

University of Arkansas, Fayetteville

ScholarWorks@UARK

Finance Undergraduate Honors Theses

Finance

5-2020

Addressing Urban Income Inequality Through Education: A Case Study in Atlanta

Garrett Bronn

Follow this and additional works at: <https://scholarworks.uark.edu/finnuht>



Part of the [Economic Policy Commons](#), [Education Economics Commons](#), [Education Policy Commons](#), [Finance Commons](#), [Macroeconomics Commons](#), [Policy Design, Analysis, and Evaluation Commons](#), [Public Economics Commons](#), [Public Policy Commons](#), [Regional Economics Commons](#), and the [Social Welfare Commons](#)

Citation

Bronn, G. (2020). Addressing Urban Income Inequality Through Education: A Case Study in Atlanta. *Finance Undergraduate Honors Theses* Retrieved from <https://scholarworks.uark.edu/finnuht/55>

This Thesis is brought to you for free and open access by the Finance at ScholarWorks@UARK. It has been accepted for inclusion in Finance Undergraduate Honors Theses by an authorized administrator of ScholarWorks@UARK. For more information, please contact ccmiddle@uark.edu.

Addressing Urban Income Inequality Through Education: A Case Study in Atlanta

By: Garrett Bronn

Advisor: Julie Trivitt

**An Honors Thesis in partial fulfillment of the requirements for the degree of Bachelor of
Science in Business Administration in Finance and Supply Chain Management**

Sam M. Walton College of Business

University of Arkansas

Fayetteville, Arkansas

Date: May 1st, 2020

Table of Contents

Abstract	4
Introduction	4
Project Outline	5
Literature Review	6
Connecting Education and Income	6
The Cyclical Nature of Income and Education Inequality	7
Education as a Driving Force of Social Mobility	9
Housing Discrimination’s Impact on Urban Communities	11
Current State of Atlanta	13
Breaking Down The Quality Basic Education Act	15
Proposal for Educational Reform	17
Changes to the QBE Funding System	17
Cost Benefit Analysis	24
Conclusion	31
Appendix	33
References	35

Abstract

For decades, the income inequality gap between the rich and poor has continued to expand dramatically, with criticism of existing education systems often at the heart of the issue. Large urban cities are commonly at the forefront of the issue, given the plethora of teacher strikes in recent years. Events such as the 11-day Chicago teacher's strike in October of 2019 that idled academics and college prep for 350,000 students, have highlighted many current education issues (Hauck, 2019). With underfunded and poorly equipped middle and high schools, students in poor and minority neighborhoods in cities are less prepared academically, ill equipped to secure college acceptance, and lack the financial resources available to effectively pursue higher education (Haveman & Smeeding, 2006). Studies conducted by Chetty (2010) and Duncan (2017) have shown a strong link between access to education and income inequality. As Atlanta ranks worst in large city income inequality nationwide and consistently struggles with poverty rates around 25%, it will be the focus of this proposed city plan to explore existing poverty issues through the scope of education (Gongloff, 2017). Proposals are then given for education reforms to help combat income inequality through educational mobility. The overall targets of these reforms are to combat the initial gap in opportunities for students, the overall long-term income potential of low-income students, and improvements in teacher quality in Atlanta and urban schools overall.

Introduction

Education is often viewed as the driving force behind innovation, growth, and the opportunity to succeed. But what happens when that very force structurally favors those who implemented it? The purpose of this research project is to utilize current research on education as it relates to income inequality and propose changes to the existing educational system to promote

equality. This equality of educational opportunity is crucial as research has shown it directly affects the adult outcome gap disparity between high- and low-income families that currently plagues the United States (Jackson, Johnson & Persico, 2014). Due to a history of housing and hiring bias, urban communities are at a disadvantage for school funding through local taxes, thus much of the discrepancy in educational quality can be seen between lower-income urban schools and their suburban counterparts. Fixing this issue is a crucial step to addressing a major source of income inequality in the United States and beginning to break the cycle of inequality currently affecting many lower-income families. Atlanta provides a perfect location to first explore potential solutions presented in this research, given the huge disparity between high and low-income residents. Hopefully the proposal will inspire implementation with hopes of improving education levels for low-income students, increase school quality in urban communities, and provide greater opportunity for college attendance and advancement for students of these areas.

Project Outline

This research project consists of three main parts, each housing subsets of the broader theme. The first section brings together major findings from existing research on the relationship between education and income inequality to establish the context and viability for the city plan. The second section outlines a city plan that establishes Atlanta's unique challenge and addresses how to effectively implement initiatives to improve the city's education system. This plan includes a proposal to address educational reform through the lenses of income segregation, funding changes, and education subsidies as part of a cumulative campaign to address poverty and inequality in Atlanta. The third section includes a cost-benefit analysis to estimate the impact of this proposal utilizing a range of potential improvement outcomes and costs. Finally, the project concludes with a synopsis of the findings.

Literature Review

This section will review existing research on a variety of education and inequality issues. The research will begin broadly, looking from a national perspective, then drill down to urban education issues to segue into Atlanta specifically as a case study.

Connecting Education and Spending

Before addressing education's role in income inequality, two foundational areas must first be examined: the goals of the U.S. educational system and the relationship between education and income in the United States.

The mission of the U.S. Department of Education is "to promote student achievement and preparation for global competitiveness by fostering educational excellence and ensuring equal access," ("Mission," 2011) which helps establish the foundation for educational reforms targeted later in this paper. The mission, however, lacks a specific benchmark or measure of success in which to judge education, which is why this analysis focuses on improving K-12 educational opportunities. These opportunities prove to be extremely important, as research has shown that improved access to school resources can profoundly shape the life outcomes of economically disadvantaged children, thus significantly reducing the intergenerational transmission of poverty (Jackson, Johnson & Persico, 2014). A major area to target this improved access is through increased per-pupil spending. While increased school spending has been shown to have limited benefits for high-income families, for low-income families, increased spending of 20 percent for a child's K-12 schooling leads to a 22.9 percent increase in high school graduation rates, increases adult earnings by 24.6 percent and annual family income by 52.2 percent, and reduces poverty rates by 19.7 percent (Jackson, Johnson & Persico, 2014). Currently, there exists a large gap in adult outcomes between high- and low-income families due to unequal access to K-12

educational opportunities. Educational reform can help address this gap. The research indicates that there is a casual relationship between per-pupil spending and student outcomes in K-12 education, especially for children from low income families. In fact, around two-thirds of the adult outcome gap between those raised in high- and low-income families could be eliminated through appropriate spending reform (Jackson, Johnson & Persico, 2014). As such, educational spending reform will be the major target of the policy changes presented in this paper.

While old literature observed a potential link in per-pupil spending and student outcome, more recent literature using experimental methodology points overwhelmingly to a causal link (Jackson, 2018). The question then shifts to what areas of per-pupil spending should be targeted to most effectively achieve these improved student outcomes. Studies have shown that in addition to increased spending directly in K-12 schools, increased investments in Early Start programs and pre-K childcare have extremely positive impacts on adult outcomes (Duncan, Magnuson, Kalil, Ziol-Guest, 2012). This positive impact on adult outcomes highlights the importance of viewing educational spending reform from a nuanced, contextualized perspective. As discussed in length later in the paper, poverty, social backgrounds, and a variety of other factors must be considered when proposing reforms to improve student K-12 achievement, all of which create better adult outcomes.

The Cyclical Nature of Income and Education Inequality

Given education's clear impact on economic opportunity, the question remains of how to analyze whether current income inequality prevents equal educational opportunities. This is crucial to examine due to the cyclical nature of the relationship between education and income; increasing education can promote income growth and mobility, but existing income inequality often prevents the opportunity to do so. Thus the cycle of inequality continues.

Duncan, Kalil, and Ziol-Guest (2017) found that “increases in the income gap between high- and low-income children account for approximately three-quarters of the increasing gap in completed schooling, [and] one-half of the gap in college attendance” (pg. 1603). The finding that the increasing income gap *accounts* for much of the increasing gap in educational opportunities is critical to the proposals presented later in the city plan. This causation justifies the need for changes directly targeted at breaking the cycle of income inequality as a prevention of education equality. Duncan (2017) continues his analysis by finding that “without the financial and human resources and political clout of the wealthy, institutions in poorer neighborhoods--most importantly, schools--may decline in quality” (pg. 1605), thus leading to negative effects on the education and life chances of children born in poorer families. Not only do higher-income families provide the most local tax funding for schools, but they also contribute the most to supporting legislation that benefits their children. Without that same ability to influence change, lower-income families are once again left with little opportunity for mobility. Combined with the findings of Reardon and Bischoff (2011), which discovered that residential segregation by income has increased in recent decades, it is clear why low-income, urban communities often struggle to maintain high educational standards.

