SCHOOL CHOICE

ISSUES

IN THE STATE

School Choice for Georgia:
Many agree with the concept. Some disagree. And some simply want more information. As the public debate continues to grow about how best to provide a quality education to all Georgia children, it is important to know the facts about parent choice and how parent choice programs have had an impact on communities, parents and students around the country. All of this analysis is done with one goal in mind: The best possible education for all of Georgia's children.

The Economic and Fiscal Costs of Failing to Reform K-12 Education in Georgia

Prepared By:

Brian J. Gottlob

Senior Fellow

The Friedman Foundation for Educational Choice

December 2009

Study released jointly by:

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A MESSAGE FROM THE FRIEDMAN FOUNDATION:

OUR CHALLENGE TO YOU

Our research adheres to the highest standards of scientific rigor. We know that one reason the school choice movement has achieved such great success is because the empirical evidence really does show that school choice works. More and more people are dropping their opposition to school choice as they become familiar with the large body of high-quality scientific studies that supports it. Having racked up a steady record of success through good science, why would we sabotage our credibility with junk science?

This is our answer to those who say we can't produce credible research because we aren't neutral about school choice. Some people think that good science can only be produced by researchers who have no opinions about the things they study. Like robots, these neutral researchers are supposed to carry out their analyses without actually thinking or caring about the subjects they study.

But what's the point of doing science in the first place if we're never allowed to come to any conclusions? Why would we want to stay neutral when some policies are solidly proven to work, and others are proven to fail?

That's why it's foolish to dismiss all the studies showing that school choice works on grounds that they were conducted by researchers who think that school choice works. If we take that approach, we would have to dismiss all the studies showing that smoking causes cancer, because all of them were conducted by researchers who think that smoking causes cancer. We would end up rejecting all science across the board.

The sensible approach is to accept studies that follow sound scientific methods, and reject those that don't. Science produces reliable empirical information, not because scientists are devoid of opinions and motives, but because the rigorous procedural rules of science prevent the researchers' opinions and motives from determining their results. If research adheres to scientific standards, its results can be relied upon no matter who conducted it. If not, then the biases of the researcher do become relevant, because lack of scientific rigor opens the door for those biases to affect the results.

So if you're skeptical about our research on school choice, this is our challenge to you: prove us wrong. Judge our work by scientific standards and see how it measures up. If you can find anything in our work that doesn't follow sound empirical methods, by all means say so. We welcome any and all scientific critique of our work. But if you can't find anything scientifically wrong with it, don't complain that our findings can't be true just because we're not neutral. That may make a good sound bite, but what lurks behind it is a flat rejection of science.

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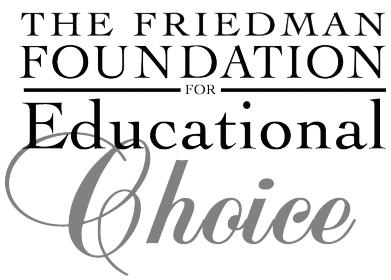

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About the Author

Brian J. Gottlob (bgottlob@poleconresearch.com) is the Principal of PolEcon Research. For 17 years Gottlob has analyzed economic, demographic, labor market industry and public policy trends for private sector, government and nonprofit organizations. He has extensive experience in developing econometric models and has completed studies on a range of economic, tax policy, energy, education, and health care issues in the states of New Hampshire, Virginia, Ohio, New Mexico, New York, Texas, Oregon, Michigan, Georgia, Mississippi, West Virginia and Illinois. Gottlob is a Senior Fellow at The Friedman Foundation for Educational Choice. He has been an instructor at the Whittemore School of Business and Economics at the University of New Hampshire, a member of the Advisory Board of the New England Economic Partnership (NEEP) and a member of the National Association of Business Economics. Prior to founding PolEcon, Gottlob was a Vice President for Fiscal and Economic Policy at the Business and Industry Association of New Hampshire. He has an undergraduate degree in economics from the State University of New York and a graduate degree in public policy analysis from the University of New Hampshire.

The author takes sole responsibility for this report's content and analysis, including charts, citations and any unintentional errors or misrepresentations.

About the Friedman Foundation for Educational Choice

The Friedman Foundation for Educational Choice, dubbed "the nation's leading voucher advocates" by the Wall Street Journal, is a nonprofit organization established in 1996. The origins of the foundation lie in the Friedmans' long-standing concern about the serious deficiencies in America's elementary and secondary public schools. The best way to improve the quality of education, they believe, is to enable all parents with the freedom to choose the schools that their children attend. The Friedman Foundation builds upon this vision, clarifies its meaning to the public and amplifies the national call for true education reform through school choice.

About the Georgia Public Policy Foundation

Since 1991, the Georgia Public Policy Foundation has conducted scholarly research and analysis of state public policy issues and worked to educate citizens, policymakers and the media. The 501(c)(3) is state-focused, independent, non-partisan and market-oriented in its approach. Its philosophy is that good public policy is based upon fact, an understanding of sound economic principles and the core principles of our free enterprise system—economic freedom, limited government, personal responsibility, individual initiative, respect for private property and the rule of law.

Executive Summary

In recent decades, Georgia has prospered in an economy that increasingly valued education, despite having among the lowest rates of high school completion of any state in the nation. To do so Georgia has come to rely on the in-migration of well-educated individuals from other states. However, the economic prosperity has not benefited native Georgians to the same degree. The state and its citizens continue to bear the considerable costs associated with lower educational attainment among Georgia's native born population.

This study documents the public costs of high school dropouts in Georgia, and examines how policies that increase school choice, such as the recently-enacted tuition tax credit scholarship program will provide large public benefits by increasing public school graduation rates. The study calculates the annual cost of Georgia dropouts caused by reduced tax revenue, as well as increased Medicaid, public assistance and incarceration costs, and documents the employment impacts that dropouts have on the Georgia economy. It then examines how competition from private schools already raises public school graduation rates, and calculates the dollar value of the public benefits that result from Georgia's increased public school graduation rates generated by a modest school choice program.

Key findings include:

Georgia residents who were born in the state are twice as likely to be high school dropouts and one-half less likely to have a college degree as residents who have moved to Georgia from another state.

Each Georgia dropout costs the state about $2,455 each year after they leave school, and for the remainder of their lives.

- More than 38,000 Georgia students in the class of 2007 failed to graduate from high school. The state's overall graduation rate is about 65 percent, among the lowest graduation rates of any state in the nation.
- On average, each of Georgia's more than 760,000 working-age dropouts earns $7,200 less annual income compared to high school graduates, totaling $5.5 billion.
- The annual public cost associated with Georgia's more than 760,000 working-age dropouts is about $1.8 billion.
- Each new class of dropouts produces public costs of $95 million every year for the rest of their lives, or about $2,455 per dropout.
- Over an expected lifetime of 50 years, one year's class of dropouts will cost Georgia taxpayers $4.8 billion.
- Our cost estimates only include costs associated from four sources: lost revenue from taxes and fees, increased Medicaid, public assistance and incarceration. Because dropouts also incur other public costs, the true public cost is larger than $2,455 per dropout per year.

A school choice policy improves public school graduation rates and produces millions in public savings.

- School choice policies increase the graduation rates of program participants.
- School districts respond to competition if more students enroll in private schools. As a result, public schools produce higher graduation rates. Georgia students benefit from increased competition from private schools.
- The beneficial effect of private school competition on Georgia public schools is large enough that even a modest school choice program, one that increased private school enrollment by 6.8 percentage points, would reduce the number of public school dropouts by 5,490 students per year, saving Georgia citizens about $13.5 million per year by increasing tax revenue, decreasing Medicaid, public assistance and incarceration costs.
- The total savings from preventing 5,490 students from dropping out, over an expected lifetime of 50 years, would be $674 million.

Introduction

Until the recession of 2008, Georgia has been among the fastest-growing states in the nation and in the process has progressed to a more productive, higher value-added, higher-wage economy that is better able to compete in the global economy. Unfortunately, the progress of Georgia's economy has relied heavily on the in-migration of well-educated, higher skilled individuals and families from other states in order to supply the skilled labor force needed to grow in today's global economy. Today, educational attainment largely determines the economic opportunities an individual will enjoy over his or her lifetime. Because so many of Georgia's young people fail to obtain at least a high school diploma, a high percentage of native Georgians have not been able to contribute or fully participate in the fruits of Georgia's new economy. The inability of so many young citizens to realize their full potential imposes tremendous costs on all of Georgia's citizens. These costs result from increased public expenditures, reduced revenues and diminished economic opportunities.

Across the nation, increasing attention is being focused on high dropout rates in public high schools. Independent reports by the Editorial Projects in Education Research Center (EPERC), the Center for Labor Market Studies at Northeastern University, and others have documented Georgia's low high school graduation rate.[1] The individual consequences of not completing high school are large and well-documented, but there are also substantial public costs. These public costs result when high school dropouts contribute less to society and consume more public services. Lower rates of labor-force participation, higher rates of unemployment among those who are in the labor force, and lower wages and salaries for those employed all are consequences of the failure of many individuals to obtain a high school diploma. When individuals attain higher levels of education, there are associated public benefits in the form of lower use of public-assistance programs, better health, lower rates of incarceration and overall lower social-service expenditures. At the same time, higher educational attainment increases productivity, employment, economic growth, income and tax revenues. By advocating and supporting a number of policies to increase academic achievement and high school graduation rates, Georgia's current governor has acknowledged the importance of the relationship between educational attainment, an individual's economic opportunities, and the success of the health of Georgia's economy.

A few efforts have been made to calculate the costs of dropouts beyond the individual or private consequences that result from failure to obtain a high school diploma. In Georgia, economists at Georgia Southern University provided a solid analysis of the private costs (income and employment costs) associated with dropouts in Georgia, but few state-level analyses of the social or public costs of dropouts have been conducted anywhere in the country. Consequently, state policymakers have an incomplete assessment of the costs to society of high school dropouts and the public consequences of a failure to make reforms to public education. This study seeks to illustrate the public costs of the dropout dilemma. Levin and Belfield (2005, 2007) develop estimates of the social costs of dropouts nationally, and extrapolate some of the findings in examining the issue in California. Sum at al (2007) have developed estimates for Illinois and Massachusetts.[2]

Understanding public costs and benefits is fundamental to debates about education reform, but they are often overlooked. Over the past two decades, citizens have supported higher spending on public schools and myriad reform initiatives because of the large private and public benefits they expect from improved educational outcomes.

