage of black Americans with degrees, percentage of white Americans with degrees, the cost of the average rent, the white graduation rate, the black homeownership rate, the Medicaid threshold, the percentage of minority-owned businesses, and the percentage of black residents. The R-squared value for this model is .80, meaning that 80 percent of the variation in the data is explained by the model. From this regression, we determined that three variables—the percentage of black Americans with degrees, black homeownership rate, and the percentage of minority-owned businesses—are the independent variables most associated with a higher black-white income ratio and those for which the city of Atlanta has some degree of influence. Of these variables, each is statistically significant using a 90 percent confidence interval, and two—the black homeownership rate and percentage of minority-owned businesses—are statistically significant using a 95 percent confidence interval. Tables comparing Atlanta's ranking to other metro statistical areas with respect to the statistically significant variables are shown in Appendices B and C.

Based on the regression, we can predict that for every one percent increase in the percentage of black Americans with degrees, a 0.59 percent increase in the income ratio is expected. Using Atlanta's data from 2018, this would mean that if an additional 1,600 of Atlanta's 160,000 black citizens attained a degree, we would expect an average increase of $434 in income for each black citizen or about $69.5 million for all black citizens combined. For every one percent increase in the percentage of black-owned businesses, a 2.67 percent increase in the income ratio is predicted. Therefore, if an additional three black-owned businesses were started in Atlanta, we would expect an average increase of $1,965 in income for each black citizen or about $314.5 million for all black citizens combined. Lastly, for every one percent increase in the black homeownership rate, a 0.28 percent increase in the income ratio is predicted. If an additional 1,600 of Atlanta's 160,000 black citizens owned a home, we would expect an average increase of $206 in income for each black citizen or about $33 million for all black citizens

combined. If we improved Atlanta's position on all these dimensions simultaneously by one percent each, the total impact on the black economy in Atlanta would be an income increase of $2,604 on average per citizen or about $416 million for all black citizens.

Table 6: Regression Model Summary 2019

Variable	Coefficient
deg_b	00.59*
deg_w	-00.56***
avg_rent	-00.002****
grad_w	1.20***
homeown_b	00.28**
medicaid	00.04**
min_business	2.66***
per_b	-00.20***
pov_b	-1.11***
pov_w	1.55***
cons	-00.55
r-squared	00.80
No. Of Observations	63

**Significant to .1*
***Significant to .05*
****Significant to .01*

Recommendations

Overall, the literature and this study revealed that the racial wealth gap is complex and requires partners across the policy landscape to address issues ranging from entrepreneurship to housing and education. Based on the results of the study, we recommend the following to reduce racial income disparities:

Promote minority business ownership. The study revealed that minority business ownership is correlated with an increase in the black-white income ratio. If Atlanta were to increase its minority business ownership rate by 2 percent to that of the Los Angeles MSA, the area with the highest percentage of minority-owned businesses, we would predict the black-white income ratio in Atlanta to increase by 5.3 percent. Reducing the barriers that minority communities face when starting a business such as lack of access to capital and higher discouraged borrower rates are important steps in this regard.

Promote degrees for black Americans. Level of educational attainment is a strong predictor of future income. Based on the regressions, an increase in degrees for black Americans is correlated with an increase in the black-white income ratio. Therefore, we recommend that AEMI partner with other public and private sector entities in the Atlanta area to promote

post-secondary opportunities such as undergraduate, associate, and professional degrees to black Americans. If Atlanta were to increase its percentage of black Americans with degrees by 10 percent to that of the San Jose, CA or Laredo, TX MSAs, the areas with the highest percentages of black Americans with degrees, the black-white income ratio in Atlanta would be predicted to increase by 5.9 percent.

Encourage black homeownership. Homeownership is a key factor in reducing the racial wealth gap. An increase in the black homeownership rate is also correlated with an increase in the black-white income ratio. Based on these findings, we recommend that AEMI collaborate with public and private sector entities to encourage black homeownership. If Atlanta were to increase its black homeownership rate by 6 percent to that of Albuquerque, NM, the area with the highest black homeownership rate, the black-white income ratio in Atlanta would be predicted to increase by 1.7 percent.