In an earlier study, Chetty and Friedman (2010) took a different approach by quantifying the relationship between parent’s and children’s income. In their work, they found the correlation between parents’ and children’s’ income to be 0.29, and for each \$1,000 of parental household income, an additional \$110 was predicted for their child’s income at age 27. They also found differences in school quality explained as much as 40 percent of that correlation, again proving the need for change in education if income equality is to be appropriately addressed (Chetty & Friedman, 2010). These numbers connect the issues presented above. One of the defenses of the

current economic system is that richer families naturally have more income to pass down to their children, and children should not be punished for their parents' success. However, the narrative shifts when much of the correlation results from unequal educational opportunities presented to all parties. It is fair to assume children from high-income families have more access to private schools, tutors, and other resources that would create some educational differences. However, given the importance of education as a driver of social mobility, as referenced below, changes must be made to raise the floor of public education for poor families, not the roof of education opportunities for rich families (Duncan et al, 2017).

Education as a Driving Force of Social Mobility

If the above hurdles can be overcome, research shows that changes to promote educational equality can help reduce the growing income gap in the United States by improving social mobility potential among lower-income families. Many studies link education as a driving force in a person's potential social mobility, which refers to the extent to which individuals or households move up the social ladder compared with their parents ("A Family Affair," 2010, pg 182). This is an important distinction, as the focus of the presented research and solutions will focus on intergenerational social mobility through education reform. Success equals weakening the link between parent's social status (including income, education, occupation, etc.) and their children's.

In an Organization for Economic Cooperation and Development (OECD) study, current United States mobility in earnings, wages, and education across generations was found to be relatively low compared to other developed countries such as Australia, Canada, and the Nordic countries ("A Family Affair," 2010, pg 181). The study continued by finding the influence of parental socioeconomic status on their child's achievement in secondary education was

particularly strong in the United States, that educational policies played a key role in explaining differences in intergenerational mobility, and that students' achievement was strongly influenced by their school environment ("A Family Affair," 2010, pg 183). These findings all support the link between education policies and social mobility across generations. Echoing these findings, the Pew Charitable Trusts' *Economic Mobility Project* found the United States to have the strongest link between parental education and children's economic, educational, and socioemotional outcomes compared to any of the other nine countries investigated ("Does America Promote Mobility," 2011, pg 2). This finding again confirms that intergenerational mobility is more difficult in the United States than in almost any other developed country despite the capitalistic meritocracy promoted as the "American Dream."

While the research on the current shortcomings in American education as a driver of mobility is vast, another important angle to consider is the potential effectiveness of institution and policy changes to address these shortcomings. There is little use in delving into specific policies and institutional changes if the resulting changes cannot actually influence mobility. The *Economic Mobility Project* analyzed this angle as well, finding that policies and institutions do influence mobility but not in the way one might think. It found the most effective policy and institutional changes target narrowing the initial socioeconomic gaps to better realize equality of opportunities, as gaps in mobility according to family background are established at a very early age and rarely change as children get older ("Does America Promote Mobility," 2011, pg 5). This project indicates that a focus on improving early education for low-income families has the most effect on long-term intergenerational mobility. Combined with research showing that early poverty has substantial detrimental effects on adult earnings and work hours, the research suggests children from lower-income families often start in a much worse environment for early

education with little hope to overcome this gap as they age (Duncan, Magnuson, Kalil, & Ziol-Guest, 2012, pg 87-98).

This research highlights the unfortunate cycle present in the United States, especially in urban communities as explored in the next section, in which the strong link between parental and children's success creates an environment where low-income families face a challenge in providing the same level of education as high-income families. In turn, the cycle leads to difficulties in achieving the same wages and job opportunities later in life, which reinforces the same issues when the next generation of children are born. This cycle of inequality provides the foundation for the policy recommendations presented later that attempt to combat and break this cycle of immobility.

Housing Discrimination's Impact on Urban Communities

While many of the issues addressed above show the importance of educational changes on a national scale, some issues remain unique to urban communities, specifically, the history of housing discrimination on public school funding. This discrimination helps understand how cities like Atlanta reached their current situation. Unfortunately, many of the educational differences in urban public schools derive from the current way these schools are funded. According to the Lincoln Institute of Land Policy, in 2014, 45% of overall public education funding comes from local taxes, with 80% of those local taxes being property taxes (Reschovsky, 2017). Overall, 36.4% of all public education funding comes directly from property taxes. While this system may seem like a reasonable funding mechanic, a history of racial bias in housing has caused systematic differences in property values, which greatly hinders the funding capability of lower-income households.

Public housing built during the Great Depression quickly became a permanent housing solution for many low-income, urban-dwelling people of color. The National Housing Act passed in 1934, and the Federal Housing Administration (FHA) was created to support mortgage lending (Hanks, Solomon, & Weller, 2018). On its own, this act was not problematic; however, through a process known as redlining, the FHA marked these public housing areas as highly risky to extend loans to, which led to many people of color being denied loans or forced them to pay much higher loan rates than their higher-income white counterparts. Without proper funding, many of these areas fell further and further into disrepair continuing to lower housing values in the process (Hanks et al, 2018). Further, the G.I. Bill of 1944 continued this discrimination by providing guaranteed loans, education, employment opportunities, and unemployment benefits to WWII veterans, thus promoting the rapid growth of homeownership with inexpensive mortgages in the suburbs (“G.I. Bill,” 2010). Had this bill provided these benefits sans racial bias, the earlier discrimination of the National Housing Act may have been mitigated, providing an equal chance for people of color to own a home. Unfortunately, people of color, specifically African Americans, constantly faced discrimination, as realtors would intentionally refuse to show modestly priced suburban homes in fear that selling a home to an African American would drive down housing values (“G.I. Bill,” 2010). Combined, this discrimination forced people of color away from suburban homes and back into the redlined, concentrated, and low-value housing districts in urban communities. Without access to funding or any ability to move out of redlined communities, people of color had no choice but to accept the unfair conditions and inequality that so blatantly hindered their economic opportunities.

Racial discrimination and redlining are both now illegal, but their impact are still felt today in many urban communities via intergenerational wealth transfers. Seventy-three percent

of white families own a home, compared to only forty-five percent of black families, and those that do own homes are more likely to live in low-income neighborhoods (Hanks et al, 2018). This equates to lower property values, which means less property taxes to support urban schools to maintain equal education opportunities compared to their suburban counterparts. Further, these low-income areas provide less access to high-quality childcare, more difficult-to-teach classrooms, and high crime rates – all of which hinder a child’s potential to achieve educational success (Duncan et al, 2017). As mentioned earlier, compounding this issue is the fact that residential segregation by income has increased in recent decades, meaning higher-income families often avoid these areas in favor of areas with existing strong education or access to private schools. People with the greatest ability to affect change thus have little incentive to live in these areas and take interest in the quality of these schools (Reardon & Bischoff, 2011). Atlanta provides a strong example of an urban community experiencing all these issues, and thus it provides the foundational landscape in which to design urban educational reform.

Current State of Atlanta

Like most US cities, Atlanta exhibits all of the income, racial, and educational inequality traits discussed above. Atlanta serves as the case study for educational reform in urban communities due to a variety of income inequality, racial, and educational factors.

