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Derrick S. Ramage  
*Georgia Southern University*

William Levernier Dr.

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# A County by County Analysis of Poverty in the State of Georgia

An Honors Thesis submitted in partial fulfillment of the requirements for Honors in *The Department of Finance and Economics*

By  
*Derrick Ramage*

Under the mentorship of *Dr. William Levernier*

## ABSTRACT

*The state of Georgia has one of the highest poverty rates of all the states in the United States. This study examines the causes of poverty in Georgia, using county-level data. The state of Georgia is one of the largest states in the Southeastern U.S. and is very diverse in terms of its mix of metropolitan and non-metropolitan counties, and its mix of agricultural and non-agricultural counties. The major focus of the paper is determining the effect that demographic, educational attainment, labor force, government assistance, and transportation characteristics of a county have on its poverty rate. The major findings of this paper are that counties located in Metropolitan Statistical Areas (MSA) have a much lower poverty rate than the state average, micropolitan statistical areas and counties that're classified in neither an MSA or a micropolitan statistical area. Counties that have a higher black population also have a higher poverty rate when holding all else constant. Attempts to reduce the poverty rate should consider increasing educational attainment, shying away from encouraging Retail Trade jobs from entering counties, encouraging the creation of more commuter zones and boosting the per capita net earnings of the county.*

Thesis Mentor: \_\_\_\_\_

*Dr. William Levernier*

Honors Director: \_\_\_\_\_

*Dr. Steven Engel*

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**Georgia Southern University**

## Abstract

The state of Georgia has one of the highest poverty rates of all the states in the United States. This study examines the causes of poverty in Georgia, using county-level data. The state of Georgia is one of the largest states in the Southeastern U.S. and is very diverse in terms of its mix of metropolitan and non-metropolitan counties, and its mix of agricultural and non-agricultural counties. The major focus of the paper is determining the effect that demographic, educational attainment, labor force, government assistance, and transportation characteristics of a county have on its poverty rate. The major findings of this paper are that counties located in Metropolitan Statistical Areas (MSA) have a much lower poverty rate than the state average, micropolitan statistical areas and counties that're classified in neither an MSA or a micropolitan statistical area. Counties that have a higher black population also have a higher poverty rate when holding all else constant. Attempts to reduce the poverty rate should consider increasing educational attainment, shying away from encouraging Retail Trade jobs from entering counties, encouraging the creation of more commuter zones and boosting the per capita net earnings of the county.

## Introduction

The 2014 poverty rate in Georgia was 18.4%, which ranked as the 8<sup>th</sup> highest in of the fifty states and the District of Columbia (U.S. Census Bureau, *Small Area Income and Poverty Estimates*). Poverty is something that everyone should take notice of because it affects almost all aspects of one's life and by reducing it there are collective economic and social gains. Georgia is home to several metropolitan areas (e.g., Atlanta, Augusta, Macon, and Savannah) that contain large urban counties, as well as many small rural counties. This diverse mix of county-types complicates the analysis because poverty-reducing policies that are appropriate for large urban counties may not be appropriate for rural counties. To truly understand why Georgia's poverty rate is so high, it's important to consider the demographic, labor force, educational attainment, and transportation characteristics of each county.

Reducing poverty rates will likely be a difficult task. Determining the causes of high poverty rates will provide a clearer perspective into the driving factors of poverty and what policy implications exist to solve the issues. Having a single female household head plays a major role in determining a family's poverty status. Also, playing an important role is lack of participation in the labor force and having many dependent children. The Black population of Georgia, and of the Southeastern U.S. in general, experience higher poverty rates than the national average. If policymakers decide to take a more aggressive approach at reducing poverty rates across the state then they'll need to consider these issues. Some counties have also had a very large increase in the Hispanic population, which is likely to also affect the poverty rate.

Education plays a heavy role in the reducing poverty rates across the state of Georgia as well. Low high school graduation rates are a serious problem in Georgia. If Georgia's state and

local governments and its policymakers are serious about reducing poverty and creating competitive participants in the labor market, this is one of the first things that should be addressed.

Georgia's economy produces a large amount of GDP in comparison to other states in the Southeastern U.S., but has an unemployment rate above the nation's average as well as a lower labor force participation rate. For the most part, counties that are located outside of a metropolitan statistical area (MSA) are without quality jobs that pay decent and sustainable wages. The cities of Atlanta, Augusta and Savannah have most the state's high paying jobs while more rural counties struggle to bring in such industry. The unemployment rates of counties outside of metropolitan and micropolitan areas speak for themselves and are a reflection to the issues of long-term employment in the state. This could be explained by the decline of the railroad industry that many rural towns depended on, the flight of manufacturing or the poor recovery of the 2008 recession, however we will not be approaching this in depth. Instead, we will be considering the primary drivers of employment for each county, specifically by metropolitan counties, micropolitan counties and counties that classify as neither and comparing the difference. Employment that pays livable wages and that provides long-term careers are essential to reducing poverty rates across the state of Georgia.