Limitations

While our study is robust, we were faced with some limitations due to unavailable data. First, we were unable to gather data on several independent variables that we wanted to include. These variables included debt held by black and white people in our cities, cost of living, black entrepreneurship rates, or welfare expenditures in each city. We reviewed multiple sources and contacted data experts but were unable to find that specific data. In some cases, we were able to include other variables to mitigate the exclusion of some variables. For example, we included the average rent and median home price, which are similar metrics to the cost of living.

An additional potential limitation of our study is its applicability in the COVID-19 economy. While economists are still researching the effects of COVID-19 on the global economy, recent and future data will vary from the data used in this study. The findings of this study may not be as applicable to the current world as they would have been prior to the pandemic. However, the findings of this study will still provide an important guideline as to what factors are the most associated with economic equity.

A final potential limitation of our study is that it did not incorporate data specific to non-white or non-black racial groups into the regressions. Ideally, we would be able to collect data on all racial and ethnic groups to draw findings that are representative of the entire Atlanta community. However, given time and resource constraints, it was unrealistic for us to be able to effectively collect and use all of this data in our regressions. Based on our research, we have found that non-black racial minorities face similar economic hurdles to black people, so we predict that our findings will be applicable to most other minority groups in Atlanta.

Conclusion

In summary, our study analyzes factors that contribute to the wealth gap in Atlanta and other major cities in the United States. Our study allowed us to provide detailed, actionable policy recommendations for AEMI to consider. Additionally, we analyzed several existing

studies about economic mobility in the United States. Our original study and analysis of existing economic mobility studies will help AEMI deepen its understanding of economic mobility and the racial wealth gap in Atlanta. This will allow AEMI to create policies and programs to address this persistent problem.

References

Abott, C., Kogan, V., Lavertu, S., Peskowitz, Z. (2020). School district operational spending and student outcomes: Evidence from tax elections in seven states. *Annenberg Institute at Brown University*, *20*(1), 1-62. https://doi.org/10.26300/mdtk-8743

Akee, R., Jones, M. R., & Porter, S. R. (2019). Race matters: Income shares, income inequality, and income mobility for all U.S. races. *Demography*, *56*(3), 999-1021.

Ambrose, A. (2004). *Atlanta*. New Georgia Encyclopedia. https://www.georgiaencyclopedia.org/articles/counties-cities-neighborhoods/atlanta/

Andrews, R., Casey, M., Hardy, B. L., & Logan, T. D. (2017). Location matters: Historical racial segregation and intergenerational mobility. *Economic Letters, 158*, 67-72. https://doi.org/10.1016/j.econlet.2017.06.01

Bates, T. (2006). The urban development potential of black-owned businesses. *Journal of the American Planning Association*, *72*(2), 227–237. https://doi.org/10.1080/01944360608976741

Bates, T., & Robb, A. (2015). Impacts of owner race and geographic context on access to small-business financing. *Economic Development Quarterly*, *30*(2), 159-170. https://doi.org/10.1177/0891242415620484

Berube, A. (2014). *All cities are not created unequal.* Brookings Institution. https://www.brookings.edu/research/all-cities-are-not-created-unequal/

Berube, A. (2018). *City and metropolitan income inequality data reveal ups and downs through 2016.* Brookings Institution. https://www.brookings.edu/research/city-and-metropolitan-income-inequality-data-reveal-ups-and-downs-through-2016/

Berube, A. & Holmes, N. (2016). *City and metropolitan inequality on the rise, driven by declining incomes.* Brookings Institution. https://www.brookings.edu/research/city-and-metropolitan-inequality-on-the-rise-driven-by-declining-incomes/

Butler, S., & Grabinsky, J. (2020). *Tackling the legacy of persistent urban inequality and concentrated poverty*. Brookings Institution. https://www.brookings.edu/blog/up-front/2020/11/16/tackling-the-legacy-of-persistent-urban-inequality-and-concentrated-poverty/

Copeland, C. (2020). Who is most vulnerable to the ticking debt time bomb in retirement: Families with the oldest, black/african american, and hispanic family heads. *Employee Benefit Research Institute*, *EBRI Issue Brief*, no. 515. https://www.ebri.org/publications/research-publications/issue-briefs/content/who-is-most-vulnerable-to-the-ticking-debt-time-bomb-in-retirement-families-with-the-oldest-black-african-american-and-hispanic-family-heads

Darity, W., Hamiton, D., Paul, M., Aja, A., Price, A., Moore, A., & Chiopris, C. (2018). What we get wrong about closing the racial wealth gap. *Samuel DuBois Center on Social Equity*. https://socialequity.duke.edu/wp-content/uploads/2019/10/what-we-get-wrong.pdf.