The study considers several critical issues for education reformers. First, in estimating just a few of the public costs associated with a failure to graduate from high school, we provide perspective on the urgency of reform for Georgia citizens and policymakers who may have little interest in education policy. Second, by documenting the costs associated with dropouts and calculating the likely impact that school choice initiatives will have on high school graduation rates, we clarify how school choice benefits are allocated. Recent studies by Warren (2008) and Booker et al (2008) clearly demonstrate that school choice via a voucher program or charter schools can increase the graduation rates of participants.[3] Dee (1999) overcomes the key problem of endogeneity found in the weak and faulty methodologies often used in educational research. Dee finds significant increases in graduation rates at public schools that are subject to increased competition. [4] This evidence complements studies which show a more general improvement in school performance and quality that occurs among public schools facing competition from choice programs. Hoxby (2003) provides a review of

relevant research on the positive impacts of choice while Chakrabarti (2007) demonstrates how larger state education aid reductions associated with vouchers students leaving local districts is more likely to lead to improvements in school quality.[5] Yale University economist Patrick Bayer (2005) further advances knowledge about how increased choice and competition can improve public schools by decomposing the effects into supply and demand impacts and demonstrating that responses to school choice and competition may be stronger on the supply side (the response from schools) than from the demand side (parents).[6] Hastings (2007) examines demand side impacts by documenting how parents respond to public school choice in the Mecklenburg public school district in North Carolina.[7]

Despite increasing evidence of the beneficial impacts of school choice policies, most research on the "dropout problem" conducted by schools of education tends to ignore the impact of school choice as a potential policy solution for dropouts. Prior research often disregards the public school motivation to increase quality and productivity in response to competitive pressure. Levin and Belfield (2007) combine their estimates of the social costs of dropouts with a few selective studies of the effects of various education policies on dropout rates, but their choice of policy solutions is largely limited to those initiatives typically favored by the education establishment (higher pay for teachers and smaller class sizes). In their study of the costs of California dropouts, Levin and Belfield calculate that while most of the costs of initiatives such as higher teacher pay and smaller class sizes are incurred by state and local governments, the majority of benefits in terms of reduced public assistance and medical payments, as well as higher tax revenues accrue to the federal government.[8] If such policies were implemented in Georgia on a broad scale, it would result in a net, indirect, intergovernmental transfer from Georgia taxpayers to the federal government.

Sum et al (2007), economists at the Center for Labor Market Studies, document types of dropout costs. They recommend programs that have clear and demonstrable impacts on dropout rates such as the Chicago Alternative Schools Network, The Milwaukee Partnership, The Los Angeles Conservation Corp., Youth Build USA, The Job Corps, among other programs. These programs share costs across levels of government. Unlike Levin and Belfield, who argue for sweeping policies of higher pay, smaller classes, and pre-school, the Center for Labor Market Studies recommendations are more targeted and result in fewer "deadweight" expenditures.

Neither Levin and Belfield nor the Center for Labor Market Studies consider school choice policies as a potential remedy to the dropout problem. This report attempts to fill a gap in the research on the costs of dropouts at the state level. We also compare the benefits of school choice policies with several other public policy proposals. Positive impacts that result from school choice are more compelling largely because such policies do not require any additional state or local expenditures beyond those currently associated with educating each child in Georgia's public schools,

Which Perspective on Georgia's Dropout Problem is Accurate?

Compared to all neighboring states except Florida, Georgia (at 17.8 percent) has a somewhat lower percentage of its adult population (ages 25+) lacking a high school diploma. According to the U.S. Census Bureau, twelve states have a higher percentage of adults who have not graduated from high school.[9]

A nationwide study of young adults (ages 16-24), conducted by the Center for Labor Market Studies, indicates Georgia has the highest percentage (24.3%) of young adults lacking a high school diploma among the nation's twelve most populous states.[10] North Carolina and Florida have the second and third highest percentage of dropouts. Depending upon which independent estimate is used, Georgia ranks either third or fourth worst among all 50 states on the graduation rates of its public high school students.

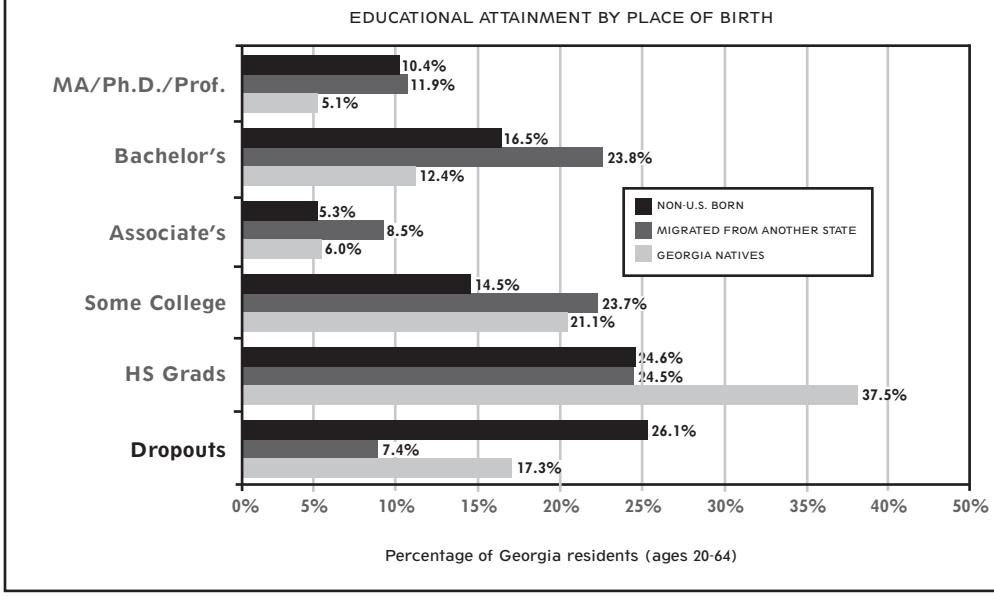
At the same time, Georgia compares more favorably on the overall level of educational attainment of its residents. About one quarter of adult Georgia residents (26.6%) age 25 and older possess a bachelor's degree, which is near the U.S. average (27%). Nearly 1 out of 10 of Georgia residents (9.2%) holds an advanced college degree (master's, professional, or PhD), also near the U.S. average (9.9%).[11] Georgia ranks 23rd among all states in the percentage of residents with a four-year college degree or higher.

How can Georgia's poor performance in graduating students from its high schools be reconciled with levels of educational attainment and employment growth that have exceeded U.S. averages for most of the past two decades? Analyzing data on the educational attainment of Georgia residents, and considering migration status, is key.

Figure 1 illustrates differences in educational attainment of Georgia residents according to where they were born. Data from the U.S. Census Bureau's "American Community Survey" indicate that Georgia residents who were born in the state (ages 20-64) are more than twice as likely to be high school dropouts than are residents born in another state but who migrated to Georgia (17.3% vs. 7.4%). Native Georgians are only one-half as likely to have a bachelor's or higher degree (17.5% vs. 35.7%).[12] Data from the Census Bureau's "Current Population Survey" (CPS) suggest that the differences between native Georgians and in-migrants are even larger, with 22 percent of native Georgians, ages 20-64, lacking a high school diploma compared to 9 percent for in-migrants. Only 15.6 percent of native Georgians hold a bachelor's degree or higher, compared to 33.2 percent for in-migrants.[13]

Figure 1

Georgia Relies on In-Migration for Well-Educated Workers— "Native" Georgians are Half as Likely to Have a 4 yr. College Degree and Twice as Likely to be Dropouts



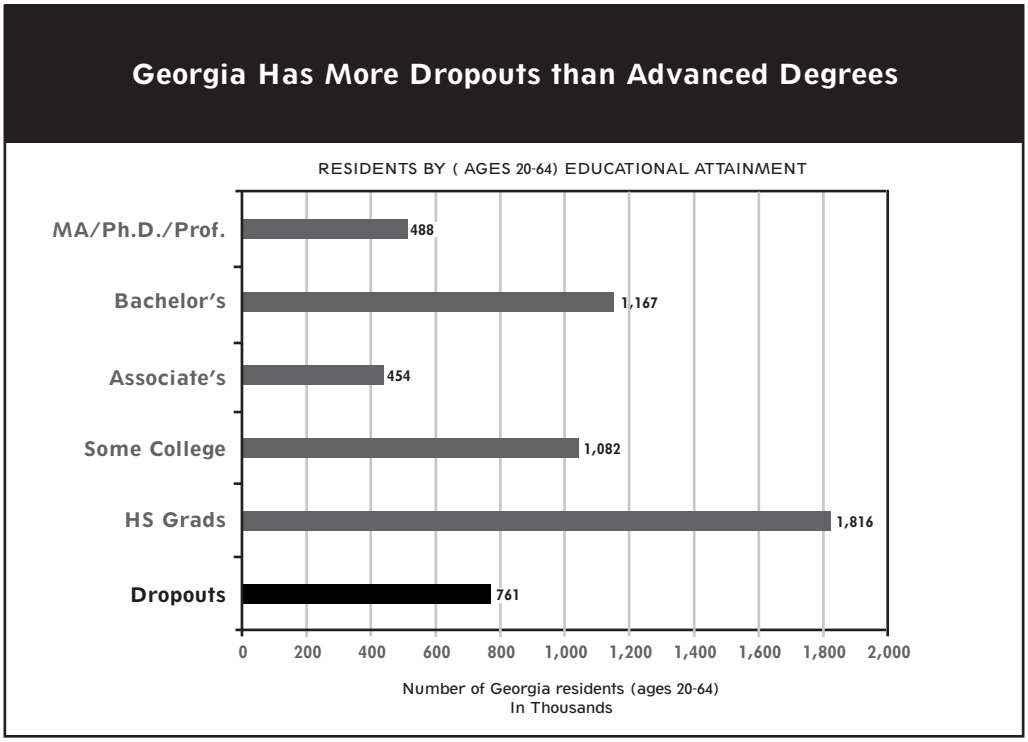
Source: Author's analysis of US Census Bureau's 2006, "American Community Survey," data for Georgia.

Figure 2 indicates more than 760,000 Georgia adults do not have a high school diploma.[14] The 2006 American Community Survey estimates more dropouts, by 70,000 adults, but to provide the most conservative estimate of social costs we use the lower CPS numbers.

