

SCHOOL CHOICE

# ISSUES

IN THE STATE



**Parent Choice for Georgia:**

Many agree with the concept. Some disagree. And some simply want more information. As the public debate continues to grow louder about how best to provide a quality education to all Georgia children, it is critical to know the facts about parent choice, and to have an understanding of 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 Fiscal Impact of Tax-Credit Scholarships in Georgia

Prepared By:

**Brian Gottlob**

Senior Fellow

Friedman Foundation for Educational Choice

February 2008

Study released jointly by the Friedman Foundation for Educational Choice, Alliance for School Choice, Georgia Public Policy Foundation, Americans for Prosperity, Black Alliance for Educational Options, and Georgia Family Council

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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# THE FRIEDMAN FOUNDATION

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# Executive Summary

This study seeks to inform the debate over a proposal in Georgia to give tax credits for contributions to organizations that provide scholarships to K-12 private schools. Such a program would extend to K-12 education the philosophy of choice that is inherent in the state's existing Hope Scholarships program for college students. This study constructs a model to determine the fiscal impact of tax-credit scholarships on the state and on local school districts.

In addition to allowing Georgia to expand educational opportunity and improve the equity of its education system, a tax-credit scholarship program would generate large fiscal benefits for local school districts, increasing the available resources for students who remain in public schools. Because much of their revenue does not vary with enrollment, school districts would retain much of the funding associated with students who use scholarships to migrate from public to private schools. The overall impact on public schools would be to increase the financial resources available per student. Depending on how the program is designed, it could also result in a fiscal savings to the state budget. Even if it does not produce a savings at the state level, costs to the state would be significantly reduced because public school spending would go down as students leave with scholarships.

Key findings include:

- When students leave Georgia public schools, their local school districts experience reductions in expenses that are greater on average than the reduction in their state aid. In addition, school district revenues from local sources do not decline when enrollments decline. Because expenses decline more than revenues when students leave public schools, private school scholarships produce a net gain of resources available to students who remain in public schools. The gain is equal to about \$6,600 per public school student using scholarships.
- The total fiscal impact of a tax-credit scholarship program depends on the number of public school students who are induced to participate. This in turn depends on a number of program design factors, such as income eligibility levels, the size of the scholarships and the total amount of available scholarship funding. The study uses data from the Census and other sources to estimate how public school families might respond to a tax-credit scholarship program with various design features.
- A scholarship program for current public school students that provided \$50 million in scholarship funding; established income eligibility at 200 percent of the free and reduced-price lunch level; and awarded scholarships of \$3,500 each would produce a total fiscal benefit of \$94 million for local school districts.
- The impact of the program on the state budget depends on program design features as well. For example, a program with the design features in the example above would produce a savings of almost \$6 million for the state.
- Raising the income eligibility for scholarships always increases the fiscal benefit of the program, because more public school students would be eligible for scholarships and eligibility is increased most among income groups that have the highest propensity to migrate from public to private schools.
- A tax-credit scholarship program is a more efficient way to direct dollars to education than increasing state aid. Georgia data show that every dollar of increased state aid to schools only produces an additional 53 cents of additional school spending, because local governments respond to the state spending increase by reducing local spending on education. By contrast, every dollar spent on a tax-credit scholarship program is a full dollar that goes to education.

## About the Author

Brian J. Gottlob ([bgottlob@poleconresearch.com](mailto:bgottlob@poleconresearch.com)) is the principal of PoEcon 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 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 New Hampshire, a member of the Advisory Board of the New England Economic Partnership and a member of the National Association of Business Economics. Prior to founding PoEcon, 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.

## About the Friedman Foundation for Educational Choice



The Friedman Foundation for Educational, 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 Alliance for School Choice



The Alliance for School Choice works to build support for and implement publicly funded school choice programs that provide low-income families with educational opportunity. In doing so, the Alliance not only protects those programs that are already serving families in need, but also expands and enhances them and—most importantly—initiates new, larger and even more effective models.

## 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, policy-makers 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.