Elizondo, S., Gibbons, A., Harshbarger, D., Perry, A. M., & Ray, R. (2021). *Homeownership,*

racial segregation, and policy solutions to racial wealth equity. Brookings Institution. https://www.brookings.edu/essay/homeownership-racial-segregation-and-policies-for-racial-wealth-equity/

Foster, S., & Lu, W. (2018). Atlanta ranks worst in income inequality in the U.S. *Bloomberg*. https://www.bloomberg.com/news/articles/2018-10-10/atlanta-takes-top-income-inequality-spot-among-american-cities.

Herring, C., & Henderson, L. (2016). Wealth inequality in black and white: Cultural and structural sources of the racial wealth gap. *Race and Social Problems*, *8*(1), 4-17. doi:10.1007/s12552-016-9159-8

Holmes, N., & Berube, A. (2016). *City and metropolitan inequality on the rise, driven by declining incomes*. Brookings Institution. https://www.brookings.edu/research/city-and-metropolitan-inequality-on-the-rise-driven-by-declining-incomes/

Kroeger, T., & Wright, G. (2021). Entrepreneurship and the racial wealth gap: The impact of entrepreneurial success or failure on the wealth mobility of black and white families. *Journal of Economics,Race, and Policy*, *4*, 183–195.

Mathur, A., & McCloskey, A. (2014). *Fostering Upward Economic Mobility in the United States*. American Enterprise Institute. https://www.aei.org/wp-content/uploads/2014/04/-fostering-upward-economic-mobility-in-the-united-states_151727618007.pdf

Oliver, M. & Shapiro, T. (2019). Disrupting the racial wealth gap. *American Sociological Association*, *18*(1), 16-21. https://doi.org/10.1177/1536504219830672

Pantin, L. E. (2018). The wealth gap and the racial disparities in the startup ecosystem. *Saint Louis University Law Journal*, *62*(2), 419-460.

Perry, Andre M. (2020). *A revolution of values for black American families.* Brookings Institution https://www.brookings.edu/blog/the-avenue/2020/05/22/a-revolution-of-values-for-black-american-families/

Rivera, E., & Prescott, V. (2018). *Atlanta ranks worst in income inequality*. Georgia Public Broadcasting. https://www.gpb.org/news/2018/11/20/atlanta-ranks-worst-in-income-inequality

Shapiro, T., Meschede, T., & Osoro, S. (2013). The roots of the widening racial wealth gap: Explaining the black-white economic divide. *Institute on Assets and Social Policy*. https://heller.brandeis.edu/iere/pdfs/racial-wealth-equity/racial-wealth-gap/roots-widening-racial-wealth-gap.pdf

Stokes, Stephanie. (2018). *How Atlanta became the capital of income inequality.* WABE News. https://www.wabe.org/atlanta-income-inequality/

Tranmer, M., Murphy, J., Elliot, M., and Pampaka, M. (2020) Multiple Linear Regression (2nd Edition); *Cathie Marsh Institute Working Paper*. https://hummedia.manchester.ac.uk/institutes/cmist/archive-publications/working-papers/2020/2020-1-multiple-linear-regression.pdf

Trubey, J. S. (2015). *Report: Atlanta Tops among big cities for income inequality*. AJC. https://www.ajc.com/2015/03/18/report-atlanta-tops-among-big-cities-for-income-inequality/

United States Census Bureau. (2021). Annual business survey release provides data on minority-owned, veteran-owned and women-owned businesses. *United States Census Bureau*. https://www.census.gov/newsroom/press-releases/2021/annual-business-survey.html