Most states and school districts significantly understate the problem of students failing to graduate from high school. Independent estimates by EPERC, the Manhattan Institute, and University of Minnesota Professors John Warren and Andrew Halpern-Manners all indicate that Georgia's graduation rate is lower, and dropout rate higher, than reported by the Georgia Department of Education.[15]

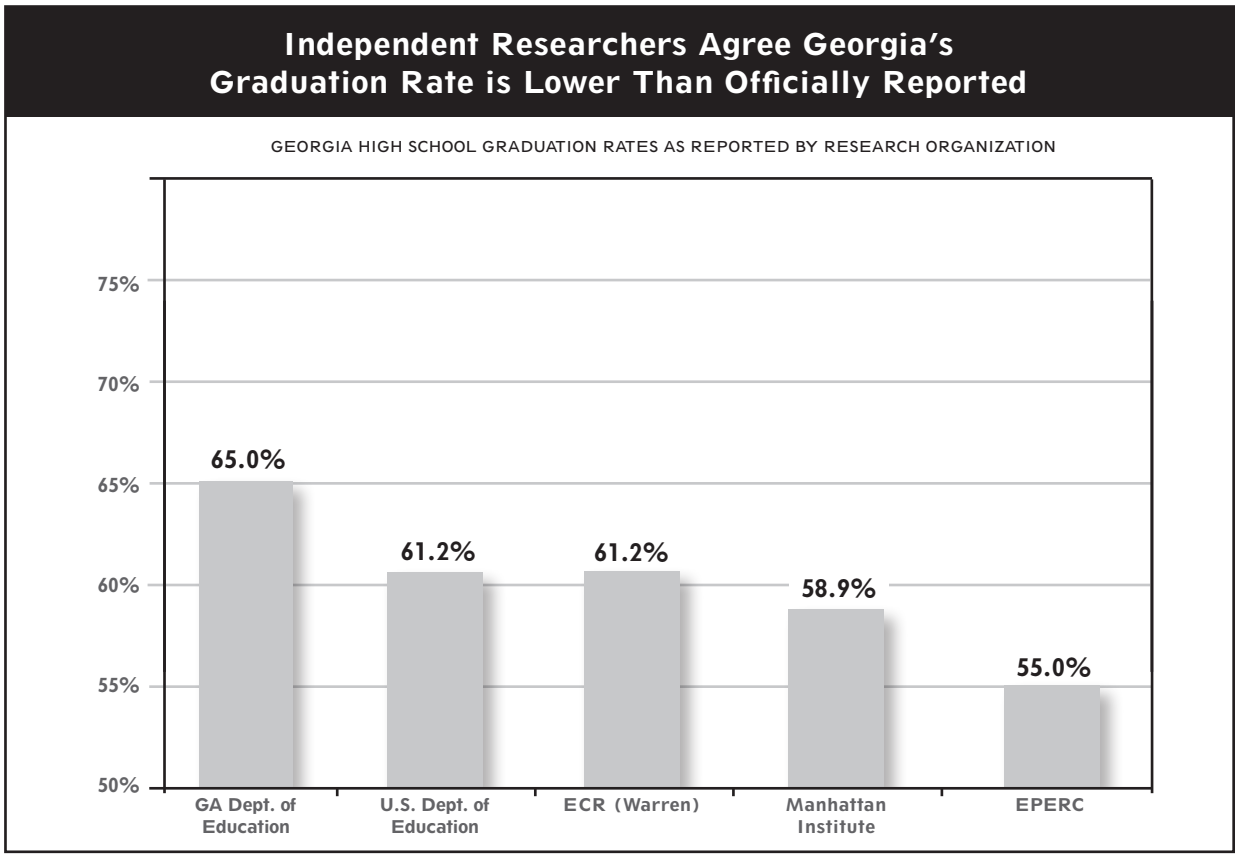
The ongoing debate about which method of calculating high school graduation rates is most accurate is important, as is the need to implement and evaluate policies to increase graduation rates. However, an evaluation of the different measures is not the purpose of this report. There is a high correlation among estimates, and more importantly all estimates suggest that the graduation rate in Georgia is far too low and lower than the official, state-reported graduation rate (65.0%). The goal of this report is to document the social costs to the state of Georgia of high school dropouts. Conclusions here are marginally influenced by the relatively small differences in estimated graduation rates.

Figure 2



Source: Author's analysis of US Census Bureau's "Current Population Survey" (March 2005-07), data for Georgia.

Figure 3

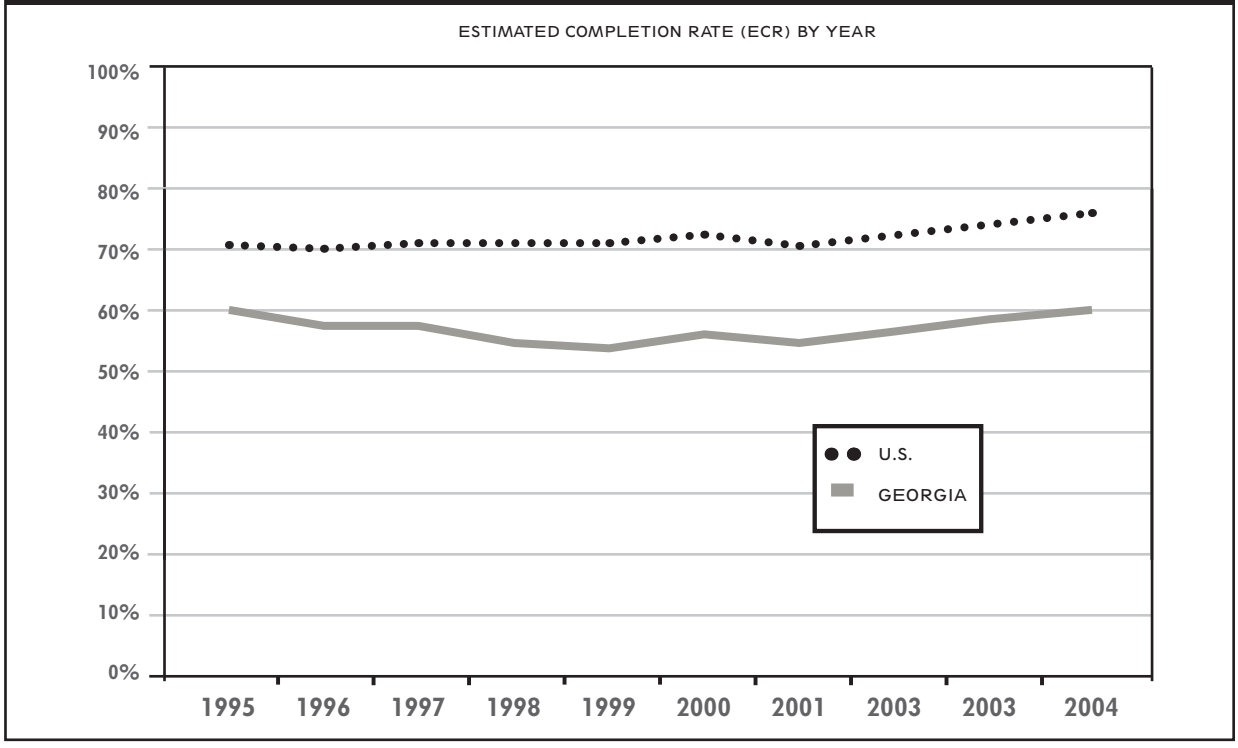


The independent reviews of Georgia's reported graduation data, for 2004, place the state's overall graduation rate at between 55 percent and 61 percent, rather than the 65 percent reported by the Georgia Department of Education, and well below the most recently reported state figure of 72 percent for the 2007 school year.[16] For our analysis we use Warren's "Estimated Completion Rate" (ECR), adjusting for gender, and to reflect increases in graduation rates reported by the Georgia Department of Education for the 2007 academic year.[17] Using the ECR produces an estimate of dropouts in Georgia that is higher than reported by the Georgia Department of Education but somewhat lower than implied by other independent estimates. This is a conservative estimate of the dropout problem in Georgia that results in an additional 10,000 dropouts compared to state reported figures, or about 38,900 dropouts for the class of 2007. The purpose of calling for more accurate reporting of high school graduation and dropout rates is not to criticize the state's education agency but to more realistically assess the extent of the dropout problem. Accuracy is necessary for sound public deliberation and to better assess policies.

Figure 4 highlights Georgia's graduation rate compared to the nation over time, employing Warren's ECR. Despite some improvement in recent years, we see the gap between Georgia and the U.S. graduation rate has not narrowed. In a global economy that increasingly values educational attainment, the implication is that Georgia's low graduation rate will impair its competitiveness and limit the economic opportunities of its young people. Although Georgia compensates to some degree, by attracting well-educated residents from around the country, the state's low graduation rates still impose tremendous costs on all residents. A disproportionate number of native Georgians have diminished economic opportunities because of their relatively lower levels of educational attainment.

Figure 4

Georgia's Graduation Rate is Below the U.S. Average, Though it has Increased This Decade



Source: Warren, J.R. (2005) & Warren, J. R. and Halpern-Manners, A. (2007). Data for 2003 not available from the source and was interpolated by the author.

Dropouts Cost Georgia Taxpayers Millions Every Year

The consequences of dropping out of high school are clear for the more than 760,000 Georgia residents who lack at least a high school diploma. Real public costs and benefits are at stake each year, and most recently documented

for the 38,900 young people who did not graduate from high school in Georgia in 2007. In this report, we weigh the individual consequences of dropping out and then calculate the public costs.

Table 1 shows how some measures of individual outcomes are affected by educational attainment in Georgia. The table shows that Georgia residents without a high school diploma are less likely to be in the labor force and are much more likely to be unemployed than high school graduates. Dropouts are much more likely to receive (or to have a child who receives) Medicaid benefits. Finally, dropouts are more likely to be incarcerated than are those with higher levels of educational attainment.

Table 1

Georgia Dropouts Have Worse Life Outcomes

	Dropouts	HS Grads	Some College	Assoc. Degree	Bachelor's Degree	Master's Degree	Ph.D./ Prof.
% In Labor Force	65.7%	75.8%	78.9%	84.6%	83.5%	90.2%	94.1%
Unemployment Rate (2007)	6.9%	3.0%	4.9%	2.3%	1.2%	0.5%	0.0%
Annual Earnings (Age 20-64)[18]	$17,994	$25,166	$28,982	$35,335	$48,119	$63,303	$82,461
% on Medicaid or with Child on Medicaid	35.4%	19.4%	12.2%	14.1%	6.9%	4.2%	3.5%
Institutionalization Rates (Both Genders)	3.8%	1.8%	0.5%	0.5%	.01%	N/A	N/A
Incarceration Rates (Males Only)				ALL COLLEGE GRADS COMBINED			
White	0.93%	0.39%	0.27%	0.08%			
Hispanic	2.00%	1.2%	N/A	N/A			
African-Americans	4.11%	2.35%	2.15%	0.75%			

Source: U.S. Census Bureau, "Current Population Survey," (March Supplement 2005-07), and authors calculations. Institutionalization rates from Sum and Harrington (2007).[19] Incarceration rates from U.S. Census Bureau reported in E. Moretti (2005).[20]