## About the Americans for Prosperity



Americans for Prosperity (AFP) and Americans for Prosperity Foundation (AFP Foundation) are committed to educating citizens about economic policy and mobilizing those citizens as advocates in the public policy process. AFP is an organization of grassroots leaders who engage citizens in the name of limited government and free markets on the local, state and federal levels. The grassroots members of AFP advocate for public policies that champion the principles of entrepreneurship and fiscal and regulatory restraint

## About Black Alliance for Educational Options



The Black Alliance for Educational Options (BAEO) is a national, nonprofit, nonpartisan membership organization whose mission is to actively support parental choice to empower families and increase quality educational options for Black children. Staunch in its belief that parental choice must be an integral part of any serious effort to reform education in America, BAEO believes parental choice programs, which lead to the creation of quality educational options, not only rescue the children who can take advantage of such opportunities but also create powerful incentives for all schools, public and private, to improve.

## About the Georgia Family Council



Georgia Family Council (GFC) is a non-profit organization that exists to strengthen and defend the family in Georgia by equipping marriage advocates, shaping laws, preparing the next generation and influencing culture. GFC is working with leaders throughout the state to prevent family breakdown and its costly and devastating effects on the lives of children, adults, businesses and communities.

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## Introduction

Proposals to increase educational opportunities and choices for students of different backgrounds, abilities, needs and economic circumstances are increasing throughout the country. In part, this reflects increasing support among the public for the concept of school choice; a majority of U.S. citizens now support it.<sup>1</sup>

In Georgia, substantial majorities favor school choice. A 2007 opinion poll found that 58 percent of likely voters in Georgia supported school vouchers, while only 22 percent opposed them. Four times as many said they would be more likely to vote for a state representative or senator who supported vouchers as said they would be less likely (54 percent versus 13 percent).<sup>2</sup>

The philosophy of school choice is already inherent in Georgia's Hope Scholarship program for college students. Rather than reserving state support for students who attend colleges assigned to them by the state, Georgia provides support for students to attend the public or private colleges of their choice. The Hope Scholarship program is not limited by income, reflecting a decision on the part of the state that school choice is not just good for poor students, but for students of all demographic backgrounds.

In K-12 education, families in Georgia already exercise school choice in several ways:

- According to U.S. Census Bureau data, about 128,000 school-age children in Georgia attend private schools.<sup>3</sup>
- About 36,000 Georgia students are home-schooled.
- About 26,000 Georgia students attend charter schools.

From 1997 to 2006, home schooling nearly doubled (a 93 percent increase) in Georgia, while private school enrollment increased 25 percent and public school enrollment increased 16 percent. Since 2004, charter school enrollment in Georgia has increased from 14,828 to 26,299 (a 77 percent increase).

But by far the major form of choice in Georgia and in the United States occurs when a family chooses its place of residence. Because higher-quality schools often are found in communities with higher housing prices, this type of school choice is available at a high cost, and is unaffordable to many families. Throughout the United States, affluent families exercise a lot of choice. Georgia families sort themselves among schools and school districts on the basis of parents' income and education. But if education funding were made available to parents, in order to help families have more choices among schools, we would see less segregation on the basis of parental income and education. The positive response by families in Georgia over the past several years to a wider variety of educational options and choices suggests that Georgia should consider the merits of providing even more educational options for school children.

This study uses empirical methods and the tools of economic analysis to examine school choice in Georgia. Empirical analyses allow us to find analytical answers to important policy questions outside the hardened positions of support or opposition that come from viewing school choice simply as a matter of political leanings or ideological principle. Perhaps believing it inappropriate to discuss education in terms of market incentives and pressures, many well-meaning individuals who are deeply concerned about K-12 education ignore, on principle, the educational impacts of market forces and how they influence the behaviors of families and schools. But school choice occurs even in the absence of official or legislatively enacted school choice policies. Unfortunately, the market for K-12 education without universal school choice contains significant imperfections that prevent many families from being able to send their children to the schools that meet their needs.