Transportation across the state and the duration of the average commuter by county affect spending on fuel, reduce the time one could spend at home, the reduction of individual's free time and depending on the distance of a commute, it could affect how certain communities are built and structured. There are several reasons that this relates to poverty, the first being that the more that an individual commutes, the more that he or she must spend on fuel to make his or her daily commute which in turn reduces the individual's disposable income. The second reason that transportation in the state is related to poverty rates is that it reduces commuters time away from homes in which they could be assisting their families and children and their free time in general which could be spent on attaining a higher education or helping their children or relatives attain a higher education or an increase in wages. Likely the largest reason that transportation is relevant to poverty is that it affects how some communities are structured, for instance the suburbs of Atlanta are largely comprised of commuters that work in the city itself. If an area is too far away from a MSA it is likely that it will suffer from higher poverty rates because the population will place less of a desire on commuting to an area with higher paying jobs and settle for employment in their local communities.

The "Plantation Belt" that exists in the Southeastern U.S. is a region of about 600 counties that historically had local economies driven by slave labor in the Antebellum South and sharecropping after the Civil War. The slave population and a large portion of the sharecropping labor were comprised of the Black population. In Georgia, there are 81 counties that are part of this region. Over half of the United States' impoverished Black population lives within the Black Belt, and about two-fifths of the nation's impoverished population lives within the region as well. This paper examines the affect that a county's location in the Black Belt has on its poverty rate.

Following, this study is broken down into seven sections. The next section discusses the previous literature that has examined the issue of poverty, especially poverty in the American South. The third section discusses the variables included in the study and provides descriptive statistics on the variables. The descriptive statistics are reported collectively for all 159 Georgia counties, as well as separately for counties located in MSAs and counties located outside MSAs. The fourth section discusses the econometric model and presents the regression results. The fifth section presents some policy implications based on the findings in the previous section. The final section suggests some directions for future research and offers some concluding remarks.

## **Literature Review**

### *The Relationship between Poverty, Family Demographics, and Race*

The United States has a serious issue with breaking the consistent stubborn poverty rates across the country, especially the child poverty rates in the Southeast and other regions. Comparatively, the United States does very poorly against western European countries and similar developed nations across the world. In 2007 the United States had a child poverty rate of 18.2%, the U.K. was not far behind with an 18.0% rate, and the next highest was Hungary with a rate of 14.5% (Ranjith and Rupasingha). Ranjith and Rupasingha (2012) attribute this to the fact that in the 1990's the United States made policy changes to programs directed towards food and family poverty relief, aiming these programs to beneficiaries with specific work/labor statuses. This change adversely affected households headed by a single-parent, and more specifically households that're headed by a single female parent. Ranjith and Rupasingha (2012), claim there is a "public" responsibility rather than a "personal" one to care for the poor in countries that're more successful in dealing with poverty amongst children compared to the United States. It is implied that the United States' cultural and social mindset(s) are aimed at a more personal obligation to do so and this is where the stubborn child poverty rates have come from. In the same study, it was found that the variable with the heaviest influence over child poverty rates was whether a household was headed by a single female parent followed by educational variables of the parent. It was found by other researchers (Friedman and Lichter 1998; Voss, Long and Hammer 2006) that counties with more commuters than those with less have lower child poverty rates, and thus the industrial layout of a region also affects poverty amongst children. This essentially means that child poverty rates are not randomly distributed at a county level, and that spatial/industrial layouts of a region are important in reducing child poverty rates.

Gradin (2012) reveals a great deal of information regarding poverty rates and racial demographics. The conclusion of this paper essentially states that poverty gaps between races are largely explained by family characteristics. The author states that the primary reason that Blacks and Latinos are more likely to be impoverished than Whites in the U.S. is the large number of dependent children, family type and age of the family head. Variables that are also relevant in the difference between poverty amongst Whites and poverty amongst Blacks and

Latinos are education and performance in the labor market, especially low labor force participation by family members other than the family head. In the case of Hispanics, at least two thirds of what can be explained is attributable to the fact that on average families typically have more children than Black and/or White families and with the case of the family head being younger than the average age of the family head for Black or White families. Thus, labor market characteristics play more of a part in the poverty of Hispanic families than it does for Black or White families, he also finds that the region or area that one lives plays no part in the poverty that a family may or may not face. Gradin states that the reduction of the racial poverty gap during the 1990s can be accounted for by the less important role played by differences in personal characteristics. However, he also notes that this does not mean that discrimination doesn't exist, but rather it likely still does and that it is a major player in why the racial poverty gap exists still. The discrimination that Gradin is referring to is that because of the poorer characteristics of Blacks and Latinos they are less likely to have access to education and well-paid jobs.

#### *Poverty in the Rural South & the "Plantation Belt"*

The rural Southeastern United States has 34% of the nation's population, but 41% of the entire nation's impoverished population, it's also important to note that the region has 45% of the impoverished living in non-metro areas (Baharanyi, Zabawa and Boateng). Baharanyi, Zabawa and Boateng attribute this to something called the "Black Belt", also sometimes called the "Plantation Belt" which spans 11 southern states and 400 counties. This section of the Southeast has twice the national percentage of African-American residents as well, many of whom live in poverty. In the same study, it is said that the "Black Belt" has 57% of the nation's impoverished African-American population, and thus represents one the most underdeveloped economies in the whole country. In addition to this there was a study done by Ron Wimberley and Libby Morris in the 1990's that found in a crescent shaped area of 623 counties in the southeast (most of which are in the Plantation Belt) hosts 34% of the nation's poor. The consensus of the study "America's Forgotten People and Places: Ending the Legacy of Poverty in the Rural South" is one that is quite grim, the authors claim that social workers and those responsible for pointing out these issues simply do not care, and that the issue of poverty in the Black Belt and rural South is one that is fixable. It seems that due to urban/metro poverty being more concentrated, it is much easier to prescribe corrective policy to fix the issue than it would be for a rural region with a population that is much more spread out. Baharanyi, Zabawa and Boateng (2000) state that rural poverty is certainly able to be reduced, however it is simply just not being done. Reasons for the lack of action could be the politics and government structures of the South, the difference in culture, the wide variety of causes in terms of rural poverty or the racial makeup of the poverty in the South.