1. Georgia dropouts earn $7,200 less than high school graduates each year, totaling $5.5 billion in lost annual earnings

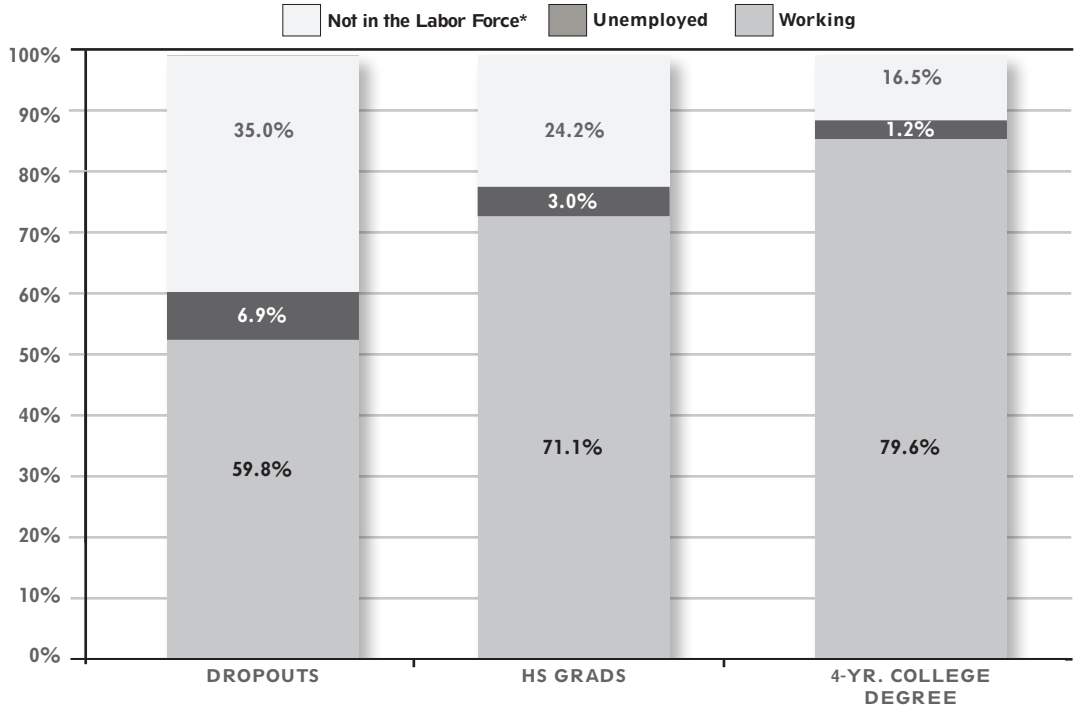
Dropouts are less likely to be in the labor force, less likely to be employed if they are in the labor force, and earn less if they are employed. Figure 5 compares the labor market status of Georgia's dropouts with that of high school graduates and with that of working-age residents with a four-year college degree. The chart shows that over 40 percent of working-age dropouts in Georgia are either unemployed or not looking for work. Because our analysis excludes individuals under the age of 20, the chart overstates the percentage of dropouts who are employed because teenage dropouts have dramatically higher unemployment rates and labor force participation rates.

The average annual earnings of dropouts are far lower than those of people who have received a high school diploma. Figure 6 highlights the impact in Georgia of dropping out in terms of annual earnings in 2007. The chart shows that dropouts earn, on average, about $7,200 less than high school graduates, and at least $30,000 less than Georgia residents with a four-year college degree. The wage and salary differential illustrated in Figure 6 is a result of lower-paying jobs, lower labor-force participation, and lower employment rates of dropouts compared to graduates.

Figure 6 depicts the simple, corresponding relationship between educational attainment and earnings. However, earnings are also a function of other factors, including age, experience, race, ethnicity, gender, and labor force participation, so we use regression analysis to more accurately estimate the relationship between education and earnings independent of the influences of those factors. This type of analysis allows us to compare individuals in Georgia who are similar on many important characteristics, but who vary on the basis of educational attainment.

Figure 5

More than 40 Percent of Dropouts in Georgia are Not Working

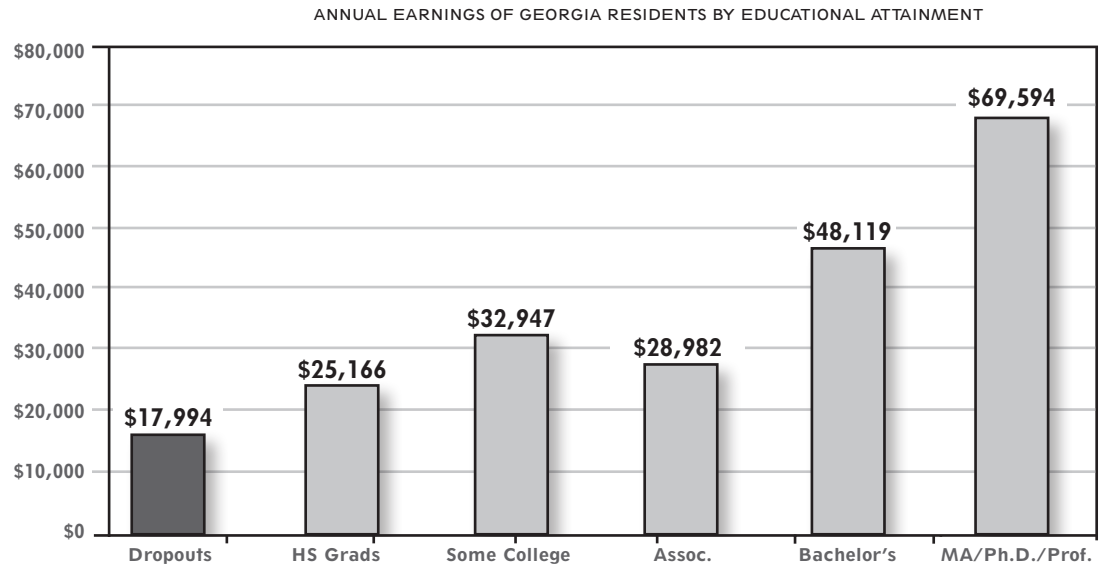


*A person is considered "Not in the Labor Force" if a person does not have a job and is not looking for work. A person is considered "Unemployed" if he or she does not have a job but is actively looking for work.

Source: Author's analysis of U.S. Census Bureau, "Current Population Survey" (March Supplement 2005-07), data for Georgia.

Figure 6

On Average, Dropouts Earn Over $7,000 Less Per Year Than High School Grads



Source: Author's analysis of U.S. Census Bureau's "Current Population Survey," (March Supplement 2005-07), data for Georgia.

We use a subset of more than 4,000 Georgia respondents to the Current Population Survey (CPS), 2005-2007, including adults (ages 20-64) who are in the labor force, and who have completed at least the ninth grade but had not attended a postsecondary institution. We set out to determine the impact on earnings of a high school diploma as well as of each additional year of schooling for those individuals who fail to obtain a high school diploma. We control for age, race/ethnicity, and gender, so the impact of educational attainment is better isolated. We found that, on average, the wage and salary earnings of high school graduates is $8,761 more than working high school dropouts. The total earnings of high school graduates (including income other than wages and salaries) is $8,923. In addition, there are benefits for remaining in school for as long as possible even if an individual does not obtain a diploma. Our analysis indicates that for each additional year beyond 9th grade that young people in Georgia remain in school before dropping out, they will earn an additional $2,197 per year, when other factors such as age, gender, and race are held constant.

The difference in annual earnings between dropouts and high school graduates implies that if all of Georgia's residents of working age had obtained at least a high school diploma, total earnings for the state in 2006 would have been $5.5 billion higher.[21] (see Table 2)

Table 2

Lower Earnings by Georgia Dropouts Cost Georgia $5.5 Billion Per Year

Educational Attainment	Population Age 20-64	Average Annual Earnings	Total Earnings	Earnings if All Dropouts Become HS Grads
Dropouts	760,968	$17,994	$13,693,192,579	$0
HS Grads	1,816,186	$25,166	$45,706,318,495	$64,856,915,279
Some College	1,082,367	$28,982	$31,369,485,104	$31,369,485,104
Associate's Degree	454,000	$35,335	$16,042,090,000	$16,042,090,000
Bachelor's Degree	1,166,682	$48,119	$56,139,921,163	$56,139,921,163
M.A./Ph.D./Prof.	487,911	$69,594	$33,955,580,552	$33,995,580,552
TOTAL	5,768,114	$34,197	$196,906,557,892	$202,363,992,098
INCREASED EARNINGS IF ALL DROPOUTS BECOME HS GRADS →				$5,457,434,206

2. Lower earnings of dropouts reduce Georgia workforce opportunities

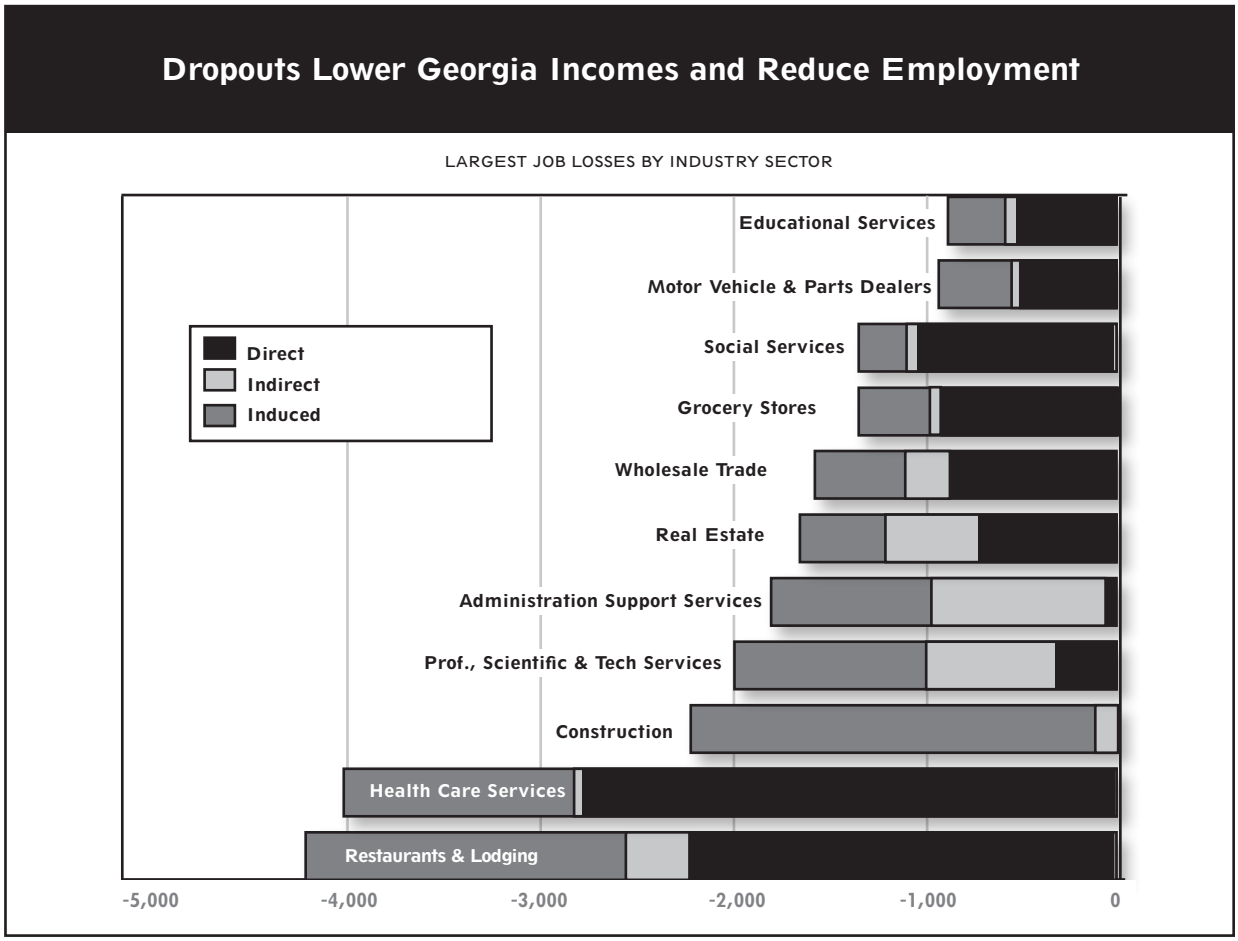
The lower earnings of Georgia's dropouts have a significant impact on the Georgia economy. Higher-quality, well-paying jobs require more productive workers with higher levels of education. Georgia's relatively high percentage of dropouts reduces the overall productivity of the Georgia labor force and of the state's economy. Jobs in growing sectors of our nation's economy increasingly require well-educated workers and are more concentrated in regions with relatively higher levels of educational attainment in the workforce.