Appendix A

Table 7: 70 Metropolitan Statistical Areas (MSAs) Included in Study

1. Albuquerque, NM	26. Houston, TX	51. Portland, OR
2. Anchorage, AK	27. Indianapolis, IN	52. Raleigh Metropolitan Area, NC
3. Atlanta, GA	28. Jacksonville, FL	53. Reno Metropolitan Area, NV
4. Austin, TX	29. Kansas City, MO	54. Richmond, VA
5. Bakersfield, CA	30. Laredo, TX	55. Sacramento, CA
6. Baltimore, MD	31. Las Vegas Metropolitan Area, NV	56. San Antonio, TX
7. Baton Rouge, LA	32. Lexington, KY	57. San Diego Metropolitan Area, CA
8. Boise, ID	33. Lincoln, NE	58. San Francisco Metropolitan Area, CA
9. Boston, MA	34. Los Angeles Metropolitan Area, CA	59. San Jose, CA
10. Buffalo, NY	35. Louisville, KY	60. Seattle, WA
11. Charlotte, NC	36. Lubbock, TX	61. Spokane, WA
12. Chicago, IL	37. Madison, WI	62. St. Louis, MO
13. Cincinnati, OH	38. Memphis, TN	63. Tampa Bay Metropolitan Area, FL
14. Cleveland, OH	39. Miami, FL	64. Toledo, OH
15. Colorado Springs, CO	40. Milwaukee, WI	65. Tucson, AZ
16. Columbus, OH	41. Minneapolis-Saint Paul Metropolitan Area, MN	66. Tulsa, OK
17. Corpus Christi, TX	42. Nashville, TN	67. Virginia Beach Metropolitan Area, VA/NC
18. Dallas-Fort Worth Metropolitan Area, TX	43. New Orleans, LA	68. Washington, DC
19. Denver Metropolitan Area, CO	44. New York Metropolitan Area, NY/NJ	69. Wichita, KS
20. Detroit, MI	45. Oklahoma City, OK	70. Winston-Salem, NC
21. El Paso, TX	46. Omaha, NE	
22. Fort Wayne, IN	47. Orlando, FL	
23. Fresno, CA	48. Philadelphia, PA	

24. Greensboro, NC	49. Phoenix Metropolitan Area, AZ	
25. Honolulu, HI	50. Pittsburgh, PA	

Appendix B

Table 8: Data per Metropolitan Statistical Area on Statistically Significant Variables, Averaged Between 2017-2018

MSA	deg_b	deg_w	avg_rent	grad_w	homeown_b
Albuquerque, NM	0.30	0.37	853.5	0.91	0.54
Anchorage, AK	0.20	0.42	1264.5	0.97	0.36
Atlanta, GA	0.23	0.76	1154	0.97	0.47
Austin, TX	0.26	0.53	1279	0.90	0.43
Bakersfield, CA	0.19	0.21	1080	0.82	0.52
Baltimore, MD	0.16	0.54	1046	0.89	0.43
Baton Rouge, LA	0.15	0.53	863	0.96	0.45
Boise, ID	0.24	0.41	925	0.95	0.33
Boston, MA	0.21	0.64	1594	0.92	0.42
Buffalo, NY	0.14	0.35	758.5	0.89	0.33
Charlotte, NC	0.28	0.54	1121	0.92	0.47
Chicago, IL	0.20	0.49	1083.5	0.88	0.39
Cincinnati, OH	0.13	0.50	721	0.91	0.33
Cleveland, OH	0.09	0.23	705	0.82	0.46
Colorado Springs, CO	0.23	0.42	1124.5	0.95	0.43
Columbus, OH	0.19	0.41	935.5	0.91	0.33
Corpus Christi, TX	0.18	0.22	993	0.83	0.39
Dallas-Fort Worth Metropolitan Area, TX	0.26	0.35	1023	0.85	0.34
Denver Metropolitan Area, CO	0.26	0.45	1308	0.92	0.29
Detroit, MI	0.12	0.25	809	0.74	0.45
El Paso, TX	0.29	0.25	815	0.80	0.42

MSA	deg_b	deg_w	avg_rent	grad_w	homeown_b
Fort Wayne, IN	0.13	0.30	739.5	0.92	0.42
Fresno, CA	0.18	0.23	986.5	0.80	0.28
Greensboro, NC	0.23	0.48	849	0.93	0.45
Honolulu, HI	0.25	0.52	1471	0.97	0.28
Houston, TX	0.22	0.36	1009	0.77	0.41
Indianapolis, IN	0.17	0.35	875.5	0.88	0.36
Jacksonville, FL	0.18	0.31	1031	0.91	0.43
Kansas City, MO	0.16	0.42	868	0.93	0.36
Laredo, TX	0.41	0.18	836	0.68	0.42
Las Vegas Metropolitan Area, NV	0.17	0.25	1078.5	0.88	0.28
Lexington, KY	0.19	0.46	884.5	0.93	0.34
Lincoln, NE	0.21	0.39	830.5	0.95	0.43
Los Angeles Metropolitan Area, CA	0.26	0.36	1435.5	0.83	0.37
Louisville, KY	0.16	0.32	829	0.90	0.37
Lubbock, TX	0.12	0.32	910	0.88	0.38
Madison, WI	0.22	0.60	1110	0.97	0.26
Memphis, TN	0.16	0.43	863	0.91	0.43
Miami, FL	0.12	0.30	1179	0.78	0.45
Milwaukee, WI	0.12	0.34	877.5	0.88	0.27
Minneapolis-Saint Paul Metropolitan Area, MN	0.21	0.43	1020.5	0.96	0.24
Nashville, TN	0.27	0.44	1098	0.90	0.41
New Orleans, LA	0.19	0.63	977.5	0.95	0.48
New York Metropolitan Area, NY/NJ	0.25	0.44	1411	0.90	0.31