First, as shown in [Figures 1-3](#), the annual median income varies significantly both between locations in the Atlanta metro area, and between white and black families (“Atlanta, GA,” 2018). These two racial groups compose the two largest racial groups represented in the Atlanta area. These figures reveal the large variation around the median household income in Atlanta of \$65,345, which is crucial to examining the inequality of educational opportunity in the city. This can be seen further in the Federal Reserve Bank of Atlanta’s findings that as little as a

mile-and-a-half separates one of most impoverished places in the Southeastern U.S., Thomasville Heights (median household income of \$8,000), and Atlanta's historic Grant Park (median household income of \$91,250) (Reserve Bank of Atlanta, 2019). In 2012, Atlanta ranked as having the highest income inequality ratio of any of the 50 largest cities in the U.S. (Gongloff, 2014). More recently, Atlanta ranked 360th out of 381 analyzed cities on income mobility (Reserve Bank of Atlanta, 2019). Importantly, this immobility occurs because of unequal access to higher education, the uneven quality of elementary schools, and the rise of both income and racial segregation, again pointing to educational reform as a key source of potential improvement in the income distribution (Chetty, 2018, as cited in Reserve Bank of Atlanta, 2019). These findings of high-income inequality and low social mobility combine to highlight Atlanta as a prime example of an urban community that would benefit from breaking the cycle of inequality that plagues so many metro communities.

These systematic issues continue even further, as Atlanta had a poverty rate of 22.4% in 2018, with black residents making up 75.78% of people living below the poverty line ("Atlanta, GA," 2018). Atlanta's history of redlining, depicted in the Pulitzer-Prize winning news article collection by Bill Dedman (the major finding of which is shown in [Figure 4](#)), indicates that past biases in housing and bank lending present tangible differences in the current living conditions and economic opportunities of lower-income, in this case largely black, families (Dedman, 1988).

Educational public high school rankings by *US News* shows Atlanta to be deficient both within the state and in the nation in the following categories: college readiness, math and reading proficiency and performance, underserved student performance, and graduation rate, ("Best High Schools," 2019). According to the rankings, Atlanta's highest ranked high school (out of 16 total

high schools), Grady High School, came in 48th overall in Georgia and 2,028th overall nationally (out of 17,245 schools). Looking a little deeper, Atlanta’s 3rd ranked high school, KIPP Atlanta Collegiate, drops all the way to 78th in Georgia and 3,394th in the nation. Atlanta clearly struggles to compete nationally, even though it is one of the 40 largest cities in the nation (based on population), but also within Georgia. As proof of the ability to overcome racial and income segregation in education, Payton College Preparatory High School in Chicago has almost 60% minority students, 33% of students from economically disadvantaged students, and is ranked as the top public school in Illinois and 9th overall in the nation (“Best High Schools,” 2019). Payton High School is not unique in this ability to overcome economic disadvantages to provide wonderful education. These success stories act as an ideal future state that Atlanta can pursue through effective education reform.

Breaking Down The Quality Basic Education Act

<p>Basic QBE Funding Model</p> <p>Direct Instructional Cost (Teacher salaries based on # of FTE students)</p> <p style="text-align: center;">+</p> <p>Indirect Cost (Libraries, principal's salary, maintenance, etc.)</p> <p style="text-align: center;">+</p> <p>Categorical Grants (Equalization grants, bus funding, overhead fixed costs, etc.)</p> <p style="text-align: center;">-</p> <p>Local Fair Share (\$5 tax out of every \$1,000 property value)</p> <p style="text-align: center;">=</p> <p>Total State Funding</p>	<p>Educational issues in Atlanta, and Georgia in general, largely derive from the way Georgia funds public schools. While the traditional factors of state and local taxes play a part, Atlanta faces additional unique education obstacles due to the 1985 law passed in Georgia known as the Quality Basic Education Act (QBE). At its core, the QBE provides a funding model for all public K-12 schools in Georgia (Owens, 2019). The formula on the left provides the basic outline of this model. The formula begins with the Direct Instructional Cost (DIC), which consists mainly of teacher salaries. The allotted amount for DIC depends on a calculation of the number of full-time equivalent (FTE) students in each funding area. This calculation weighs factors</p>
---	---

such as grade and remedial or accelerated program participation to estimate the base dollar amount to fund for each student. Next, the model calculates Indirect Cost (IC), which are costs that affect students but are not classroom teachers and is based off of the number of schools and FTE students in those schools. Things like library funding or school maintenance fall into this section. The third part of the formula is Categorical Grants (CG), which are grants provided by the state to fund a variety of needs such as school nurses, bus transportation, and fixed overhead costs like air conditioning. This is also where Georgia's current attempt at providing for lower-income area education can be seen most clearly, as equalization grants are included in this section. Equalization grants essentially attempt to raise money for districts that have less ability to raise money through property taxes as a way to provide a basic public education in these areas. Finally, the state subtracts what it considers to be a Local Fair Share (LFS) from the amount of funding it plans to provide school districts. The LFS was put in place to prevent local districts from not contributing any funding to schools in lieu of full state funding and requires that each school system taxes five dollars for every 1000 dollars of property value (Owens, 2019). Again, this supports an effort to provide more state funding in lower-income districts.

While the QBE at first seems to be a fairly reasonable funding mechanism, it has not lived up to its intent. First, as with any budget plan, if the actual funding fails to match the model, the theoretical benefits become moot points. This sadly has been the case for many years for the QBE, as 2018 marked the first year the state budget fully funded the QBE since 2002 (Aisami, 2019). Even when funding fully, the QBE has become outdated to the point where many local school districts currently waive the DIC portion of the QBE in favor of school-level governance teams that can better allocate resources based on student need (Georgia Partnership for Excellence in Education, 2019). Allowing this flexibility attempts to better serve local school

districts; however, it comes at the expense of allowing higher-income schools the advantage of compensating teachers, support staff, and administrators at a rate much greater than lower-income schools can match. Further, 70% of Georgia school district leaders reported poverty to be the most significant out-of-school issue that limits student learning, and the percentage of students living in poverty continues to be highly correlated with student, school, and district performance (Georgia Partnership for Excellence in Education, 2019). This points to a need to target reform on a grander scale than school district funding alone. Given that the QBE is criticized for not adequately realizing the cost of education given external circumstances such as socioeconomic background, disability, language proficiency, and school location, the current system is not fit to address the needs of schools in Atlanta compared to Georgia at large.

Proposal for Educational Reform

Fixing all the education issues in Atlanta presented above is not as simple as throwing money at the problems and hoping that they go away. Instead, specific, targeted steps must be taken to reform education. This reform begins with three main categories. These categories and their implementation strategies are presented below. The projected costs and benefits of these reforms are then analyzed in the [Cost Benefit Analysis](#) section

Combating Income Segregation

The most deeply rooted issues to address requires reform directly targeting income segregation. While income segregation and racial segregation are not necessarily correlated, urban communities often see overlap in these issues. The crux of this overlap may come from the growing trend toward private schools in low-income, urban communities (Owens, Reardon & Jenks, 2016). When school districts have a history of poor performance, crime, and drop-out rates, higher-income families living in these districts may elect to send their children to private

schools. While often the best opportunity for higher-income families, lower-income families in these same communities do not have access to the same opportunity. The research has shown that this access gap simply continues the growing trend of income segregation in communities, as higher-income families consistently receive better quality education, even when living in the same district as low-income families (Owens, Reardon & Jenks, 2016). To address this inequality, Atlanta is best served by targeting significant investment in improving public education, rather than dumping it into private schools.

The biggest obstacle with this change is the capitalist nature of the United States, as the opportunity for higher quality education will always be available for those who can pay more. In many ways, it's simple supply and demand: at a certain price, the supply of high-quality education will be provided. Further, growing up in poverty limits outside supplemental educational opportunities and interest, as students are forced to focus on survival rather than development. Rather than taking away the option for high-quality education, which would risk scaring off high-income families to other districts or states, the key is to transform Atlanta's public school system to remove the stigma around urban public schooling. To implement this, Chicago's public schools serve as a prime example.

As mentioned previously, Payton College Preparatory High School is the top high school in Illinois, and a top ten high school in the nation ("Best High Schools," 2019). This public school, and many "prep" schools in general, strike a unique balance in urban communities by having students test-in (meet certain criteria for selective enrollment), but still being funded publicly. Even more, these schools actually receive extra district funding for this very reason (Karp, 2019). Rather than copy this same formula, changes in the QBE funding, as discussed below, could free up extra funds specifically for urban school districts. The outcome is then

funding and infrastructure in these public urban schools that can rival preparatory schools without the need for exclusivity. Additionally, in the first five years (a test year followed by a full four year high school cycle), a more progressive income tax on families should be implemented in Georgia, with the funds going directly to immediate infrastructure and teacher pay improvements in low-income areas. This extra funding is necessary to raise the initial level of currently low-income schools to a level to attract higher-income families. While this raises initial costs, the long-term benefits of improving and marketing Atlanta public schools as high-achieving schools can attract higher-income families. In turn, the current state of income segregation naturally begins to erode as high-income families choose to move into these urban districts. The cycle then resets from one of *inequality* to one that promotes *equality*. As high and low-income students begin receiving the same education opportunities, job and higher education opportunities also become more equal. In turn, this helps begin to curb differences in income in the long run while also raising the current poverty level from its currently alarming rate.