Our analysis begins with a brief discussion of how Georgia funds elementary and secondary education. We examine the demographics of public and private schools in Georgia and estimate the impact on public and private school enrollments of a program that provides tax credits for donations to support private school scholarships. We develop a model that shows

how the expenditures of Georgia school districts vary with changes in student enrollment, and show the fiscal impacts of a school choice program on Georgia’s state budgets and those of local school districts.

## How Georgia Funds Public Schools

The expense of educating children in Georgia, as in most states, is a responsibility shared between the state and local governments, with the state providing about half the funds used to educate children in local public schools. In 1985, Georgia enacted the Quality Basic Education Act (QBE). Prior to the QBE, the state provided education funds to local districts simply on the basis of the number of students enrolled, without any adjustment for the fiscal resources of each district. Perceived inequalities of education funding among school districts were the driving force behind adoption of the QBE. The QBE finance program is a foundation aid formula designed to equalize the financial resources that each school district has, at a specific tax rate, to meet the cost of providing a basic level of educational services to all public school students in a district.

Funds for capital outlays (school construction) and debt service also are provided by the state, though not through the QBE. Including these funds would require a more complex analysis than can be provided in this study, so they have been excluded.

There are three components of the QBE that distribute state funds to school districts, they are:

- QBE “earnings”
- Categorical grants
- Equalization

### How QBE Works

#### 1) QBE Earnings

The amount of funding each district receives for QBE earnings is determined by the following formula:

$$\text{QBE earnings} = (\text{“Direct” Instructional Costs} + \text{“Indirect” Instructional Costs}) - \text{Local Share}$$

**Direct instructional costs** are the costs of putting a teacher in every classroom. The cost for each student is “weighted” based upon the grade level of the student (K, 1-3, 4-5, 6-8, or 9-12), any special program in which the student is enrolled (Early Intervention Program, special education, gifted, remedial, alternative, middle school, English as a Second Language, or vocational lab), and the established teacher-student funding ratio. These weights reflect the expected costs associated with educating students at different grade levels and with different needs and abilities. The benchmark weight of 1.00 is assigned to a student in grades 9-12 who attends regular classes and receives no special services—the least expensive student to educate. All other students receive a higher weight. The resulting weight for each student is known as the Full Time Equivalent (FTE) count. The FTE count used in the QBE formula is always higher than the actual number of students.<sup>4</sup>

**Indirect instructional costs** include funding for district administration, school administration, staff and professional development, facilities maintenance and operations, media centers and 20 additional days of instruction. These costs are calculated based on system size, school size or student population.

**Local share** refers to the portion of direct and indirect instructional costs that Georgia expects school districts to pay with locally raised funds. Each district is required to raise school funding through local taxes, with the minimum amount

equal to what would be raised by a property tax of at least 5 mils, where one mil represents a \$1 tax on each \$1,000 of real property valuation. By law, local funds should provide no more than 20 percent of the total amount required to provide a “basic education” to all Georgia public school students, but for a number of reasons the percentage has in fact exceeded that amount.<sup>5</sup> In addition to the required local share of 5 mils, school districts may levy up to another 15 mils without asking for voter approval.

**2) Categorical Grants**

Local districts receive state education funds for certain non-instructional purposes such as student transportation, sparsity, principal support and certain low-incidence special education needs. The amount of categorical grants is small: about \$171 million in 2007-08.

**3) Equalization**

QBE earnings provide funds for a basic, adequate education. Equalization is an attempt to address the issue of equity. Because of differences in assessed property wealth, local school districts differ in their ability to raise revenue at similar tax rates. Georgia attempts to overcome some of this inequality by making it easier for some local school districts to fund schools at lower property tax rates. Equalization funds are allocated to districts with per-student taxable property wealth that ranks below the 75th percentile of all districts. Equalization provides an incentive for districts to raise local property taxes by tying the amount of equalization funding to the property tax level. Districts at or below the 75th percentile level can receive equalization funding in proportion to the amount of mils they levy beyond 5 mils. In 2007-08, the total amount of equalization funding was about \$458 million.