MSA	deg_b	deg_w	avg_rent	grad_w	homeown_b
Oklahoma City, OK	0.20	0.32	997.5	0.87	0.36
Omaha, NE	0.19	0.39	898	0.91	0.33
Orlando, FL	0.21	0.41	1169.5	0.93	0.48
Philadelphia, PA	0.16	0.39	1000.5	0.88	0.48
Phoenix Metropolitan Area, AZ	0.24	0.32	1031	0.89	0.35
Pittsburgh, PA	0.18	0.48	921	0.94	0.31
Portland, OR	0.22	0.53	1256.5	0.94	0.39
Raleigh Metropolitan Area, NC	0.21	0.31	1007	0.90	0.31
Reno Metropolitan Area, NV	0.27	0.46	1106.5	0.92	0.45
Richmond, VA	0.15	0.59	981	0.91	0.50
Sacramento, CA	0.20	0.38	1262.5	0.89	0.36
San Antonio, TX	0.24	0.26	949	0.82	0.46
San Diego Metropolitan Area, CA	0.25	0.39	1670	0.88	0.29
San Francisco Metropolitan Area, CA	0.27	0.54	1858	0.93	0.35
San Jose, CA	0.35	0.42	2135	0.88	0.28
Seattle, WA	0.26	0.68	1627	0.98	0.29
Spokane, WA	0.15	0.31	859	0.94	0.30
St. Louis, MO	0.15	0.49	804.5	0.92	0.40
Tampa Bay Metropolitan Area, FL	0.22	0.30	1107	0.90	0.44
Toledo, OH	0.10	0.22	706	0.88	0.45
Tucson, AZ	0.21	0.29	820	0.88	0.33

MSA	deg_b	deg_w	avg_rent	grad_w	homeown_b
Tulsa, OK	0.18	0.35	818.5	0.90	0.38
Virginia Beach Metropolitan Area, VA/NC	0.21	0.35	1332.5	0.94	0.42
Washington, DC	0.26	0.89	1507.5	0.98	0.50
Wichita, KS	0.15	0.32	779	0.90	0.35
Winston-Salem, NC	0.21	0.42	773.5	0.89	0.45

Table 9: Data per Metropolitan Statistical Area on Statistically Significant Variables, Averaged Between 2017-2018

MSA	medicaid	min_business	per_b	pov_b	pov_w
Albuquerque, NM	1.38	0.14	0.03	0.25	0.12
Anchorage, AK	1.4	0.15	0.05	0.18	0.05
Atlanta, GA	0.37	0.15	0.52	0.32	0.07
Austin, TX	0.18	0.15	0.08	0.23	0.09
Bakersfield, CA	1.38	0.14	0.08	0.32	0.11
Baltimore, MD	1.38	0.15	0.62	0.26	0.12
Baton Rouge, LA	1.38	0.13	0.55	0.31	0.17
Boise, ID	0.26	0.15	0.02	0.43	0.12
Boston, MA	1.38	0.14	0.25	0.24	0.12
Buffalo, NY	1.38	0.14	0.35	0.37	0.19
Charlotte, NC	0.44	0.14	0.35	0.19	0.07
Chicago, IL	1.38	0.15	0.30	0.31	0.09
Cincinnati, OH	1.38	0.14	0.42	0.38	0.17
Cleveland, OH	1.38	0.15	0.48	0.43	0.23
Colorado Springs, CO	1.38	0.14	0.06	0.20	0.09
Columbus, OH	1.38	0.12	0.29	0.31	0.14
Corpus Christi, TX	0.18	0.14	0.04	0.19	0.11
Dallas-Fort Worth Metropolitan Area, TX	0.18	0.15	0.16	0.19	0.07
Denver Metropolitan Area, CO	1.38	0.15	0.06	0.19	0.06
Detroit, MI	1.38	0.16	0.78	0.37	0.36
El Paso, TX	0.18	0.16	0.03	0.13	0.10
Fort Wayne, IN	1.39	0.12	0.15	0.35	0.11