However, it is not enough to simply change funding to promote improvements in these school districts. If the above changes are made, rent and property values may rise to a point in Atlanta's current low-income areas that the families in these areas cannot afford to stay, thus defeating the purpose of the changes. This means that current residents need to be grandfathered into their current housing conditions until the reform has a chance to begin paying dividends. Given the normal K-12 education cycle and two years of preschool, 15 years provides the baseline for how long current rent rates for these families should be locked in (outside of adjustments for inflation). Housing discrimination in urban communities cannot be ignored, and these changes, along with the below suggestions, can begin to correct these inequalities through the medium of education.

Changes to the QBE Funding System

The QBE funding system for Georgia public schools is now 35 years old. That alone does not necessitate reform, but it has only been fully funded four years since 2000 (Aisami, 2019). That is a more alarming statistic. Debating the QBE's ability to provide a foundation for public education in Georgia is pointless if the system is never funded. To combat this, changes must be made to shift the QBE from being a blanket funding mechanism to one that specifically targets additional funding help for lower-income school districts, namely in the Atlanta region. School finance reforms must achieve both adequacy and equity to reduce outcome disparities and increase overall outcome levels for students, and currently the QBE achieves neither (Baker, 2014). Adequacy fails because of both funding shortcomings and ineffective policies even when funded, and equity is lacking for lower-income students. To fix this, the QBE must reform from a statewide funding program to a need-based funding program.

Lower-income students tend to start school academically behind their peers. Catching up often requires more academic support, learning time, and outside social services, such as mental and physical health (Ushomirsky & Williams, 2015). An equal funding program for education, then, is simply not feasible since lower-income school districts in Atlanta serve a disproportionate number of these students compared to their higher-income counterparts. Shifting to an equity-based model of funding addresses this concern by taking into consideration the total cost to educate when including factors such as poverty rates and other outside elements. In this model, lower-income school districts are prioritized, which also helps address the impact of funding issues. When order is given to how funds are distributed, the richest school districts that can best fund schooling through local property taxes would be the last to receive state aid.

Thus, if funding falls short, the best prepared school districts to handle funding issues are the ones impacted.

The changes to funding then must continue by changing how the QBE allocates funding based on FTE students. As mentioned above, lower-income students should not be considered necessarily the same as higher-income students in the same grade. Instead, the QBE must adopt a system the Center for American Progress calls “weighted student funding,” which differentiates budgeting based on demographics that school districts serve (Martin, Boser, Benner, & Baffour, 2018). With this system in place, the Direct Instructional Cost (DIC) will accurately reflect the higher costs of teaching lower-income students. Because this part of the QBE goes mainly to teacher salaries, this increase will allow more funding to teachers in low-income school districts to incentivize them to take on the challenge of teaching in these districts. As quality teachers are one of the main sources of instructional quality, this change allocates funds more effectively than the current model of equal and broad distribution. Higher-income school districts in Georgia already pay above the QBE funding through local taxes to attract better teachers and support staff (Georgia Partnership for Excellence in Education, 2019). This change would not prevent these districts from continuing to also attract quality staff, rather, it will simply allow lower-income districts to now also compete for quality staff.

Lastly, the local fair share (LFS) section of the QBE should be changed to better help low-income school districts. While low-income districts are expected to provide less funding currently, they are still required to provide 5% of local property value tax as a form of local school funding. This amount is then subtracted from the total funding still needed. Low-income school districts thus receive more state funding, the remaining funding needed from the state is still greater. However, this section could be improved further by still requiring the 5% local

property tax funding to go towards school improvement, but not have this funding number count against state funding for the bottom 20% of school districts based on property value. This restructuring would still achieve a dedicated local tax contribution from low-income districts while increasing state funding, leading to an increase of available funding in these school districts equal to the 5% local property tax. Requiring that this tax still go towards education ensures it can be used to pay higher teacher salaries, improve infrastructure, or any other needs the district deems necessary to provide improved education.

Supplemental Educational Subsidies

Another crucial aspect of urban education that is often overlooked is access to supplemental educational resources such as educational savings plans, pre-k education, and quality childcare. Further programs that have found success in urban communities, specifically Philadelphia, include family counseling, adult education, and job training that include both the parents and children of schools (Oates, Flores, & Weishew, 1998). These programs increased enrollment and graduation rates, as well as providing skills to assist job placement for parents. Educational savings plans, such as the Coverdell Education Savings Accounts mentioned in Chetty's research, provide tax-deferred options to save money to be spent on educational expenses. While these accounts can help set aside money for families, lower-income families still cannot afford to put money towards these plans, so the plans end up benefiting higher-income families more (Chetty & Friedman, 2010).

A more direct way to assist lower-income urban education is to improve the access to pre-k and early education in these areas. A proposal in low-income Crellin, MD provides a look into changes to implement in Atlanta. In the new proposal, full-day pre-k (for students as young as 3) and an expansion of family support centers would be provided by state funding (Torres,

2020). Implementing a system like this in Atlanta would be more expensive, given the larger number of students, but this investment in early education would also go the furthest in the long run. Programs like the Abecedarian and Perry Preschool programs, which provide full-day, center-based, educational programs for children in high poverty areas have shown impressive long-term improvements in higher education, crime, and employment (Duncan et al, 2012). As evidence has shown early education to be one of the most impactful times for development, and poverty to be one of the biggest obstacles to early development, targeted programs to address this concern are merited. Further, these early education programs help food security issues that can often also affect low-income areas by providing food while the child is learning (Duncan et al, 2012). The research suggests that Atlanta would greatly benefit from implementing full-day, center-based, early education preschools. Combined with the subsidies discussed below, the benefits of this improved early education could greatly improve the education and social mobility in Atlanta moving forward.

Childcare opportunities are a major part of educational opportunities for students, especially early in their lives. In lower-income areas, families often cannot afford proper childcare, and given that 37.5% of households with children in Fulton County, Ga, which houses Atlanta, are single-parent households, many families cannot ensure proper childcare while also working a job (U.S. Census Bureau, 2019). This often forces a choice between early education opportunities and income, which is a major problem. As part of a proper public education system, access to quality childcare should be a given. National subsidies for childcare are already available, but urban communities must provide specific subsidies to support families in these areas. To provide these subsidies, Georgia, and Atlanta specifically, must include childcare subsidies as a functional expense of education, rather than a luxury. The projected costs of this

are explored in the next section, but childcare and early education opportunities are required to help equalize the difference in lower-income students being prepared to start and maintain the same educational levels of their peers (Ushomirsky & Williams, 2015).

Cost Benefit Analysis

As a preface, estimating the costs and benefits of this educational reform varies greatly on a number of factors. Estimates and assumptions are made here that can be altered by Atlanta if it has more accurate information. Further, the benefits of this reform are long-term in nature and somewhat difficult to quantify. That being said, the benefits still provide a range of results that help support the reasoning behind this reform. The costs are presented first for each initiative, with a collective benefits section at the end, as many of the benefits overlap between the various reforms.

Estimated Costs

The costs of combating income segregation include the state-wide tax increase, housing rate lock, and the local fair share changes. Local fair share changes will be addressed in the following section, however, to keep things consistent. To make the tax cost estimate, the current spending average on students in public Georgia schools was used, multiplied by the reported number of students in the Atlanta metro area. From there, estimates were made on how costs would increase in the reform plan of an immediate five-year spending program funded through high-income tax dollars. From here, spending increases of 5%, 10%, and 15% were used to estimate the total spending increase for Atlanta Public Schools (APS). These calculations are shown in the top table below. The bottom table then shows how much of a tax increase on families (estimating four people per family) would be required in Atlanta to fund this increase in APS funding. For this, the number of taxable families was adjusted to only include those in the

top 25% of income. Using these calculations, increases ranged from \$479.07 a family to \$1,437.20 dollars per family per year. Over the five years of the reform, this would total out to between \$2,395.34 and \$7,186.02 per family. While this tax increase may drive some higher-income families to move to the suburbs of Atlanta, the hope is it will encourage remaining high-income families to contribute and become more involved in public schooling opportunities and begin to close the gap in school quality based on income segregation.