As noted earlier in this report, Georgia has been able to offset some of the economic implications of having among the lowest high school graduation rates in the country by its ability to attract educated workers from other states. Although viable economically, relying on imported "talent" or "human capital" does little to improve the economic opportunities and life outcomes of Georgia's native young people. The addition of tens of thousands of dropouts each year reduces the potential productivity and earnings of the Georgia economy. If even a small fraction of Georgia's more than 760,000 working-age dropouts had graduated from high school, the increase in earnings would be substantial. A more productive workforce and higher incomes would result in increased spending on goods and services, which would produce large "multiplier" effects.

Figure 7 highlights some of the larger employment reductions in broad employment sectors that are attributable to the lower earnings and resulting expenditures of dropouts. We used the IMPLAN economic modeling system to construct an economic model of the Georgia economy to estimate the employment impacts of the reduced earnings

of Georgia dropouts.[22] We modeled the impacts as a reduction of $5.5 billion in income among Georgia households in the $15,000 to $25,000 income range. The reduced income of dropouts, from direct expenditures and as a result of indirect and induced multiplier effects, results in about 62,492 fewer full- and part-time jobs, or about 1.5 percent of total Georgia employment.

Figure 7



3. Dropouts decrease Georgia tax revenue by $728 million each year

The higher income of high school graduates relative to dropouts is a substantial private benefit to individuals graduating from high school, but it also produces public benefits to Georgia taxpayers. Better-educated individuals increase the productivity of the state's economy. In addition to increasing the earnings of Georgia residents, higher graduation rates provide additional tax and fee revenues for state and local governments in Georgia.

We use data on the average earnings of Georgia dropouts and high school graduates (ages 20-64) from CPS to calculate hypothetical tax liabilities using the "TAXSIM" models developed by the National Bureau of Economic Research. These federal and state-level models estimate tax liabilities based on existing federal and state tax laws and marginal tax rates, including all available tax credits and exemptions. We make some simplifying assumptions in calculating tax liabilities. We had no data on spousal income for the population of high school dropout taxpayers, so we treated all taxpayers as if they filed as single taxpayers. We calculate state tax liabilities for taxpayers with zero to three dependent child exemptions and weighted the number of returns according to the percentage of dropouts in Georgia with and without dependent children, as indicated by CPS data. Because there are a number of additional tax deductions, exemptions, or credits that apply to taxpayers age 65 and older, we limit our tax analysis to residents under the age of 65. We are unable to capture the complexities of individual tax filings when trying to model more than 760,900 tax returns of working-age dropouts, but our results provide a reasonable estimate that is likely to be within a few percentage points of the true income-tax cost associated with the earnings differential between high school graduates and dropouts.

Table 3 shows the estimated impact of dropouts on Georgia tax revenues, including state income-tax liability for eight combinations of taxpayer types. Lower earnings of Georgia's working-age dropouts result in state income-tax revenues that are $330 million lower (or about $434 lower per working-age dropout) than they would be if all residents had attained a least a high school diploma. The $5.5 billion in reduced statewide earnings attributable to dropouts also results in lower consumer spending, which in turn reduces other tax and fee revenue by more than $398 million (or about $523 per dropout), including sales, property, and corporate tax revenue, as well as fees and licenses. Dropouts reduce combined tax and fee revenue by an estimated $728 million annually in 2006 dollars, or about $957 for each of Georgia's 760,968 residents (ages 20-64) who lack at least a high school diploma.

Table 3

Dropouts Reduce Georgia Tax Revenue by $728 Million Each Year

		Tax Payments by Dependent Exemptions			
	Total Income	No Children	1 Child	2 Children	3 or More Children
HS Grads	$25,166	$1,020	$840	$656	$480
Dropouts	$17,994	$585	$400	$215	$72
Difference		$435	$440	$441	$408
X					
Dropouts (Ages 20-64)		475,634	118,209	91,690	75,434
Lost Income Tax Revenue		$206,900,790	$52,011,960	$40,435,290	$30,777,072

Total Lost Income Tax Revenue:	**$330,125,112**
Other Lost Tax & Fee Revenue:	**$397,821,777**
Total Annual Revenue Loss:	**$727,946,889**

4. Georgia's dropouts are twice as likely to rely on Medicaid, increasing state Medicaid expenditures by $435 million each year

Individuals who fail to obtain at least a high school diploma are at a much greater risk for reliance on government safety-net programs such as Medicaid, Temporary Assistance to Needy Families (TANF), housing assistance, and food stamps. The probability of being a beneficiary of one or more public-assistance programs increases dramatically for individuals who do not have at least a high school diploma.

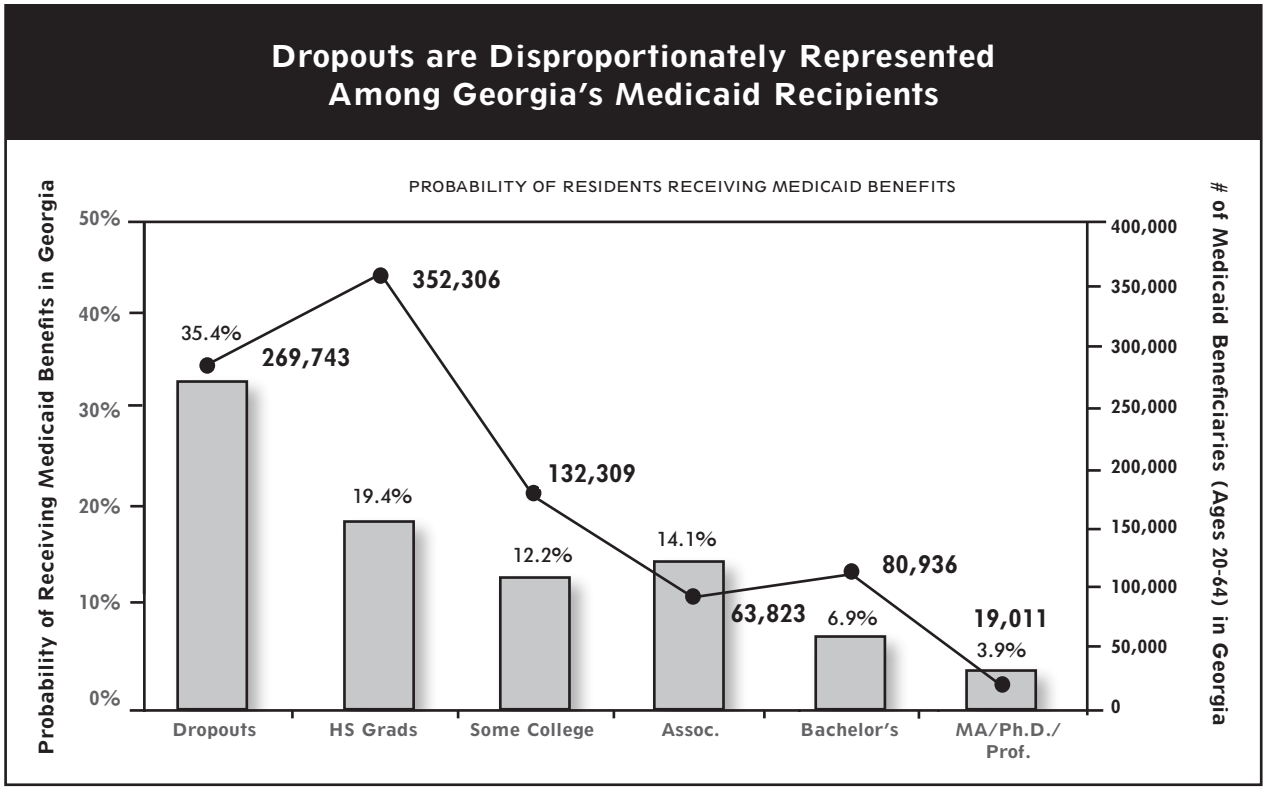
We focus on the Medicaid program to illustrate the impact of dropouts on government safety-net expenditures in Georgia. Medicaid is the largest and most costly – expenditures in Georgia reached $7 billion in 2007. More than $2 billion came from state sources of revenue (and not federal matching funds). Combined state and federal funds for Medicaid account for 20.2 percent of the total budget of the state of Georgia in 2006, just below the national average of 21.5 percent.[23]

The cost of Medicaid, which provides health care for lower-income individuals, is shared by the state and federal governments. The state of Georgia paid just over 30 percent of the cost in 2007.[24] Twenty percent of Georgia's population - about 1.8 million people - were enrolled in one or more Medicaid benefit programs in 2005. This figure is near the U.S. average for all states, and Georgia ranks 19th among all states on the percentage of population enrolled in Medicaid.[25] The 49 percent of all births in Georgia that were paid for by Medicaid is significantly higher than the average for all states - 41 percent.[26]

The probability that an individual in Georgia will be a Medicaid beneficiary is strongly related to his or her educational attainment. Based on the CPS data, the probability that a high school dropout or a dependent child in

Georgia receives Medicaid benefits is 35.4 percent. The probability drops to 19.4 percent for high school graduates and continues to decline as educational attainment increases. (see Figure 8)

Figure 8



Source: Author's analysis of US Census Bureau's "Current Population Survey," (March Supplement 2005-07), data for Georgia.