Gurley (2016) highlights rural poverty in general, not specifically in the rural South, but important lessons on solving and dealing with rural poverty can be taken from this paper as well. Gurely states that efforts to bring attention to rural poverty are often “futile and unattractive” for academics, activists, and politicians but to reverse current trends, these individuals must bring attention to this topic. The key point of the paper is that rural regions of the United States are decreasing in population and will eventually be so culturally and geographically isolated that reducing poverty in these areas may become hopeless if something is not done soon. The author praises Obama’s expansion of SNAP, Community Development Block Grants, and broadband access into rural areas stating that it “has had a positive effect, as did President Franklin Roosevelt’s New Deal and President Lyndon Johnson’s War on Poverty”. The conclusion ends by stating that for the reduction of rural poverty to become meaningful the next President of the United States needs to expand on Obama’s efforts to reduce rural poverty and that the work of policymakers, academics and activists will be critical in ensuring that this happens.

### *Analyzing Atlanta and Metropolitan Statistical Areas in Relation to Poverty*

In the city of Atlanta there has been rising poverty rates in inner and middle-ring suburbs and suburban employment centers per Sugie Lee (2011). Atlanta’s driving causes of poverty across race and subareas are unemployment and rental housing, mainly since employment in this region is not able to match housing affordability. Per recent studies by the Census in the year 2000, the concentration of poverty in central cities reduced in the 1990’s, however the study found that poverty in suburbs increased during this period. Unlike the Census and most other studies of Atlanta and similar MSA’s, Lee’s research focuses on spatial distribution of poverty. Lee found that there was a dramatic change in the geography of Atlanta, he states that Atlanta specifically is a very interesting case due to the recent changeup in racial demographics in the city and that these changes have caused great variations in the geography of urban and suburban poverty. The findings of this paper were that the overall poverty rate in Atlanta decreased from 11.8% in 1970 to 9.4% in 2000, the rates in downtown and inner city areas declined dramatically, this paper partially attributes this decline to the influx of the white population and the migration of poor blacks out of the city and the major finding appears to be that in inner-ring suburbs the poverty rate increased from 9.6% in 1970 to 18.2% in 2000, middle-ring suburbs also experienced dramatic rises in poverty rates. The middle-ring suburbs experienced a substantial decline in poverty amongst blacks (25.7% in 1970 to 9.2% in 2000) and in the outer-ring suburbs as well while the poverty rate amongst Hispanics rose sharply. Outer-ring suburbs declined in poverty rates, Lee attributes this to a significant rise in the white population in these areas and a moderate rise to the black population in these areas (both of which consisted of mostly upper-income households).

Lee’s found that poverty has expanded into Atlanta’s suburbia while poverty in downtown and inner Atlanta decreased. The most significant factors that altered poverty were increases in unemployment, rental housing burden and female-headed households, though when

this regression was estimated for the same models of each racial group the determinants were not completely consistent. For the Hispanic population, the driving causes were unemployment and the rental housing burden, while a decrease in the black population, an increase in female-headed households, a decrease in the proportion of upper-level occupations and large high school dropout rates between were the driving cause of the poverty rate amongst blacks. Amongst the white population, a decrease in the proportion of upper-level occupation showed to be the most impactful and significant variable associated with an increase in poverty. Lee's research revealed that spatial distributions of poverty and its determinants differ not only in the subareas but also in racial groups over a 30-year period (1970-2000). Lee also found that there is an overall concentration of poverty in Southwestern Atlanta, previously high-tract poverty determinants became moderate or low level determinants and that the spatial pattern of poverty and its concentration showed that the expansion of poverty from the inner city to inner/middle ring suburbs was not uniform, but it was more likely to take on sectoral and cluster forms and that employment center tracts have higher poverty rates than non-employment center tracts. In conclusion, poverty in Atlanta has shifted to inner/middle suburban areas, each race has both similar and different causes of poverty, and clusters are emerging in many of these suburban areas. The public policy implications from this are that policymakers must understand that spatial distribution of poverty is highly impactful in this region.