Each school district’s basic program entitlement under QBE is determined by multiplying the weighted FTE pupil count by the “guaranteed financial support base,” which is set by the state legislature. In 2007-08 the guaranteed financial base was \$2,642 per weighted FTE. The base amount represents the costs associated with educating a grade 9-12 student who is in no special programs. The base amount is apportioned as follows: 79.5 percent for direct instruction (salary, benefits, textbooks, supplies, personnel travel, replacement equipment, etc.); 17 percent for indirect costs (maintenance and operations, support personnel, school and central office personnel, etc.); 0.8 percent for staff development; and 2.8 percent for media costs (personnel, materials and equipment). After subtracting the amount raised by the required local share, the remaining cost of providing a basic education is provided to districts as QBE earnings.

**Table 1**

<b>Georgia Public School Revenue 2006-07</b> (Excludes capital projects, debt service and some other categories)			
	<b>Amount</b>	<b>Per Student (FTE)</b>	<b>Percent</b>
<b>STATE SOURCES</b>			
Funding Based on Enrollment	\$6,468,897,783	\$3,931	90.3%
Categorical Aid and Equalization	\$659,902,299	\$421	9.7%
<b>TOTAL STATE SOURCES</b>	<b>\$7,128,800,082</b>	<b>\$4,352</b>	<b>50.7%</b>
<b>LOCAL SOURCES</b>	<b>\$5,767,032,930</b>	<b>\$3,603</b>	<b>42.0%</b>
<b>FEDERAL SOURCES</b>	<b>\$1,003,997,700</b>	<b>\$627</b>	<b>7.3%</b>
<b>TOTAL*</b>	<b>\$13,899,830,712</b>	<b>\$8,582</b>	<b>100%</b>

*Source: “Earnings Sheet for 2007,” Georgia Department of Education District Revenue and Expenditure Reports, and author calculations.<sup>6</sup>*

*\* The “Earnings Sheet for 2007” does not provide data on all school spending categories. The Capital Projects Fund, the Debt Service Fund and a number of other categories are excluded.*

## How School Funding Varies with Enrollment

The relationship between enrollment levels and school funding is a question of particular importance for determining the fiscal impact of school choice programs. Funding from different sources responds to changes in enrollment in different ways. While most school funding that comes from the state varies with enrollment, local school funding does not.

In 2007-08, 90 percent of state “operating” support for public schools (which excludes such categories as construction funds and debt service funds) is calculated on the basis of enrollment. It thus varies as a district adds or loses students, and also according to the weights assigned to each student. Categorical aid and equalization aid (a combined \$630 million) and funds for school nurses (\$30 million) do not vary directly with enrollment.<sup>7</sup> Because a high percentage of state education funding in Georgia is distributed without the restrictions that accompany categorical or narrow-purpose grants, Georgia’s funding formula provides a good deal of spending flexibility for local districts. Although more than 72 percent of QBE earnings funds allocated to each district are allocated for direct instructional purposes (the costs of putting teachers in classrooms) and are required to be used for that purpose, this requirement is not very restrictive because classroom instruction is the primary function of the school system. The remainder of state QBE earnings funding is allocated for indirect costs, including administrative, support and maintenance expenses. The fungibility of money makes it easy for school districts to satisfy these requirements.<sup>8</sup>

Taxes on real property are the primary source of local revenue for school districts. These revenues are determined by local property values and tax rates. In the short term, enrollment does not affect local revenue. Over time, it is possible that enrollment changes may prompt adjustments to local revenues, but more often local revenues do not decline even as enrollments do.

Some revenues from federal sources vary with enrollment, such as funds for the reimbursement of free and reduced-price lunch, breakfast and milk programs. Since federal funding for schools is dispersed across a large number of funding streams, it is difficult to determine the exact percentage of federal funding that varies with enrollment.