The CPS is known to underestimate the number and percentage of public-assistance recipients because of limitations on the individuals included in its samples.[27] Overall, the CPS estimates Medicaid enrollments in Georgia to be 16 percent of the population. Usage data reported by the Center for Medicare and Medicaid Services (CMMS) yield an estimate of 20.2 percent for Georgia. We use CPS estimates because they include demographic information about recipients (such as educational attainment) not available from the CMMS. The result of using CPS data is likely to be a conservative estimate of the impact of educational attainment on Medicaid expenditures. It highlights the relationship between educational attainment and public-assistance costs, but it will produce a low estimate for dropout costs and subsequent impacts of education reform on public costs and benefits.

To estimate the Medicaid costs attributable to dropouts, we compare the probability that a Georgia high school dropout, or a dependent child, would be on Medicaid to the same probability for high school graduates (35.4% vs. 19.4%). We use this comparison to determine the difference in the number of expected Medicaid recipients among high school dropouts and graduates, and multiply this difference by the average cost per Medicaid recipient (not including the costs of elderly recipients, or administrative costs).[28] We multiply the estimated number of dropouts currently on Medicaid by the average cost per Medicaid recipient. We then estimate the reduction in the number of people who would be on Medicaid if all high school dropouts had obtained diplomas. We then calculate the corresponding change in Medicaid costs.

Table 4 presents estimated dropout-related Medicaid costs. We estimate if all working-age Georgia dropouts had received high school diplomas, there would be 122,129 fewer Medicaid recipients. Today, each of these cases would save Georgia an average annual cost of $3,560, for a total savings in Medicaid expenditures of $434.8 million. Because the CPS is known to underestimate the number of Medicaid recipients in the population, as noted above, these figures will underestimate the actual cost of Medicaid related to dropouts in Georgia. In addition, Medicaid expenditures per dropout are higher than those expenditures for individuals with higher levels of educational attainment. In other

words, the average cost for every dropout enrolled in Medicaid is likely to be higher than the overall average for all enrollees. Again, this is a conservative estimate.

Table 4

Higher Medicaid Use by Dropouts Costs Georgia Millions Each Year

	Population Ages 20-64	% On or w/ Child on Medicaid	# On or w/Child on Medicaid	Total Cost = Recipients x Average Cost	# on Medicaid if All Graduated	Total Cost = Recipients x Average Cost
Dropouts	760,968	35.4%	269,743	$960, 285,080	0	$0
HS Grads	1,816,186	19.4%	352,306	$1,254,209,360	499,920	$1,779,713,459
Some College	1,082,367	12.2%	132,309	$471,020,040	132,309	$471,020,040
Associate's Degree	454,000	14.1%	63,823	$227,209,880	63,823	$227,209,880
Bachelor's Degree	1,166,682	6.9%	80,936	$288,132,160	80,936	$288,132,160
Master's	343,011	4.2%	14,418	$51,328,080	14,418	$51,328,080
Ph.D./Prof.	144,900	3.2%	4,637	$16,507,008	4,637	$16,507,008
TOTAL	**5,768,114**		**918,172**	**$3,268,691,608**	**796,042**	**$2,833,910,627**
DIFFERENCE (ANNUAL MEDICAID COSTS OF DROPOUTS)					**112,129**	**$434,780,981**

5. Dropouts raise public assistance payments

In addition to higher enrollments and increased Medicaid expenditures, dropouts are much more likely to receive other forms of public assistance than are individuals with at least a high school diploma. Georgia spent an estimated $558 million on various public assistance programs in 2007.[29] Temporary Assistance to Needy Families is the largest state public assistance program, accounting for an estimated $170 million to approximately 50,000 families in Georgia.[30] High school graduates are almost one-half as likely to receive TANF direct cash payments or subsidized services as are dropouts. We estimate that the annual public assistance costs attributable to dropouts are approximately $67 million per year.

6. Poorer health of dropouts increases costs for all health care consumers

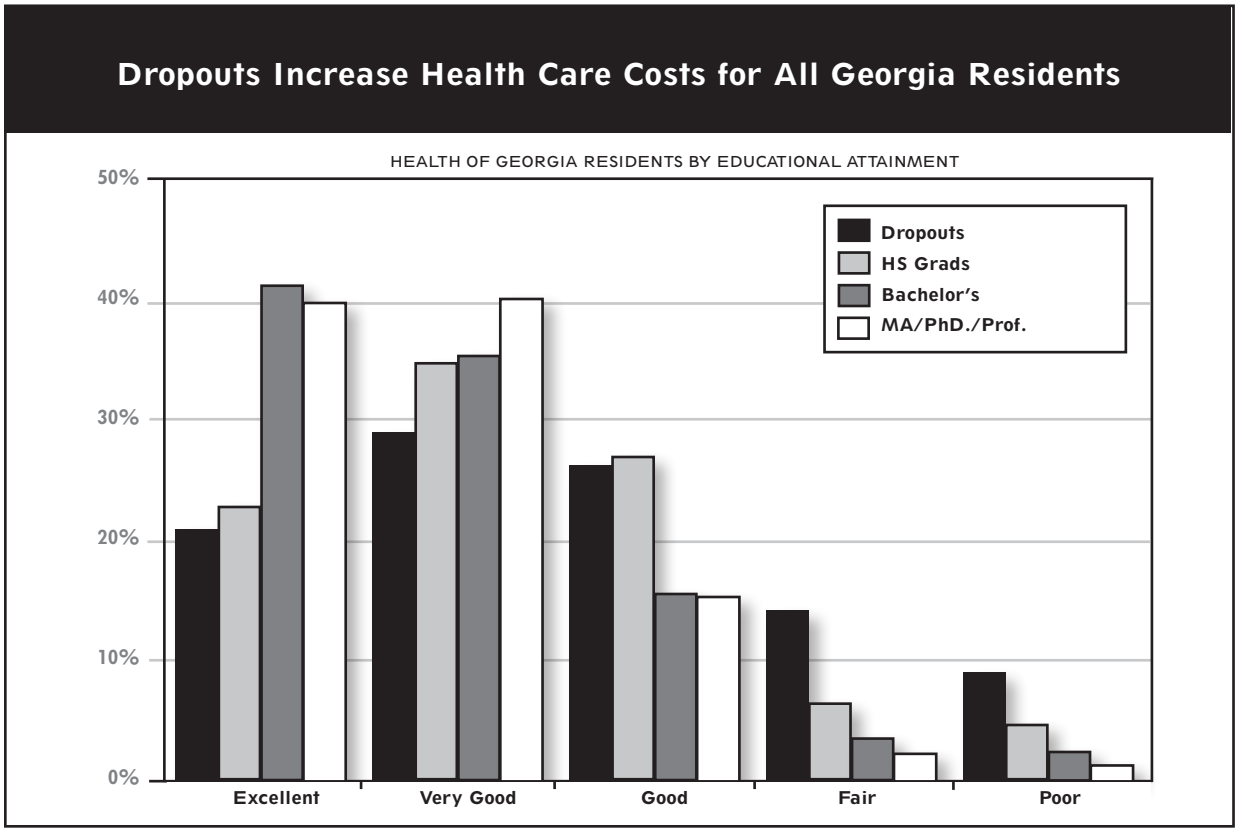
Figure 9 shows that dropouts in Georgia are, in general, in poorer health than Georgia residents who have obtained a least a high school diploma. Dropouts increase the cost of state and federal health care programs because they are less likely to be covered by employers or other privately provided health insurance, and because their lower income levels qualify them for publicly provided health insurance. But even when they do not receive publicly provided health coverage, the impact of dropouts on health care costs can be significant if they are unable to pay for the health care services they use.

Rising health care costs have resulted in an increasing percentage of "uncompensated care" among health care providers. Only 37.7% of working-age dropouts in Georgia are covered by private health insurance, compared to 62% for high school graduates and 84.3% for college graduates.

Uncompensated care increases the cost of health care and health insurance because it results in the shifting of health care costs onto the individuals and insurance providers who do pay for health care. The poorer health of

dropouts increases the cost of publicly provided health care coverage (Medicaid and Medicare) and exacerbates the problem of uncompensated care that increases the cost of health care for private payers.

Figure 9



Source: Author's analysis of U.S. Census Bureau, "Current Population Survey," (March 2005-07), supplement data.

7. Each dropout increases Georgia's incarceration and supervision costs by $917 per year

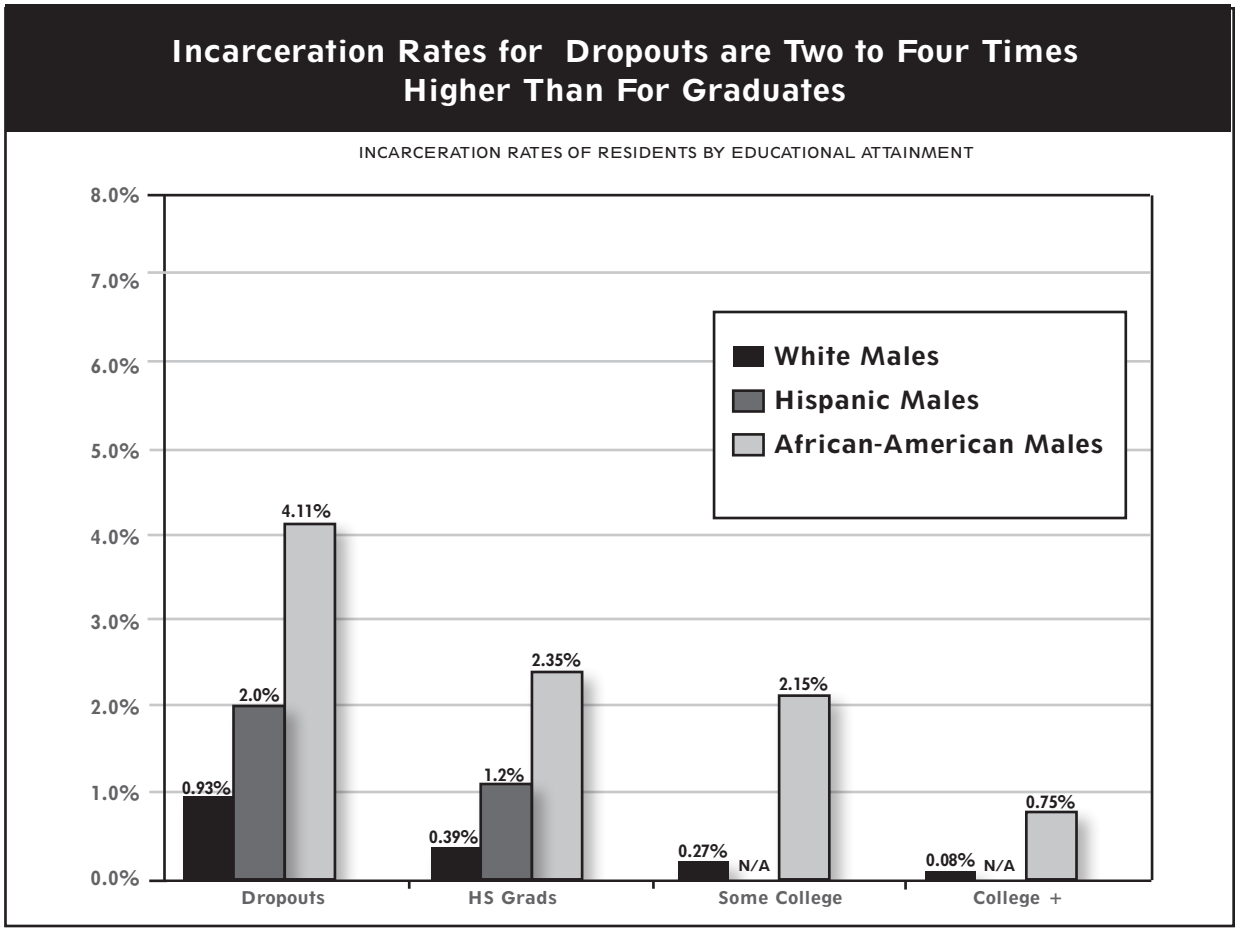
Incarceration rates vary greatly by educational attainment. According to the Georgia Department of Corrections, 68 percent of inmates admitted to Georgia jails in 2007 lacked either a high school diploma or a General Equivalency Diploma (GED).[31] Georgia has among the lowest annual incarceration costs per inmate (about $17,200 in 2007) of any state in the nation.[32] The state spent just over $1 billion for its correctional system in 2007, of which all but $12 million came from state funds.[33] Largely because it has reduced per-inmate incarceration costs, Georgia spends a smaller percentage of its budget on corrections than the average state (3.1% vs. 3.4%).