Ross Gittell and Edinaldo Tebaldi's paper "Poverty in the U.S. Metropolitan Areas: What are the Key Determinants and what is the Role of Local Fiscal Structure?" analyzes poverty in U.S. metropolitan statistical areas and how fiscal tax structure and spending (mainly local property taxes and sales taxes on education) affect poverty rates. They state that the most effective way to reduce poverty is sustained economic growth, then at the state and local level spending on education is the most effective route to be taken in reducing poverty. They also find that U.S. metropolitan areas are not influenced by fiscal poverty from the national or state level. Other studies used as references in this paper seem to have the same result (Weinberg, 2006 and Thanawala, 2001). In fact, it is important to state that the authors found that a heavy tax burden to fund high social spending in efforts to reduce poverty often results in poverty persistence and is a very risky strategy. This is because these tax bases come from property taxes, sales and corporate taxes, and such high bases on these taxes act as a deterrent to economic investment and make it much more difficult for local economic growth to occur.

### *Poverty in the State of Georgia*

The University of Georgia (2002) finds that Georgia's economy and demographical layout are highly unique, the economy of the state produces \$470B with top employers in services (34.7%), retail trade (18.7%) and manufacturing (15.3%). It is obvious that the state is a successful one, but while some portions have been vibrant and highly successful there have been others that are less successful. The demographics of the state have changed dramatically due to an influx in the Hispanic population, experiencing a growth rate of over 500%, and an



increasingly older workforce population, so this is necessary to consider when analyzing poverty in the state. Counties that are persistently impoverished are almost exclusively south of Appalachian Regional Commission counties (Northern portion of the state), counties with persistent poverty are defined as “a poor county in which a high proportion of its residents remain in poverty over a long period of time (1980-2000)” and poor counties are defined as “a county in which a high percentage of residents (both individuals and/or families) live in poverty”. “Dismantling Persistent Poverty in Georgia: Breaking the Cycle” points out that one in three of the 242 counties in the Southeast region of the United States that have issues with persistent poverty are in Georgia, the authors also state that 38% of all counties considered to have the issue of persistent poverty in the Southeastern United States are in the state of Georgia as well (91 total counties). The University of Georgia (2002) finds that the characteristics of these counties are primarily non-metropolitan and rural counties (81 qualify), slightly more than one-fourth of the poor population reside in Georgia and 24% of those living in persistent poverty also live in Georgia. The racial makeup of poverty is 61.3% White, 36.1% Black and 3.4% Hispanic per the same study, 21 of these counties experienced a decline in the white population, 16 of these counties experienced a massive growth in Hispanics and five experienced a large growth rate in Blacks. These authors noted that non-metropolitan counties with persistent poverty in the state and the region are connected to the existence of the Plantation Belt, they are in the top two quartiles of poverty during 200 and during 1980 and/or 1990 and that they were not a part of the Appalachian Regional Commission or Delta Regional Authority.

The study discusses the impact on the state’s economy remarking that counties facing persistent poverty produce less goods and services total and per capita, less diversity of industry and more dependent on government for income and a low value per acre of agriculture. The authors later discuss some solutions to building wealth in these counties claiming that economic flexibility, revising and implementing new incentives for rural counties, finding opportunities for employment other than low-wage manufacturing which is what most of these counties use for employment, put a stronger focus on workforce development and removing existing barriers, focus on fixing housing shortages and place a higher emphasis on schooling, healthcare and increasing taxing capacities to pay for more government services. Solutions proposed in regards to laying a foundation for a better region are collaborating with local leadership, involving local community residents, building a capable and competitive workforce, maximizing, and measuring return on investments in the region, leveraging the private sector in a competitive manner, capitalizing on local assets, reexamining local growth policies, and ensuring coordination amongst local governments and their populace.

*Relationships between poverty in rural and urban areas in the Southern United States*

Cho, Jung, Roberts and Kim (2012) examine the relationship between wildland-urban interfaces (WUI) and metropolitan areas in the Southern U.S. The main finding of the paper is that the expansion of WUI areas results in an increase in urban poverty, and an increase in urban poverty results in the growth of WUI areas. Smart Growth America and Southeast Watershed Forum state that half of the top 10 most sprawling major U.S. metro areas are in the South, this is inarguably the cause of the rise in WUI, the rise in urban sprawl has created development beyond the boundaries of cities into smaller rural settlements and thus created more WUI space. The authors state that urban poverty is associated with the expansion of WUI because discrimination based on race concentrates poor communities of color into the central city, WUI expansion doesn't include poor inner-city neighborhoods into the economic and educational opportunities that occur in suburban areas, the poor tend to be more immobile than those who are wealthier and the rich are willing to pay to avoid proximity to the poor because of possible social issues. The authors state that when the wealthy leave the cities and inner cities that a sequence of events occur, first is obviously that those who move do so for a variety of reasons (cheaper housing, environmental amenities, less traffic, etc.), employment then naturally will follow these individuals into the WUI area, people in the inner city receive less employment opportunities and the concentration of poverty builds upon itself. Empirical results of this study are like those that have been of other studies, contrary to that the mean travel time to work for commuters in a county is negatively related to the poverty rate, meaning that a quicker drive to work results in a lower poverty rate. This reinforces the thesis of the paper, which is that an increase in WUI areas increases urban poverty rates, essentially implying that if a WUI area is large or growing, then the mean travel time to work will also follow with that resulting in a higher poverty rate. The major finding seems to be that the poverty rate increases 1.23 percentage points for each 1000 square kilometers a WUI grows.