Data Table 1

*Data from (Atlanta Public Schools, 2020) and (Owens, 2020)

Number of Students	Spending per Student	Total Spending	Spending Increase	New Total	Difference
54,956	\$5,427.00	\$298,246,212.00	5%	\$313,158,522.60	\$14,912,310.60
54,956	\$5,427.00	\$298,246,212.00	10%	\$328,070,833.20	\$29,824,621.20
54,956	\$5,427.00	\$298,246,212.00	15%	\$342,983,143.80	\$44,736,931.80

Atlanta Population	Number of Families (assuming avg. family of four)	Number of Families in Top Quatile (25%)	Overall Tax Increase	Per Family Tax Increase	Five Year Tot
498,044	124,511	31,128	\$14,912,310.60	\$479.07	\$2,395.34
498,044	124,511	31,128	\$29,824,621.20	\$958.14	\$4,790.68
498,044	124,511	31,128	\$44,736,931.80	\$1,437.20	\$7,186.02

These basic estimates ignore many of the nuances of tax-rate increases. That being said, the calculation shows that even small increases in taxes on higher-income families can drastically improve APS funding when targeted effectively. The key to this estimate is that even if the numbers vary greatly, the tax increases needed are still well below what many families would object to. Further, if higher spending per student increases are needed, the percent spending increase and subsequent tax increase can be estimated simply by changing the spending increase percentage.

Shifting to the changes in QBE funding, the overall costs should not increase significantly; rather, the distribution of the funding will simply become more targeted. The Georgia Budget and Policy Institute found the absence of additional money meant specifically to help educate students living in poverty to be one of the major areas of potential improvement in public education in Georgia (Owens, 2020). In fact, Georgia is one of the only states that fails to provide additional funding specifically to serve schools in poverty. The allocation changes

presented will help address this issue (at least in Atlanta), however, where some cost increases may be seen is in the change to weighting FTE students. If students in low-income areas are to be weighted as requiring more funds to educate, some additional costs may be incurred. An estimation of this cost increase is shown in the data table below.

Data Table 2

**Data from (Owens, 2020)*

QBE Amount Allocated per Student	Gap Between Funding per Student Compared to National Average	Total Enrollment in Atlanta Public Schools	City Poverty Rate	Funding Increase Needed
\$5,427.00	\$1,996.00	54,956	22.4%	\$24,571,047.42

The table takes the current QBE funding per student compared to the national average spent on public education. Expecting a \$2,000 increase to meet the national average is not realistic; however, an increase of this amount in impoverished areas, such as many of the schools in Atlanta, is feasible. The calculation thus uses the local poverty rate to estimate the total number of students in poverty, and thus the total funds needed to increase their funding to the national average. While an annual \$25 million increase in spending is a large investment, it pales in comparison to other educational reform initiatives, like the one referenced above in Maryland (which equated to about \$4 billion, albeit on a statewide level). This funding increase per student would largely increase teacher salaries to attract higher quality teachers to low-income areas. The exact breakdown of this increased funding burden would largely fall on the state; however, much of this increased funding will come from reducing the LFS deduction from low-income districts. The benefit of the spending focus on impoverished areas is that it simplifies funding to largely derive from the LFS changes. Funds that are now not being deducted from low-income school districts can then be used as part of the direct investment in per student expenditures in these districts.

The last section of costs comes from the increase in supplemental educational resources. Costs for this section are also the most variable, as the size and scope of these initiatives could be

scaled up or down depending on the perceived need and value provided. Despite this variability, costs can be broken down to pre-k educational subsidies and k-12 educational subsidies. For pre-k costs, the data table below uses the Abecedarian Program, which provides full-day, center-based, educational programs for children in high poverty areas, as an estimate for costs (Masse & Barnett, 2002).

Data Table 3

*Data from (Masse & Barnett, 2002)

Cost of Abecedarian Program (2002)	Inflation Adjustment from 2002 to 2020	Adjusted Cost of Abecedarian Program (2020)	Number of Atlanta Public School Students	Average Number of Students in Program (Doubled to account for two years in the program)	Overall Cost Per Year
\$13,445	114%	\$15,327.30	54,956	8,455	\$129,588,784.43

This table takes data on the cost of the Abecedarian program, as measured in 2002 dollars, and adjusts these costs to reflect the costs in 2020 based on inflation rates since 2002. This cost per child is then multiplied by the number of children it would provide for. To calculate this cost, the total number of students enrolled in Atlanta Public School districts was divided by the thirteen grades in k-12. This gives an idea of how many students can be expected to be in each grade (although it does not account for drop-out rates or population growth). Given that the program proposal would cover the two years leading up to kindergarten, the number of students affected is effectively the total of two grades, so the average number per grade was doubled to account for this. With both the cost per student and number of students affected now calculated, a total cost estimate per year of about \$129.6 million was found.

The k-12 costs of providing state and city run childcare programs is more difficult to predict. Given the variability of when parents feel comfortable allowing their children to stay at home alone after school, use babysitters in place of childcare, or decide to stay home themselves, the cost of providing child care for students in k-12 grades is too difficult to predict without more exact data. With more accurate data, the city of Atlanta could estimate the additional cost of providing childcare and add it to the total presented above.

Miscellaneous costs that come along with these estimates account for a variety of difficult to estimate measures. Some of these areas include the rent freeze for housing in these districts, infrastructure and technology improvements in school districts, administration expenses, transportation improvements, teacher training programs, and maintenance costs. These costs vary depending on the current state of each school district and could be viewed on both a per year and initial outlay basis. For the sake of simplicity, \$250 million was used as an initial miscellaneous expense estimate given the overall costs of various other education reform proposals, with the yearly cost estimate totaling ten percent of the initial expense at \$25 million. This estimate should be revised once more accurate city data for Atlanta can be obtained. To summarize these costs, in addition to the costs above, this final table attempts to present a final cost of reform in terms of per year increases and initial investment requirements. The table uses the totals from Tables 1-3 above.

Data Table 4 - Most Extreme

Per Year	Tax Funding Increase	Pre-k Child Care	QBE Funding Changes	Misc Costs	Total
	\$44,736,931.80	\$129,588,784.43	\$24,571,047.24	\$25,000,000.00	\$223,896,763.47
Initial Cost	Misc Costs				
	\$250,000,000.00				

Data Table 5 - Most Conservative

Per Year	Tax Funding Increase	Pre-k Child Care	QBE Funding Changes	Misc Costs	Total
	\$14,912,310.60	\$64,794,392.22	\$24,571,047.24	\$25,000,000.00	\$129,277,750.06
Initial Cost	Misc Costs				
	\$250,000,000.00				

The estimates above show the range from most conservative to most extreme spending increases. Given the potential to scale back the proposals given here is more likely than to scale them up, an aggressive estimate was more appropriate. Miscellaneous costs are where most of the variable estimates are made and are the easiest costs to trim or remove if budget constraints are too great. That being said, the overall reform proposal estimates an initial investment

requirement of about \$250 million, and an additional \$225 million or so in yearly spending increases for the most extreme, and \$129.3 million in yearly spending at the most conservative. The major differences in this range comes from the more conservative change only accounting for one year of pre-k child care, as opposed to two, and a 5% increase in tax funding compared to a 15% increase. An important difference would be the years necessary for the tax increase. In the case of a 15% increase, it may only take a few years of higher taxes to balance out school funding. For the 5% increase, it would take more years but at a lower yearly expense. The city council could then choose which approach better suits their needs. In both cases, the yearly tax funding increase would drop off after a set number of years.