Although the chances are small that any one individual will be incarcerated, a Georgia high school dropout is two to four times more likely to be incarcerated than a high school graduate. Our estimates of the incarceration costs associated with dropouts rely on differences in the probability that individuals with different levels of educational attainment will be incarcerated in any one year. Because males account for the vast majority of incarceration costs, we calculate the impact of dropouts on incarceration costs using only male high school dropouts in Georgia.

Figure 10 shows the probability of white, Hispanic and African-American male dropouts being incarcerated at some point during their lifetimes, based on two separate analyses of incarceration rates. In calculating the impact of dropouts on earnings and Medicaid costs, we relied on the individual responses by Georgia residents to monthly CPS surveys. For incarceration costs we had no direct individual measures of educational attainment, criminal activity and incarceration in Georgia. Instead, we relied on previous research by others for our estimates of the impact of dropouts on incarceration rates.[34] We use these estimates to determine the likely number of Georgia dropouts from each graduating class cohort who can be expected to be incarcerated in any year during their working-age lifetimes.

We use data on the average sentence, average time served, recidivism, and parolees as reported by the Georgia Department of Corrections to compute an average cost per incarceration.[35] We then multiply this figure by the number of incarcerations to determine the incarceration costs for each year's class of dropouts. Our cost calculations do not include any costs for policing or prosecuting, or any administrative or capital costs of the prison system, nor do we factor in the costs of crime to victims, property loss or any of the societal benefits associated with lower levels of crime. Adding the total cost of the first incarcerations to the cost of recidivism and supervision costs gave us a total cost of incarceration for one year's worth of dropouts.

Figure 10



Source: Moretti, E., "Does Education Reduce Incarceration Rates."

Table 5 presents our estimates the impact of dropouts on annual incarceration costs. Projecting incarceration costs requires an estimate of dropouts by race, sex and ethnicity.[36] We use Warren's ECR estimate of Georgia graduation rates and adjusted them to account for recent reported increases in graduation rates to develop our estimates of incarcerations attributable to one year of dropouts in Georgia.[37]

We calculate the expected number of incarcerations in any one year during their lifetimes for each class of dropouts, based on the number of dropouts that year in the state of Georgia. We then calculate the number of incarcerations expected if all those students had graduated. The impact of dropouts on incarceration costs is the difference between the costs associated with the expected annual incarcerations among a given class of dropouts and the costs associated with the expected annual incarcerations among those same students if they had not dropped out.

Table 5 shows that the 2007 class of dropouts is expected to result in 681 incarcerations in any one year during their lifetimes, but only 341 annual incarcerations if all those students had graduated. Eliminating dropouts in Georgia would reduce the number of incarcerations in each class of students by about 44 percent and lower the total lifetime incarceration costs by $3 million per class.

Table 5

On Average, Each Dropout Increases Annual Incarceration Costs by $917

	2004	2005	2006	2007
Total Graduates	64,532	66,311	73,186	74,165
Dropouts	41,085	39,617	40,989	38,891
Cohort African-American Dropouts	20,625	19,888	20,576	19,524
African-American Male Dropouts	12,952	12,490	12,922	12,261
Cohort Hispanic Dropouts	2,041	1,968	2,036	1,932
Hispanic Male Dropouts	1,231	1,187	1,228	1,165
Cohort White Dropouts	18,077	17,432	18,035	17,112
White Male Dropouts	10,376	10,006	10,352	9,822
Total Expected Incarcerations with Dropouts	657	633	655	622
African-American	25	24	25	23
Hispanic	100	96	99	94
White	532	513	531	504
Total Expected Incarcerations w/out Dropouts	359	347	359	340
African-American	304	294	304	288
Hispanic	15	14	15	14
White	40	39	40	38
Total Expected Reduction in Incarcerations	297	286	296	281
African-American	228	220	227	216
Hispanic	10	9	10	9
White	59	57	59	56
Projected Incarceration Costs ($ millions)	$9.83	$10.45	$11.03	$10.66
Incarceration Costs With No Dropouts	$4.45	$4.73	$4.99	$4.82
Total Cost For Initial Incarceration	$20.28	$21.55	$22.75	$21.99
Recidivism Cost @ 0.6 Initial Costs	$12.17	$12.93	$13.65	$13.19
Community Supervision Costs	$0.49	$0.48	$0.49	$0.47
Total Incarceration Costs of Dropouts	$32.94	$34.96	$36.90	$35.65
TOTAL COSTS PER DROPOUT	**$802**	**$882**	**$900**	**$917**

Earlier in this report we reviewed two 2007 studies by economists at the Center for Labor Market Studies (CLMS), at Northeastern University, that estimate some of the costs associated with dropouts.[38] Using more recent estimates of incarceration rates from the 2000 Census and a different methodology, the CLMS studies estimate that the average annual incarceration cost for male dropouts in is $1,720 Massachusetts and $1,297 in Illinois. The average differences between annual lifetime incarceration costs of dropouts and high school graduates are estimated to be $904 and $773 per dropout, respectively.[39] These figures are close to our estimated figure of $917 for Georgia. Relatively small differences in estimated costs can be accounted for by differences in methodological factors as well as such things as the racial and ethnic composition, as incarceration rates vary dramatically across demographics.

8. Dropouts cost Georgia taxpayers almost $2,500 each year after leaving school

On average, dropouts will cost Georgia taxpayers about $2,500 in increased expenditures and lost revenue, each year after leaving school. (see Table 6) The annual costs of lost tax revenue, increased Medicaid use and increased incarcerations associated with just one year's class of dropouts (an estimated 38,891 in 2007) is at least $95 million. It is reasonable to conclude that the public cost of Georgia dropouts is substantially greater than our calculations because there are many other costs associated with dropouts not documented in this study. Also, reduced earnings patterns follow graduates their entire lives - incarceration and Medicaid are multi-year costs.

It is important to emphasize the state will continue to incur the cost of each dropout for decades. Citizens of the state of Georgia continue to pay for the state educational system's failures well into the future. Over their expected

working-age lifetimes of an additional 50 years, the public cost of one year's class of dropouts is $4.8 billion, or $2.2 billion in discounted "present value" terms (discounting at 3.5% each year).

Table 6

Each Dropout Costs Georgia an Additional $2,455 Each Year	
Lost Tax Revenue	$957
Incarceration Costs	$917
Medicaid and Public Assistance Costs	$584
Annual Public Costs Per Dropout	**$2,458**

Policies to Increase Graduation Rates and Reduce Dropouts

In their California study, Levin and Belfield consider the policies they believe will increase graduation rates: reducing class sizes and increasing teacher pay. Table 7 summarizes the authors' calculations for the net benefits to California state and local governments by reducing each dropout.

Table 7

Estimated Return on Investment by Policy in California	
Policy	**Net Benefit Over Cost (Per Dropout Reduced)**
Increasing Teacher Pay 10%	$-10,221
Reducing Class Size	$-77,420
Reducing Class Size Only for Free/Reduced Lunch Students	$-26,480

Source: Belfield, C., & Levin, H., "The Return on Investment for Improving California's High School Graduation Rate", California Dropout Research Project Report #2, August 2007.

Anticipated savings to the federal government are not included in Table 7. Approximately two-thirds of savings benefits associated with lowering dropout rates are at the federal level. According to Belfield and Levin, the costs of the solutions to the dropout problem are primarily borne by state and local governments, and so the net benefits of these alternative solutions tend to be lower than their costs for state and local governments. Benefits to the federal government will be largest in the states with the most severe dropout problems. Costly solutions such as smaller class sizes and higher teacher pay will be especially onerous for high dropout/less wealthy states who would experience large spending increases for limited benefits. The federal government will receive the largest share of the benefits. These policy solutions make little economic sense if Belfield and Levin's analysis is correct.

The Center for Labor Market Studies (CLMS) recommends more targeted policies, but it does not provide estimates for return on investment. Because of their targeted nature, and because many of the initiatives are supported in part or whole by federal funds, CLMS recommendations are likely to produce a better return on investment for state and local governments, and are likely to be less regressive.

Neither analysis estimates the potential impact of school choice policies on graduation rates and the cost of dropouts (considering an increase in schooling opportunities for families and increasing school-to-school competition to attract students). via school choice initiatives would have, despite the fact that there is increasing evidence of the effectiveness of choice in increasing graduation rates.

1. Competition from private schools improves graduation rates

We review evidence that school choice policies have improved graduation rates, either directly when children involved in choice programs exhibit higher graduation rates, or indirectly when public schools respond to competition from private schools by improving productivity and student achievement. Most research on school choice policies examines effects on students participating in school choice programs. A more complete characterization of the effects of school choice would include the impacts of school choice on the graduation rates of those students who remain in public schools as well.

As we have highlighted, the public costs associated with high school dropouts in Georgia are large. If competition from private schools is associated with higher graduation rates in public schools, then a school choice policy will effectively increase the productivity of public schools and confer large public benefits by reducing the number of high school dropouts.