*Variations in Poverty within MSAs, Rural Counties and non-metropolitan cities*

Levernier, Patridge and Rickman (2000) determine higher areas of poverty across the 48 continental states in the U.S. is associated with single-female family headship and lower educational attainment. Recent employment growth on average did not reduce the poverty rate, however employment growth did relatively and absolutely reduce poverty in counties with greater population shares of African-Americans. Structural change increased poverty in the short-run with its effects disappearing within five years, these changes mainly hurt counties with larger shares of African-Americans and adults without high school degrees. Higher labor force participation rates reduced poverty rates, especially when these increases were female labor force participation. Higher goods-producing employment is associated with lowering the poverty rate in counties as well, additionally it was found that skills mismatches in employment are most severe in nonmetropolitan areas. Policy implications of this study emphasize education as key to

reducing poverty rates, specifically for nonmetropolitan counties and minority groups. In regards to central-city poverty it appears that it is more closely linked to female-family headship, regardless though it is key that there is targeted economic development and help for workers in counties with higher African-American populations. Policies that increase female labor force participation are much needed for central-city and metropolitan poverty as well.

Fowler and Kleit (2014) find that the presence, depth, and employment share of industry clusters are all associated with significant declines of poverty. The authors state that they encourage actions to cluster industry and employment in the future as a means of poverty reduction in both metropolitan and nonmetropolitan areas. Commute zones are also studied in this paper stating that metropolitan commute zones and poverty have no relationship, however nonmetropolitan commute zones and poverty have a very strong relationship. An important point that they state is that “industry can only grow in proportion to the local market it serves”, which is why the emphasis on specific types of industrial clusters is important because if there is a healthy industrial cluster in an area, commute zone or not, then the local market will be served and others will be attracted to participate in this said market, increasing the growth of the local market and in turn the industrial cluster itself. The primary point of the paper is that poverty is lower where diverse clusters are playing a key role in the economy, however whether the cluster policies themselves create or enhance this role is not clear. This study states that the weaknesses of policy directed at creating/enhancing industrial clusters are that it may lead to agglomeration economies with smaller concentrations of employment or a failure to meet the benefits with even higher levels of concentration.

### *The Existence and Importance of Poverty Traps*

Kraay and McKenzie (2014) find that there is no strong evidence for many of the “common mechanisms theorized” to give rise to poverty traps. Poverty traps as described by the authors are instances in which a nation cannot depart from a specific level of poverty unless there is a positive outside influence to assist in this effort. They state that one should be skeptical of a “big push” of aids or loans to get a country over “some threshold” at which their growth shifts significantly, or that microfinance is the solution to pushing communities out of poverty. While they say that there still is mixed evidence on this subject, the authors state that this blend of evidence does not imply that there is no economic case for improving nutrition or for improved access to finance via microfinance (on the individual level), but rather that even if a household is in poverty they are likely destined for a slow rise out of poverty whereas aid could still assist this household. The paper finds that it is not “necessary” for aid to be needed in a country or a household, but this does not mean that the aid won’t help the family or country in the meantime. However the counter point proposed by the authors is that it is difficult to argue whether this financial/nutritional assistance will lead to highly accelerated growth at the aggregate level. Kraay and Mckenzie claim that poverty traps are rare, but follow this statement by saying that this does not mean that they do not exist. The authors state that policy directed towards lowering

the barriers to internal/international mobility appear to offer noticeable potential payoffs for taking people out of poverty. The two major takeaways of this paper are that the empirical evidence viewed its variables in isolation, the authors go on to note that the world is constantly moving and this can yield inaccurate results. The second major takeaway from this paper is that while they argue that many models of poverty traps are not prevalent empirically that doesn't mean that economists who have put time and effort into this subject have wasted their time. Kraay and McKenzie's paper finds mixed evidence regarding the importance and existence of poverty traps, and that the important aspect is that these poverty traps are rare from an empirical standpoint and the major issues for promoting growth in countries include market functions, what the returns are to a specified range of capital, educational/nutritional investments, and other barriers.

### *The Tie between Poverty and Social Inequality*

Rupasingha and Goetz (2007) utilize an approach taken to reduce poverty through variables that're typically immeasurable and less discussed across various countries. However some of these variables are analyzed in this paper and have been mentioned by other sources referenced. The authors list high school graduation rates, unemployment rates, employment in the manufacturing sector, college graduation rates, social capital, and female labor force participation rates as the most effective variables in reducing poverty. On the other hand, variables that increase poverty for nations are higher numbers of children, large amounts of permanent residents, high income inequality, high proportion of non-black minorities, greater ethnic diversity, high proportion of young adults and lower levels of political competition. The authors claim that the best method to reduce poverty is to raise social capital, they state that this cannot be done very effectively by governments but it can be done by local communities working together. Government's role in doing this is strictly to provide grants, formal infrastructure for communities and to reduce the transaction costs facing local associations, this will allow more rapid and effective development to take place in local communities. The results of the study indicate however that grants in most countries, including the United States, are ineffective in reducing poverty since most of these grants that're given are delivered by political representatives and are typically not given out purely to reduce poverty. The conclusion of the paper notes that some social groups are not always in place to reduce poverty in their respective nations, and are in fact rent-seeking groups, and thus they promote economic inefficiencies.