MSA	medicaid	min_business	per_b	pov_b	pov_w
Fresno, CA	1.38	0.13	0.07	0.40	0.15
Greensboro, NC	0.44	0.14	0.02	0.26	0.10
Honolulu, HI	1.38	0.16	0.23	0.09	0.10
Houston, TX	0.18	0.14	0.29	0.26	0.09
Indianapolis, IN	1.39	0.14	0.31	0.27	0.13
Jacksonville, FL	0.33	0.14	0.28	0.25	0.11
Kansas City, MO	0.22	0.14	0.00	0.28	0.09
Laredo, TX	0.18	0.11	0.12	0.20	0.13
Las Vegas Metropolitan Area, NV	1.38	0.16	0.15	0.25	0.09
Lexington, KY	1.38	0.12	0.04	0.32	0.14
Lincoln, NE	0.63	0.11	0.07	0.33	0.12
Los Angeles Metropolitan Area, CA	1.38	0.15	0.42	0.22	0.09
Louisville, KY	1.38	0.15	0.24	0.30	0.11
Lubbock, TX	0.18	0.14	0.08	0.27	0.16
Madison, WI	1	0.12	0.07	0.32	0.15
Memphis, TN	0.99	0.14	0.65	0.32	0.12
Miami, FL	0.33	0.14	0.17	0.37	0.12
Milwaukee, WI	1	0.15	0.39	0.36	0.14
Minneapolis-Saint Paul Metropolitan Area, MN	1.38	0.15	0.09	0.29	0.06
Nashville, TN	0.99	0.14	0.27	0.25	0.11
New Orleans, LA	1.38	0.13	0.59	0.33	0.11
New York Metropolitan Area, NY/NJ	1.38	0.15	0.17	0.20	0.09

MSA	medicaid	min_business	per_b	pov_b	pov_w
Oklahoma City, OK	0.44	0.14	0.15	0.28	0.10
Omaha, NE	0.63	0.14	0.12	0.29	0.09
Orlando, FL	0.33	0.14	0.27	0.26	0.12
Philadelphia, PA	1.38	0.15	0.42	0.30	0.14
Phoenix Metropolitan Area, AZ	1.38	0.15	0.06	0.21	0.10
Pittsburgh, PA	1.38	0.15	0.22	0.35	0.15
Portland, OR	1.38	0.15	0.06	0.35	0.12
Raleigh Metropolitan Area, NC	0.44	0.14	0.02	0.19	0.08
Reno Metropolitan Area, NV	1.38	0.13	0.20	0.22	0.11
Richmond, VA	0.38	0.14	0.47	0.34	0.13
Sacramento, CA	1.38	0.15	0.14	0.25	0.13
San Antonio, TX	0.18	0.15	0.07	0.23	0.11
San Diego Metropolitan Area, CA	1.38	0.16	0.05	0.20	0.09
San Francisco Metropolitan Area, CA	1.38	0.16	0.07	0.21	0.06
San Jose, CA	1.38	0.15	0.03	0.15	0.06
Seattle, WA	1.38	0.16	0.07	0.31	0.08
Spokane, WA	1.38	0.13	0.02	0.28	0.17
St. Louis, MO	0.22	0.14	0.46	0.35	0.13
Tampa Bay Metropolitan Area, FL	0.33	0.14	0.12	0.25	0.11
Toledo, OH	1.38	0.12	0.28	0.38	0.18
Tucson, AZ	1.38	0.14	0.05	0.34	0.18

MSA	medicaid	min_business	per_b	pov_b	pov_w
Tulsa, OK	0.44	0.14	0.15	0.33	0.13
Virginia Beach Metropolitan Area, VA/NC	0.38	0.16	0.31	0.20	0.07
Washington, DC	2.21	0.15	0.46	0.26	0.06
Wichita, KS	0.38	0.14	0.11	0.31	0.12
Winston-Salem, NC	0.44	0.13	0.34	0.29	0.11