Benefits

As for benefits, the exact outcomes depend largely on the effectiveness of linking increased education spending to increased education quality. Opportunity Insights, a collection of research spearheaded by Dr. Raj Chetty, found that traditional measures of teacher quality based on test scores accurately captures the effect of teachers, as shown in [Figure 5](#) (“Education,” 2020). Further, high quality elementary teachers have been found to generate large long-term gains for students in terms of college attendance rates and lifetime earnings. Specifically, it was found that future lifetime earnings for an entire class taught for one year by a high-quality teacher equated to \$1.4 million (“Education,” 2020). This equals out to about a \$50,000 increase in earnings per student. Even when divided by an estimated 40-year career, the benefit would be \$1,250 per student per year. Under the assumption that the changes presented here and with the QBE funding system can improve the teacher quality in urban schools to this “great” quality, the benefits can very easily outweigh the costs.

Further outcomes of the reform can be seen in improving the income mobility in Atlanta. As mentioned previously, Atlanta currently ranks 360th out of 381 analyzed cities in terms of income mobility (Reserve Bank of Atlanta, 2019). The *New York Times* found Fulton County to be one of the worst counties in the U.S. (6th percentile) in helping poor children move up the income ladder (“The Best and Worst Areas to Grow Up,” 2015). The research also found less segregation by income and race, lower levels of income inequality, and better schools to be associated with strong upward mobility. This reform addresses all three of these factors. Under the assumption this reform can boost Atlanta from the 6th percentile up to the 50th percentile, the yearly income increase for children who grew up in Fulton County would improve by about \$4,000 (“The Best and Worst Areas to Grow Up,” 2015). Combined with the income benefits above, this would equate to a \$5,250 increase per child in yearly earnings given these changes. Given the national poverty rate as of 2019 was \$12,490 for one person families, this increase represents 42% of the overall poverty rate (“2019 Poverty Guidelines, 2019). Further, the national poverty rate for two person families is \$16,910, meaning the increase in income if two children from Atlanta were to eventually marry would equate to 62% of the poverty rate. With just these improvements, the opportunity for children in low-income school districts in Atlanta to escape poverty jumps substantially.

Outside of the tangible income benefits, the future implications of this reform could also lead to improvements in local economic activity. Basic supply and demand suggest that as people make more money, they demand more goods. This in turn helps feed local economic activity and can lead to more job opportunities and other economic benefits. Further, the educational benefits from this reform allow for more opportunities for higher education for low-

income families. For students who take this opportunity and eventually return to Atlanta, the potential job openings are even greater, and tend to also pay higher wages.

Lastly, the specific focus on early education opportunities helps target income inequality at its most important stage. Tying back to the *Economic Mobility Project* research, changes targeting the initial gaps in opportunity for students is often the most important factor in combating income inequality (“Does America Promote Mobility,” 2011). The reform’s focus on providing pre-k schooling opportunities for low-income families means that children in these areas will not start off with the same disadvantages when starting school as they currently do. This targeted approach then takes a proactive approach to equality compared to the reactive retroactive changes that are often seen today.

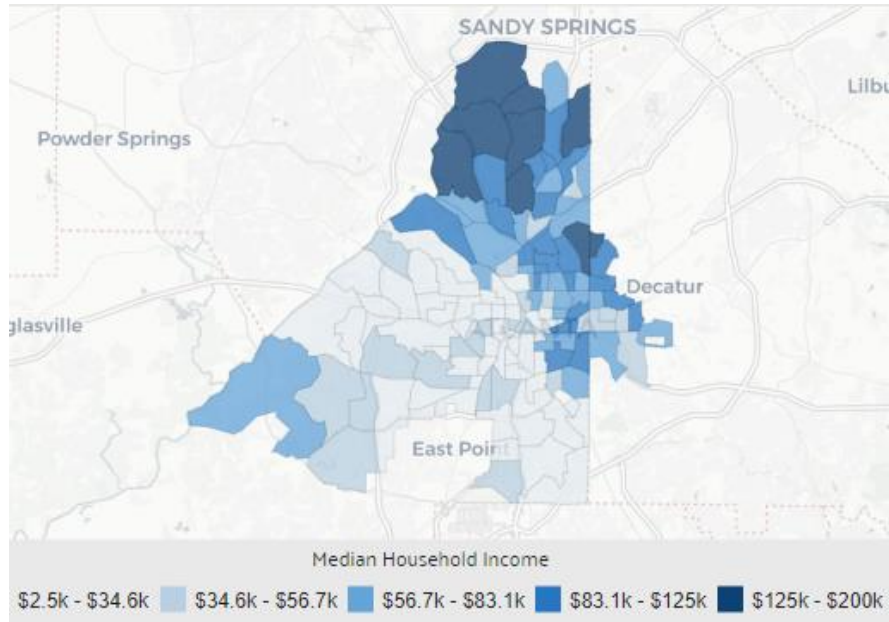
Conclusion

Education is often described as the foundation for growth and innovation in society. When access to educational opportunities is unequal, however, this foundation begins to crumble for many low-income families. This leads to a continuous cycle of lower adult outcomes and poverty in areas that cannot use education as a ladder to escape. Atlanta finds itself in this very situation, as years of discriminatory practices have led to an urban community often plagued with poverty. As this poverty carries over into the classroom, Atlanta public schools, as in many other urban districts, have struggled to provide a level of education appropriate to help combat the educational opportunity inequality seen in the United States today. The proposals made throughout this paper, while expensive, provide a guideline for a targeted spending reform to help bring low income urban school districts up to the level of their higher income peers. Specific changes to best fit the people and infrastructure of Atlanta can be made by those with the legislative power to do so; however, the target outcome should remain to improve the gap in

K-12 educational opportunities between high- and low-income districts. In turn, these improved opportunities for low income students can begin to help reduce the income inequality gap that has continued to grow throughout the United States. The research shows that increased spending for low income students and improved pre-K childcare opportunities are a crucial part to an effective educational reform. Further, shortcomings in the QBE funding model have been addressed and given proposed changes to specifically improve the spending focus in Georgia. This proposal is only the first step in the direction of combating income inequality through educational equality, but successes in this test case may provide a base for future initiatives to expand to other cities nationwide. Education has so much power to help alleviate the growing income inequalities in the United States, and it is time that this power was put to use effectively for the greater good.

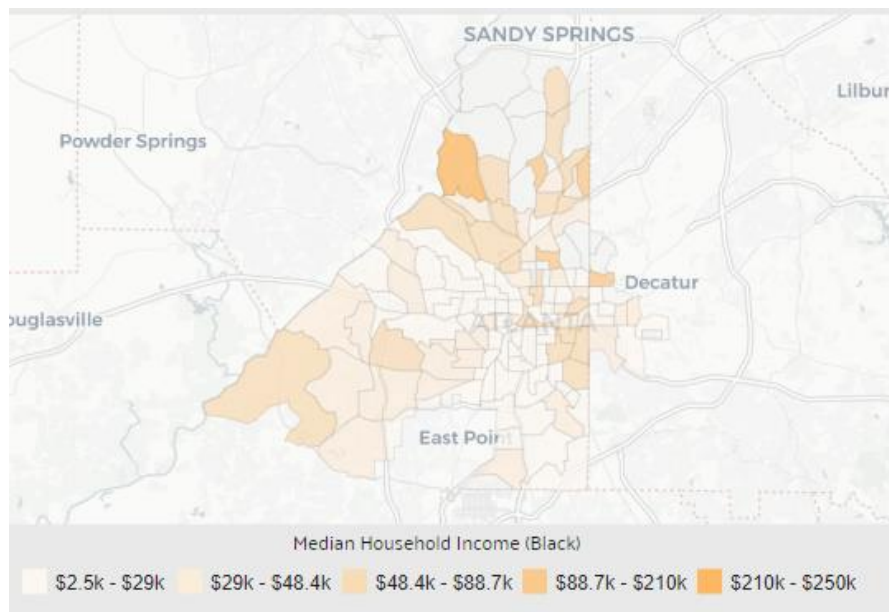
Appendix

Figure 1: Annual Median Household Income in Atlanta for All Races (2017)