Van Kempen's (1997) research paper titled "Poverty Pockets and Life Chances" looks at the spatial concentration of poverty in certain areas and if this concentration affects life negatively. The study emphasizes "post-Fordist" neighborhoods and areas, the author claims that poverty pockets are "less tangible" and harder to see in Western post-Fordist cities, however the effects still exists. Van Kempen notes that the "bureaucratic entanglement" of the poor in these "welfare states" has restricted the choices that these impoverished individuals can make in life and it creates feelings of social exclusion. Van Kempen also notes that the existing evidence

on how this impact one's life is restricted, but the evidence that exists does seem to state this. The study claims that the quality of goods and services that exist in these areas are poor, and the quality of goods and services that're produced from these areas will in turn also be poor eventually. The four mechanisms that're slowing down these "poverty pockets" from developing adequately are limited access to the job market, socialization, stigmatization and a limited access to social rights, Van Kempen claims that government programs targeting the poor to relieve poverty only reach certain areas and do not impact these "poverty pockets" as they do for other areas. Van Kempen's major point from this study is that the "delivery of social rights" and the ways people claim them is a very huge point that needs to be stressed when solving the issue of poverty and if it is not, then more poverty pockets will pop up and the current ones will increase in concentration.

### **The Variables and Their Descriptive Statistics**

There are two descriptive variables in this analysis, used in all four regressions. The first is whether a county is classified as a Metropolitan Statistical Area. Out of 159 observations, there were 73 counties within Metropolitan statistical areas, 27 counties were within a Micropolitan statistical area and the remainder (59) were found as neither of the two classifications.

In the original analysis, a value of 2 was used in an "If-Then" function to determine whether a county was in a Metropolitan Statistical Area and a value of 1 was used to determine whether a county was in a Micropolitan Statistical Area (as determined by the U.S. Census). The counties that were classified in neither of the two statistical areas were placed into a column titled "neither" which was removed from the linear regression analysis.

The areas that're determined as Metropolitan Statistical Areas by the U.S. Census (2016) are as follows: Atlanta, Augusta, Savannah, Columbus, Macon, Athens, Gainesville, Warner Robins, Albany, Dalton, Valdosta, Brunswick, Rome and Hinesville-Fort Stewart. Thus, there are 14 Metropolitan Statistical Areas on the state of Georgia. All Metropolitan areas have a population of 84,000 or more.

The areas that are determined as Micropolitan Statistical Areas by the U.S. Census (2016) are as follows: Statesboro, LaGrange, Jefferson, Dublin, Calhoun, Milledgeville, Waycross, St. Marys, Moultrie, Thomasville, Cornelia, Douglas, Cedartown, Tifton, Vidalia, Americus, Jesup, Bainbridge, Thomaston, Toccoa, Summerville, Cordele and Fitzgerald. Thus, there are 23 Micropolitan Statistical Areas in the state of Georgia. All Micropolitan areas have a population of 17,000 to 84,000.

Table 1.0 shows all the variables in the regression as well as their respective definitions. Table 1.1 shows means for all the variables in all counties, counties classified as MSA, counties classified as Micropolitan Statistical Areas and counties that are classified as neither (in that order).

Table 1.0

<b>Variable Name</b>	<b>Description</b>
<i>Independent Variables</i> BD,GD,PD	Percentage of the population within a county that has the educational attainment of a Bachelor's Degree, Graduate Degree and/or a Professional Degree
SomeCollegeorAD	Percentage of the population within a county that has the educational attainment of an Associate's Degree or some college
HSDiploma	Percentage of the population with a high school diploma
LFPR	The labor force participation rate within a county
MTTtW	The mean travel time to work within a county
Mfg	The percentage of county's industry that is comprised of manufacturing
RetailTrade	The percentage of county's industry that is comprised of retail trade
Educational	The percentage of county's industry that is comprised of education
SLOTE	The percentage of a county's population that speaks a language other than English
PercentPopFemale	The percentage of a county's population that is female
Metro	The classification for a county regarding whether or not it is in a Metropolitan Statistical Area (MSA) or not
Micro	The classification for a county regarding whether or not it is in a Micropolitan Statistical Area or not
PerCapitaNetEarnings	The net earnings within a county, per capita
TotalPop	The total population within a county
PercentPopUnder18	The percentage of a county's population that is under 18 years of age
PercentPopBlack	The percentage of a county's population that is Black or African-American
<i>Dependent Variable</i> PovRate	The poverty rate for a county (percentage of the population living in poverty)

**Table 1.1**

<b>Variable Name</b>	<b>Mean (All)</b>	<b>Mean (MSAs)</b>	<b>Mean (Micro)</b>	<b>Mean (Neither)</b>
<i>Independent Variables</i> BD,GD,PD	17.0%	20.8%	15.1%	12.9%
SomeCollegeorAD	26.6%	28.7%	26.6%	23.8%
HSDiploma	36.3%	33.0%	37.2%	40.2%
LFPR	55.7%	53.7%	57.3%	57.6%
MTTtW	25.25	26.84	22.51	24.53
Mfg	13.8%	12.3%	15.3%	15.0%
RetailTrade	11.8%	11.6%	11.9%	12.0%
Educational	21.7%	21.1%	23.4%	21.8%
SLOTE	7.0%	8.2%	6.9%	5.4%
PercentPopFemale	47.1%	46.7%	47.1%	47.7%
PerCapitaNetEarnings	\$18,273.94	\$21,379.15	\$16,771.86	\$14,980.49
TotalPop	64,244	113,949	35,237	13,965
PercentPopUnder18	23.8%	24.8%	24.2%	22.5%
PercentPopBlack	28.3%	26.1%	27.6%	31.7%
<i>Dependent Variable</i> PovRate	22.3%	18.8%	25.0%	25.6%