Warren (2008) shows that participants in the Milwaukee school voucher program were much more likely to graduate from high school in three of the past four years (with the only exception a year in which the Milwaukee public schools inexplicably had a graduation rate 13 percentage points above prior and subsequent years). On average, graduation rates for Milwaukee voucher students were 10 percentage points higher than for those students in the Milwaukee public schools.[40]

Assessing the impact of competition from private schools on nearby public school graduation rates requires sophisticated statistical methods. Studies rarely employ methods rigorous enough to sufficiently control for factors aside from competitive forces that might explain the relationship between private school competition and public school graduation rates. Some studies have employed appropriate methods, and they provide a growing body of evidence that competition from private schools improves achievement in neighboring public schools. Caroline Hoxby provides a review of this evidence.[41] Thomas Dee used data from all U.S. counties from the National Center for Education Statistics' Common Core of Data and found that most studies of the relationship between competition and public school graduation rates "dramatically underestimate the effect of competition from private schools on the rate of high school completion in public schools."[42] Dee's findings imply that an increase in the percentage of students enrolled in private schools equal to one standard deviation (or about 6.8 percentage points of total enrollment in Georgia) is associated with a 1.7-percentage-point decline in the overall public school dropout rate. There is a 3.4-percentage-point decline in dropouts in public school districts where at least 20 percent of students are non-white.

According to data from the U.S. Census, the percentage of Georgia students in grades 1-12 who are in private schools is about 7.6 percent (or more than 133,000 students). However, there are large differences in the percentage of students enrolled in private schools across Georgia's communities. Private school enrollment is higher in larger communities. Many small communities have no children enrolled in private schools. To analyze the impacts of competition on high school graduations, we use data from communities with at least 250 children in grades 1-12. Private school enrollment in these communities averages about 8 percent, though there is still a wide variation in enrollment levels (as evidenced by a standard deviation of 6.8 percentage points).

Our analysis of the public benefits of private school competition uses the parameter estimates from Dee's research and applies to graduation rates (percentage of students in private school and standard deviation of private school enrollment for Georgia). This procedure results in a point estimate of the elasticity of public school graduation rates in Georgia with respect to competition from private school enrollment - a 3.6 percent increase in graduation rates for each one standard deviation increase in private school enrollment in Georgia. A one standard deviation increase in the percentage of students enrolled in private schools implies an increase in private school enrollment of 108,109 students (from 1.58 million Georgia public school students) and a resulting reduction in dropouts from public schools of 4,590 students.

2. A modest school choice policy would reduce Georgia public school dropouts by approximately 5,490 students per year, saving $13.5 million annually

In this section we analyze the impact of a school choice policy that would increase enrollments in private schools by allowing Georgia children to attend the public or private school of their choice.

Increased school choice and private school enrollments will reduce dropouts and increase graduation rates in two ways. First, Milwaukee evidence demonstrates that students who participate in a school choice program will complete high school at higher rates than if they remained in Georgia's public schools. Second, Dee's research shows that an increase in private school enrollments should improve Georgia public school graduation rates due to improved competitive incentives. We calculate that increasing the percentage of Georgia children enrolled in private schools by 6.8 points would generate:

- About 108,109 additional students enrolled in private schools.
- 4,590 fewer dropouts from Georgia public schools each year, due to the positive incentives provided by competition from private schools.
- 900 fewer dropouts from among the 108,109 students participating in the choice program.[43]
- Increased tax revenues and reduced Medicaid, public assistance and incarceration costs of $13.5 million annually as a result of the reduction in public school dropouts.
- Total public benefits of between $674 million over an expected lifetime of 50 years for each class of reduced dropouts. The present value of these lifetime benefits, discounted at 3.5 percent each year, is $316 million. The total value of the lifetime public benefit of preventing a single public school dropout is approximately $122,750, or a present value of $57,784.

Table 8 presents our calculations of the public benefits that would result from even a modest school choice program in Georgia. Changing the size of a program to provide school choice to a larger percentage of Georgia's school-age children and introducing more competition into Georgia's education system would increase the magnitude of these impacts. The potential public benefit of reducing the number of dropouts - in just a few areas of public interest (tax revenue, Medicaid, public assistance and incarceration costs), would be $2,455 annually and $122,750 (with a present value of $57,784) over the working lifetime of each dropout.

Table 8

Estimated Public Benefits of a School Choice Program in Georgia

Total Georgia Public School Enrollment, Grades 1-12	1,589,839	
Cohort of Potential Graduates	113,057	
Current Annual Dropouts	38,891	
Increase in % of Georgia Students in Private Schools	6.8 percentage points	
Annual Dropout Reduction ..... In Public Schools		-4,590
Annual Dropout Reduction ..... Among Choice Students		-900
Total		-5,490
Lifetime Public Benefits of 6.8 Percentage Point Increase in Private School Enrollment		$673,897,500
Lifetime Benefits Discounted to Present Value (at 3.5% per Year)		$316,133,645
Average Lifetime Public Benefit of Reducing Each Dropout		$122,750
Average Lifetime Benefit Discounted to Present Value (at 3.5% per Year)		$57,784

Our estimates of the public costs of dropouts to state and local governments are similar to a few previous studies. However, unlike past research that examines then recommends policies requiring large increases in educational expenditures, this study considers the impact of a school choice policy on graduation rates. If a school choice program

provides aid equal to or less than the current state funding per student, then the program should have little or no additional costs. By comparison, policies recommended by other researchers such as a 10% blanket increase in the wages of teachers would likely cost state and local governments in Georgia between an additional $800 million and $900 million. A policy of reducing class sizes by one-quarter would require an estimated additional $2 billion.[44]

Conclusion

This study highlights the public costs when Georgia students drop out of high school. Our analysis of costs and benefits associated with dropouts includes just a few of the largest state programs where the impact of educational attainment on public costs is likely to be most significant. Most importantly, this study uses objective empirical methods to document the public cost and benefit implications of education policies that often are debated solely on the basis of their impact on individuals.

Each student who fails to graduate from high school in Georgia creates large public costs. While this fact has been intuitively understood for some time, this study empirically assessed the cost effectiveness of policies that seek to improve the performance of Georgia's public schools and compare them with more familiar policies often recommended by organizations that represent public school employees.

We conclude that introducing more competition into K-12 education in Georgia would significantly improve public high school graduation rates, that the impact of competition provides a compelling and cost-effective method for improving the productivity of public schools, and that this would bring about a large reduction in the public costs associated with dropouts. Our analysis indicates that a school choice program would provide large public benefits.

Endnotes

[1] Editorial Projects in Education Research Center, "Diplomas Count: High School Graduation in Georgia," October 2006; University of Georgia Institute for Public Service and Policy Research, "The High School Crisis in the United States and Georgia: The Problems Related to Dropouts and Recommended Solutions," May 2005; Annie E. Casey Foundation, "Kids Count Data Book 2006."

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[16] As reported by the Georgia Department if Education.

[17] To adjust for gender differences and for the most current year, we simply applied the same ratio of grad rates between the Warren estimates and the Official Georgia estimates and inflated each year's graduation rate (beyond the 2004 Warren estimate) by the most recent trend in graduation rate changes (an increase of 1.5% in each of the most recent three years of the Warren data from 2001 to 2004). While less than ideal, it allows us to make use of the best available estimates of graduation rates and trends in their change in Georgia and is likely to produce estimates within a few percentage points using Warren's methodology.

[18] For the earnings calculations here, we limited the age range to 20-64 because labor force participation drops significantly after this age, as do wage and salary earnings, while Social Security income increases among all categories of educational attainment.

[19] Sum, A, et. al. "An Assessment of the Labor Market, Income, Health, Social, and Fiscal Consequences of Dropping Out of High School: Findings for Illinois Adults in the 21st Century, " The Center For Labor Market Studies at Northeatern University, October 2007.

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[21] This estimate is appropriate to illustrate the earnings impact of educational attainment, but it does not consider the "equilibrium effects" that would occur in the Georgia labor market if all dropouts actually did graduate – that is, the ways in which the larger economy would change as a result of such a dramatic rise in high school graduation rates.

[22] IMPLAN Professional Modeling System, Version 2.1, Minnesota IMPLAN Group Inc., Stillwater, Minn.

[23] National Association of State Budget Officers, "State Expenditure Report, 2006," November 2007.

[24] The Medicaid matching rate for Georgia was 30.11 percent in 2005, 30.68 percent in 2006 and 30.46 percent in 2007 for most but not all Medicaid services.

[25] Centers for Medicare and Medicaid Services, U.S. Department of Health and Human Services, MSIS state summary data. Note that some of these beneficiaries qualify on more than one basis and may receive multiple services, thus some of the 1.8 million are the result of being double counted or more.

[26] Kaiser Family Foundation, "State Health Facts", accessed via world wide web at: http://www.statehealthfacts.org/profileind.jsp?ind=223&cat=4&rgn=12.

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[28] We did not include the average cost of elderly Medicaid recipients in calculating a weighted average cost per Medicaid beneficiary because we are estimating the impact of educational attainment of Medicaid expenditures of working-age Georgians, even though the incidence of Medicaid enrollment among the elderly is strongly related to educational attainment. The result is likely to understate the actual impacts of educational attainment on total Medicaid expenditures in Georgia.

[29] National Association of State Budget Officers, "State Expenditure Report: Fiscal Year 2006", Fall, 2007.

[30] U.S. Department of Health and Human Services, "TANF Eighth Annual Report to Congress".

[31] Georgia Department of Corrections: "Inmate Statistical Profile: Inmates Admitted During FY2007", July 2007.

[32] Georgia Department of Corrections, "Annual Report" 2007.

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[35] Data on length of sentences and percentage of sentence served were derived using data in the Georgia Department of Corrections' reports: "Inmate Statistical Profile: Inmates Released During 2007" and "Inmate Statistical Profile, Inmates Admitted During 2007". Annual incarceration and supervision costs obtained from the "Annual Report of the Georgia Department of Corrections" July 2007.

[36] In developing our estimates of dropouts we do not include students who graduate in any manner other than with a full high school diploma. This treatment essentially avoids treating student with alternative forms of high school completion either favorably (as graduates) or unfavorably (as dropouts). It does, however, likely understate the costs of one year of high school cohorts.

[37] Warren, J.R. , Halpern-Manners, A., "Measuring High School Graduation Rates at the State Level: What Difference Does Methodology Make?", paper presented at the April 2007 meetings of the Population Association of America.

[38] Sum, A., et. al, "The Fiscal Economic Consequences of Dropping Out of High School: Estimates of the Tax Payments and Transfers Received by Massachusetts Adults in Selected Educational Subgroups", Center for Labor Market Studies, January, 2007.

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[41] Hoxby, C., "School Choice and School Competition: Evidence from the United States," Swedish Economic Policy Review 10 (2003).

[42] Dees, T., "Competition and Quality of Public Schools," Economics of Education Review 17:419-427 (1998).

[43] We assume that students in the choice program would be distributed evenly across 12 grade levels. This simplifying assumption results in a potential graduating cohort of 9,009 students. Apply the current Georgia public school graduation rate and an increase of 10 percent as was found among choice students in Milwaukee produces an estimated increase in graduations (reduction in dropouts) of 900 students.

[44] These estimates are based on reported school district instructional staff expenditures as reported by the Georgia Department of Education in 2007.

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