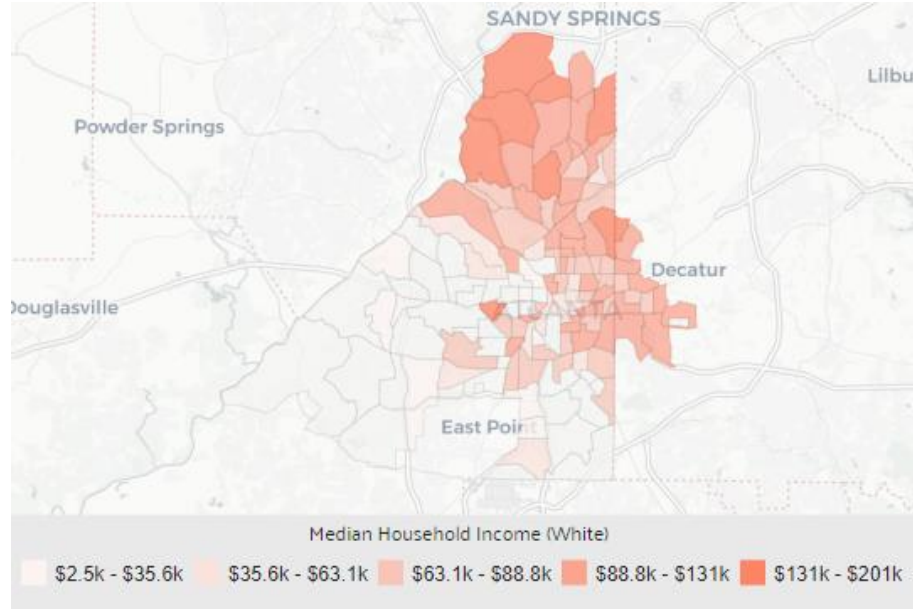
Credit: ("Atlanta, GA," 2018)

Figure 2: Annual Median Household Income in Atlanta for Black Residents (2017)



Credit: ("Atlanta, GA," 2018)

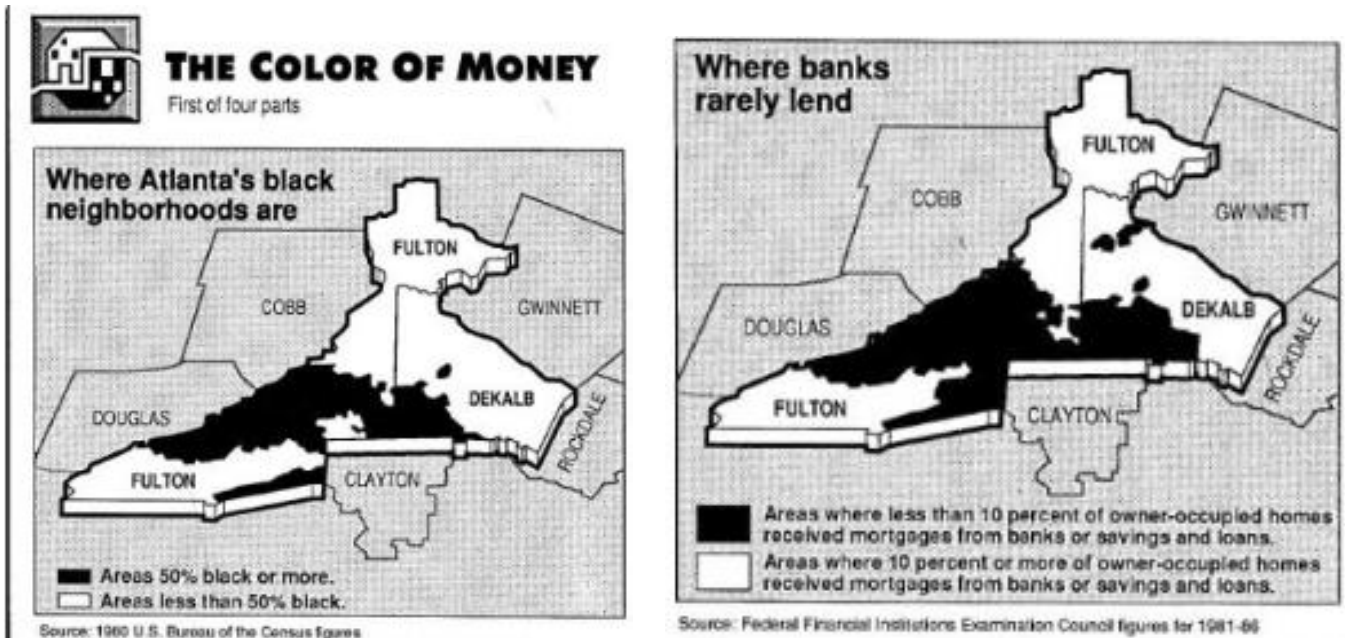
Figure 3: Annual Median Household Income in Atlanta for White Residents (2017)



Credit: ("Atlanta, GA," 2018)

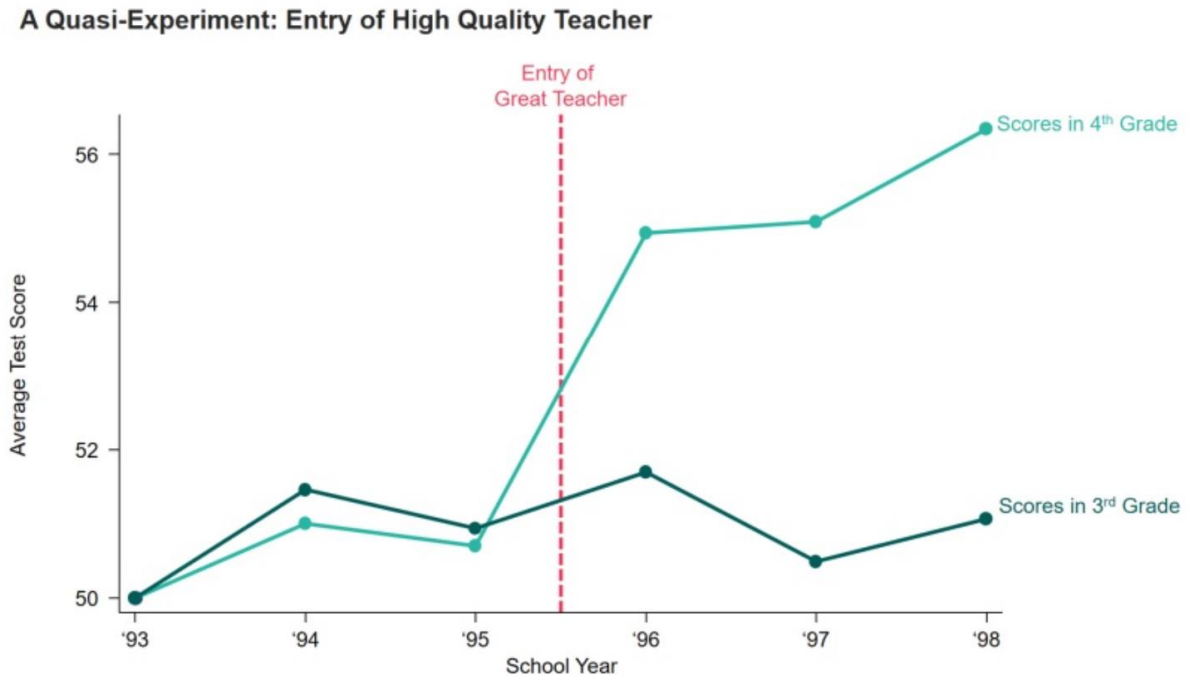
Figure 4: Analyzing Racial Bias in Bank Lending in Late 1980s Atlanta

This figure, although rather simple, is one of the major findings of a Pulitzer-Prize winning exposé into racial bias in bank lending in late 1980s Atlanta. As shown in the figure, areas with a large population of black residents corresponded almost exactly to areas where banks refused to



lend. This practice, known as redlining, plays a major role in the current low-income housing situation in Atlanta.