## Results

The results for the linear regression model are given in table 2.0 below. All data taken is on a county-by-county basis, and all regressions use the poverty rate as the dependent variable. The null hypothesis that these variables all play a major role in terms of the composition and creation of poverty in the state of Georgia is rejected. The analysis is broken down into four separate regressions. The table is structured to show the Beta above the T-statistic, with the T-statistic having a, b or c to represent the highest level of statistical significance (using the 0.01, 0.05 and the 0.10 levels).

Regression one shows that if we consider a county that's not located in an MSA or in a Micropolitan statistical area as to be a rural county, the results indicate that a county that's located in an MSA has a poverty rate that's 6.9 percentage points lower than a rural county. The coefficient of the Micro dummy variable is statistically insignificant, indicating there is no difference between the poverty rate in a county located in a micropolitan statistical area and a rural county. Regressions two, three and four add other factors that are expected to influence a county's poverty rate to the model. Regression two adds variables that measure demographic characteristics of the county along with its total population. Regression three then adds variables that measure educational characteristics along with the mean travel time to work within the county. Finally, regression four adds variables pertaining to labor force and earnings characteristics.

The total population, percentage of the population that speaks a language other than English and the percentage of the population that is Black or African-American are statistically significant at all levels of confidence. The total population has a negative impact on poverty, meaning that the more populated a county is the less likely it is to be impoverished. The percentage of the population that speaks a language other than English has a positive impact on poverty rates, meaning the more of the population that speaks a language other than English the more likely the county is to have a higher rate of poverty. Finally, the percentage of the population that is Black or African-American has the largest positive impact on poverty in this regression, meaning the more Blacks or African-Americans that live within a county, the higher the poverty rate will be. An important point to note is that the total population is only statistically significant in this regression, and is not statistically significant at any level of confidence in regressions three and four, the same is true for the percentage of the population that speaks a language other than English.

All the newly added variables are significant at all levels of confidence and these variables also have a negative impact on the poverty rate of a county, meaning the higher the percentage of the population with this level of educational attainment or the higher the mean travel time to work is within a county, the lower the poverty rate is. For the variable mean travel time to work, this means that commuter zones with higher mean travel times to work typically have a lower poverty rate. Additionally, the most impactful education variable in this regression in terms of reducing poverty rates across counties is the variable representing the percentage of the population with a bachelor's degree, graduate degree, and/or professional degree with the percentage of the population with a high school diploma behind that.



The percentage of a county's industry that is retail trade and the per capita net earnings of a county were statistically significant at all levels of confidence whereas the percentage of a county's industry that is education was significant at the .05 level of confidence. The labor force participation rate and the percentage of a county's industry that is manufacturing were not statistically significant at any level of confidence. The percentage of a county's industry that is retail trade and education are almost equally negatively impactful (increases the poverty rate) and the per capita net earnings were significantly impactful in reducing a county's poverty rate, meaning the higher that this variable is, the lower the poverty rate is likely to be within a county. Whether a county is classified as Metropolitan is no longer statistically significant in this regression at any level of confidence, whereas in the prior regressions it was at all levels of confidence. The percentage of the population that is under 18 years of age is now significant at all levels of confidence, whereas in all prior regressions it was not at any level of confidence.

Table 2.0

Variable	Regression 4	Regression 3	Regression 2	Regression 1
<i>County Classification</i> Constant	0.555 (5.408)	0.626 (6.362)	0.142 (2.185)	0.255 (31.025)
Metro	-0.014 (-1.496)	-0.029 (-3.123) <i>a</i>	-0.048 (-4.970) <i>a</i>	-0.069 (-6.280) <i>a</i>
Micro	0.001 (0.055)	-0.001 (-0.075)	0.004 (0.315)	-0.006 (-0.406)
<i>Demographics</i> PercentPopFemale	0.019 (0.191)	0.101 (1.069)	0.079 (0.734)	
TotalPop	4.818 (1.327)	-3.413 (-0.001)	-1.376 (-3.803) <i>a</i>	
PercentPopUnder18	0.376 (2.771) <i>a</i>	0.095 (0.753)	-0.025 (-0.182)	
SLOTE	-0.043 (-0.520)	-0.011 (-0.126)	0.228 (2.598) <i>a</i>	
PercentPopBlack	0.129 (5.471) <i>a</i>	0.150 (6.481) <i>a</i>	0.562 (9.258) <i>a</i>	
<i>Educational</i> HSDiploma	-0.559 (-4.294) <i>a</i>	-0.558 (-4.173) <i>a</i>		
BD,GD,PD	-0.381 (-3.680) <i>a</i>	-0.538 (-5.999) <i>a</i>		
SomeCollegeorAD	-0.580 (-4.966) <i>a</i>	-0.452 (-4.081) <i>a</i>		
<i>Economic</i> MTTtW	-0.003 (-3.187) <i>a</i>	-0.003 (-3.888) <i>a</i>		
LFPR	0.063 (1.561)			
Mfg	-0.017 (-0.237)			
RetailTrade	0.323 (2.749) <i>a</i>			
Educational	0.207 (2.226) <i>b</i>			
PerCapitaNetEarnings	-4.821 (-4.305) <i>a</i>			
# of Observations	159	159	159	159
R	0.858	0.821	0.734	0.477
R <sup>2</sup>	0.736	0.674	0.539	0.228
F	24.796 <i>a</i>	27.661 <i>a</i>	25.219 <i>a</i>	22.981 <i>a</i>

## **Policy Implications**

Counties with relatively large Black or African-American populations have higher poverty rates, all else constant. Education is also critical to reducing poverty rates, especially in terms of the percentage of the population with a bachelor's degree, graduate degree and/or professional degree, high school graduation rates as well as some college or an associate's degree. The industrial makeup of Georgia's counties has manufacturing, retail trade and education as the largest shares of industry (on average), however retail trade and education were statistically significant and manufacturing was not. Retail trade and education typically has a positive impact on a county (increases the poverty rate) and thus local, state and federal investment in boosting jobs within these industries should be avoided.

In terms of policy prescriptions based on this analysis, it is obvious that increased education is essential to reducing poverty rates within Georgia's 159 counties. Attempts to increase the high school graduation rate of a county is the best route for reducing poverty amongst the county's populace, once that is accomplished it becomes much easier for graduates to pursue a degree from an institution producing undergraduate and graduate degrees. If a county is successful in boosting high school graduation rates and sending these graduates to college, then the county is much more likely to have a lower poverty rate.

In all regressions except for regression four, the variable representing a county's classification as Metropolitan is significant. Counties that are classified as metropolitan typically perform much more successfully than those that are not, including Micropolitan counties. If a county is not classified as Metropolitan, then it would serve the county well to provide transportation, useful infrastructure, and access to employment within nearby Metropolitan counties. Due to the mean travel time to work variable being significant in regressions three and four it is implied that if there are people within the county that have a longer commute to work, the county is less likely to have a high poverty rate. Emphasis and investment on commuting for counties that are not classified as Metropolitan will assist these more rural counties in reducing or even escaping poverty and any attempts to boost the per capita net earnings of a county's populace (significant in regression four) will surely aid this cause as well.

## **Conclusion and Directions for Future Research**

The results of this research indicate that there is a serious issue with poverty in the state of Georgia that desperately needs to be addressed. In attempts to address the issue of poverty, it's critical to note that MSAs have a mean poverty rate that is 3.5% less than the county average, Micropolitan statistical areas have a mean poverty rate 2.7% more than the state average and rural counties (classified as neither MSA or Micropolitan statistical area) have a mean poverty rate 3.3% more than the state average. Policymakers must consider this when approaching the issue of poverty in the state of Georgia. Increasing educational attainment across the state needs to also be a key element in any policies that are made to address the issue of poverty in the state of Georgia. The state and local governments of Georgia that have the capacity to be a commuter zone need to direct their efforts towards turning their communities into commuter zones due to

mean travel time to work being a significant variable. The state's government, local governments and local leadership need to avoid attracting jobs within the Retail Trade industry as well due to the fact that the retail trade variable is significant and increases the poverty rate, all else constant.

Future research into poverty in the state of Georgia is still highly needed. Analysis regarding the industrial make up of Georgia's 159 counties could also help to show what industries need to be attracted to best reduce poverty, and possibly provide more feasible solutions to reducing unemployment and increasing the labor force participation rate in the state. In the current political sphere manufacturing is often placed as a highly important industry to the United States and regions that have suffered from a lack there of, research into this subject could help lay rest to the debate and provide clarity into what the focus needs to be, whether that is manufacturing or a different industry.

Separate from policy implications and prescriptions, it's important to note that the government is not always the solution to the problems that face the state of Georgia. In fact, it could well be that local leadership and local influential organizations in Georgia's counties need to emphasize different things to reduce their local poverty rates. For instance, local leadership and organizations need to cross racial boundaries to alleviate the Black or African-American community from the high poverty rates that disproportionately burden this populace. Teamwork and collaboration in counties that face this problem more than others could yield a better result than a racially targeted relief program from the state/local government(s) and provide long-term solutions to this issue.

On the topic of non-governmental solutions, it may also be up to the local leadership within certain counties to emphasize the importance of attaining a high school degree and gaining a secondary degree as well so that the local populace can live a better life without the heavy burden of poverty. Mentorship programs could yield great results and help the population get to a higher educational attainment overall, other programs that local leadership could institute are more internships with local businesses, free tutoring programs and even petitioning the local and state governments to fund these local programs or ones that have not been mentioned.

The state of Georgia is a highly-populated state with plentiful industry and opportunities, and has the capacity to generate even more if the correct steps are taken. This analysis should reveal specific issues and help policymakers prescribe more effective solutions to the poverty rates that weigh so heavily on Georgia's population. If steps are taken successfully to reduce poverty within the state then the overall quality of life, opportunity, socioeconomic mobility, and general happiness of life will rise as the people of Georgia deserve.

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