Figure 5: A Quasi-Experiment of High Quality Teacher



References

2019 Poverty Guidelines. (2019, May 22). Retrieved March 20, 2020, from

<https://aspe.hhs.gov/2019-poverty-guidelines>

A Family Affair: Intergenerational Social Mobility across OECD Countries. (2010). *Economic Policy Reforms Economic Policy Reforms 2010*, 181–198. doi: 10.1787/growth-2010-38-en

Aisami, L. (2019, December 5). Effects of School Funding Cuts Continue to Linger. Retrieved February 27, 2020, from <https://gbpi.org/2019/effects-of-school-funding-cuts-continue-to-linger/>

Atlanta Public Schools. (2020, March 11). Retrieved March 18, 2020, from

https://en.wikipedia.org/wiki/Atlanta_Public_Schools

Atlanta, GA. (2018). Retrieved February 18, 2020, from <https://datausa.io/profile/geo/atlanta-ga>

Baker, B. (2014). School Finance 101: The Real Path to Quality, Equitable, and Adequate Schooling. Retrieved March 12, 2020, from <https://nepc.colorado.edu/blog/real-path-quality-equitable>

Best High Schools. US News. (2019). Retrieved February 27, 2020, from <https://www.usnews.com/education/best-high-schools/georgia/districts/atlanta-public-schools-106542>

Dedman, B. (1988). The Color of Money: Home mortgage lending practices discriminate against blacks. *The Atlanta Journal*, pp. 1–44. Retrieved from http://powerreporting.com/color/color_of_money.pdf

Does America Promote Mobility As Well As Other Nations? (2011). *The Pew Charitable Trusts - Economic Mobility Project*. Retrieved from file:///C:/Users/gabronn/Downloads/does-america-promote-economic-mobility.pdf

Does America Promote Mobility As Well As Other Nations? (November, 2011). *The Pew Charitable Trusts: Economic Mobility Project*. Retrieved from [https://www.pewtrusts.org/~media/legacy/uploadedfiles/pcs_assets/2011/critafinal1pdf.pdf](https://www.pewtrusts.org/~/media/legacy/uploadedfiles/pcs_assets/2011/critafinal1pdf.pdf)

Duncan, G. J., Kalil, A., & Ziol-Guest, K. M. (2017). Increasing Inequality in Parent Incomes and Children's Schooling. *Demography*, 54(5), 1603–1626. doi: 10.1007/s13524-017-0600-4

Duncan, G. J., Magnuson, K., Kalil, A., & Ziol-Guest, K. (2012). The Importance of Early Childhood Poverty. *Social Indicators Research*, 108(1), 87–98. Retrieved from https://www.jstor.org/stable/pdf/23261304.pdf?casa_token=eb3ynC-

[I_ZkAAAAA:hEibicNI0VRbMG0xBOS4L0ISGfZp7blZX7euOWc0-n0bE9s9teQfEyc2PumbEV4E8QWw-S-7CPRL_SGbfJsmqO2Mj9325L5SVu_XjlTo38NqgbMkdLFy](https://www.opportunityinsights.org/education/)

Education. (2020). Retrieved March 20, 2020, from <https://opportunityinsights.org/education/>

G.I. Bill. (2010, May 27). Retrieved February 4, 2020, from <https://www.history.com/topics/world-war-ii/gi-bill>

Georgia Partnership for Excellence in Education. (2019). *15th Annual Report on Top Ten Issues to Watch in the Coming Year*. Retrieved from: http://www.gpee.org/wp-content/uploads/2019/01/GPEE-Top-Ten-2019-Final_1-7-19.pdf

Gongloff, M. (2017, December 7). Income Inequality Is Even Worse In Big Cities: Study. Retrieved from https://www.huffpost.com/entry/inequality-big-cities_n_4823808

Hanks, A., Solomon, D., & Weller, C. E. (2018, February 21). Systematic Inequality: How America's Structural Racism Helped Create the Black-White Wealth Gap. Retrieved from <https://www.americanprogress.org/issues/race/reports/2018/02/21/447051/systematic-inequality/>

Hauck, G. (2019, November 16). Chicago teachers approve 'historic' contract that ended 11-day strike. Retrieved from <https://www.usatoday.com/story/news/nation/2019/11/16/chicago-teachers-union-approves-contract-deal-evades-another-strike/4213054002/>

Jackson, K. C. (2018, December 10). Does School Spending Matter? The New Literature on an Old Question. Fall 2018 Bronfenbrenner Center for Translational Research Conference. Retrieved February 27, 2020, from http://works.bepress.com/c_kirabo_jackson/38/

- Jackson, K. C., Johnson, R., & Persico, C. (2014, May 8). The Effect of School Finance Reforms on the Distribution of Spending, Academic Achievement, and Adult Outcomes. Retrieved February 27, 2020, from <https://www.nber.org/papers/w20118>
- Karp, S. (2019, October 2). Racial Issues Flare at Chicago's Elite Payton College Prep. Retrieved March 18, 2020, from <https://www.npr.org/local/309/2019/10/02/766379053/racial-issues-flare-at-chicago-s-elite-payton-college-prep>
- Martin, C., Boser, U., Benner, M., & Baffour, P. (2018, November 13). A Quality Approach to School Funding. Retrieved March 12, 2020, from <https://www.americanprogress.org/issues/education-k-12/reports/2018/11/13/460397/quality-approach-school-funding/>
- Masse, L. N., & Barnett, S. W. (2002). A Benefit Cost Analysis of the Abecedarian Early Childhood Intervention. Retrieved March 20, 2020, from <http://nieer.org/wp-content/uploads/2002/11/AbecedarianStudy.pdf>
- Mission. (2011, October 20). Retrieved from <https://www2.ed.gov/about/overview/mission/mission.html>
- Oates, J., Flores, R., & Weishew, N. (1998). Achieving Student Success in Inner-city Schools is Possible, Provided...., *Research in Middle Level Education Quarterly*, pp. 51-62
- Owens, A., Reardon, S. F., & Jencks, C. (2016). Income Segregation Between Schools and School Districts. *American Educational Research Journal*, 53(4), 1159–1197. doi: 10.3102/0002831216652722
- Owens, S. (2019, August 6). How Does Georgia Fund Schools? Retrieved February 20, 2020, from <https://gbpi.org/2019/how-does-georgia-fund-schools/>

- Owens, S. (2020, January 13). State of Education Funding in Georgia (2020). Retrieved March 20, 2020, from <https://gbpi.org/2020/state-of-education-funding-in-georgia/>
- Raj Chetty, & John N. Friedman. (2010). Does Local Tax Financing of Public Schools Perpetuate Inequality? *Proceedings. Annual Conference on Taxation and Minutes of the Annual Meeting of the National Tax Association, 103*, 112-118. Retrieved January 13, 2020, from www.jstor.org/stable/prancotamamnta.103.112
- Reardon, S. F., & Bischoff, K. (2011). Income Inequality and Income Segregation. *American Journal of Sociology, 116*(4), 1092–1153. Retrieved from <https://www.journals.uchicago.edu/doi/full/10.1086/657114>
- Reschovsky, A. (2017, July). The Future of U.S. Public School Revenue From The Property Tax. Retrieved February 4, 2020, from www.lincolnst.edu/sites/default/files/pubfiles/future-us-public-school-revenue-policy-brief_0.pdf
- Reserve Bank of Atlanta, F. (2019, March 25). One Region. Many Economies. - 2018 Annual Report. Retrieved February 18, 2020, from <https://www.frbatlanta.org/economy-matters/annual-report/2018.aspx>
- The Best and Worst Places to Grow Up: How Your Area Compares. (2015, May 4). Retrieved March 20, 2020, from https://www.nytimes.com/interactive/2015/05/03/upshot/the-best-and-worst-places-to-grow-up-how-your-area-compares.html?_r=0&abt=0002&abg=1
- Torres, C. (2020, February 12). American Way of School Funding Is ‘Uniquely Bad’ for Inequality. Retrieved February 19, 2020, from <https://www.bloomberg.com/news/articles/2020-02-12/a-bold-plan-to-defuse-time-bomb-of-inequality-in-u-s-schools?cmpid=socialflow-twitter->

[businessweek&utm_source=twitter&utm_campaign=socialflow-organic&utm_content=businessweek&utm_medium=social](#)

U.S. Census Bureau. (December, 2019), Single-parent Households with Children as a Percentage of Households with Children in Fulton County, GA [S1101SPHOUSE013121], retrieved from FRED, Federal Reserve Bank of St. Louis;

<https://fred.stlouisfed.org/series/S1101SPHOUSE013121>

Ushomirsky, N., & Williams, D. (2015) Funding Gaps 2015: Too Many States Still Spend Less on Educating Students Who Need the Most. Retrieved March 12, 2020, from

https://edtrust.org/wp-content/uploads/2014/09/FundingGaps2015_TheEducationTrust1.pdf