Table 2

<b>Change in Georgia School District Revenues Resulting from a Decline in Enrollment</b> (Enrollment Decline From 1,567,486 to 1,500,000)				
Revenue Source	Amount	Change from Actual 2006-07 Revenue	Per Student (FTE)	Change Per Student
<b>STATE SOURCES</b>				
Funding Based on Enrollment	\$5,896,500,000	-\$572,397,783	\$3,931	\$0
Categorical Aid and Equalization	\$659,902,299	\$0	\$440	+\$19
<b>TOTAL STATE SOURCES</b>	<b>\$6,556,402,299</b>	<b>-\$572,397,783</b>	<b>\$4,371</b>	<b>+\$19</b>
<b>LOCAL SOURCES</b>	<b>\$5,767,032,930</b>	<b>\$0</b>	<b>\$3,845</b>	<b>+\$242</b>
<b>FEDERAL SOURCES</b>	<b>\$1,003,997,700</b>	<b>\$0</b>	<b>\$669</b>	<b>+\$42</b>
<b>TOTAL</b>	<b>\$13,327,432,929</b>	<b>-\$572,397,783</b>	<b>\$8,885</b>	<b>+\$303</b>

Table 1 uses 2006-07 funding levels as reported by the Georgia Department of Education. The table shows that, for each student, the state provides an average of about \$4,352 in education aid (excluding capital funds, debt service funds, etc.). Of the \$4,352, about 90 percent, or \$3,931, is directly responsive to changes in enrollment levels. Thus when a new student enters a school district, the district receives \$3,931 in additional state funding on average. Conversely, when a student leaves a district, state per-student funding is reduced by \$3,931 on average, with the district retaining \$421 in state

funds, the entire \$3,603 from local sources and much of the \$627 from federal sources. In the long run, all revenue is at least potentially variable with enrollment, with the exact extent dependent upon the decisions of local school boards and these who approve their budgets. However, these figures give an accurate picture of how revenue changes with enrollment in the shorter term.

Table 2 further illustrates how school revenues are affected by enrollment declines. The table shows how Georgia's aggregate and per-student school district revenues would have been affected if enrollment in the 2006-07 school year had been exactly 1.5 million rather than the actual figure of 1,567,486 (a decline of 67,486).

The table shows that, compared to actual revenues for the 2006-07 school year, the decline of 67,486 students would lower total district revenues by \$572.4 million, but per-student revenues would actually increase by \$303 per student. Even in an unrealistic scenario where all federal and state categorical revenues varied directly with enrollment, per-student revenues would still increase by \$242 because local funding does not vary with enrollment.

The implications of this analysis are:

- Under the current system of Georgia public school funding, on average a decline in local district student enrollments, while resulting in a decline in total revenues, actually produces an increase in the resources available for educating each student who remains in the district.
- Because local school funding does not vary with enrollment, a loss of students cannot result in lower per-student revenues being available to school districts.
- Smaller public school enrollments can result in large savings for the state without reducing the per-student revenues available to local school districts.
- Georgia could, as an alternative to realizing savings from enrollment declines, choose to use some or all of the savings in education aid to fund other educational programs or education reform initiatives.

As long as the revenue loss associated with each student who leaves a school district is lower than the amount by which total school district expenditures are reduced when a student leaves, a local school district cannot be made worse off financially by the loss of a student. In Georgia, the loss of \$3,931 on average in state funds, along with perhaps a small amount of federal funds, is lower than the expenditures attributable to each child. In the next section we will consider the extent to which these expenditures vary with enrollment.

## How School Expenditures Vary with Enrollment

Evaluating the fiscal impact of enrollment changes on Georgia school districts requires not only an understanding of how state education aid to communities is affected, but also some estimate of how expenditures of school districts change in response to enrollment changes.

When students leave a school district, the district loses state aid associated with those children, but expenses associated with educating those children also decline. One criticism of school choice is that the loss of students is not accompanied by a concomitant decrease in expenses. While that may be true in the very short term (less than one school year) or with very small enrollment changes, the conclusion that expenditures can never decline when enrollments drop produces logically and empirically implausible conclusions. Increasingly, studies have demonstrated that local school district expenditures are sensitive to declines in enrollment.<sup>9</sup>

Using detailed school district data from the Georgia Department of Education, we employed an econometric approach to estimate the variable expenditures of educating each student in Georgia. We used detailed school district financial data from all districts for the 1999-2000 and 2006-07 school years to determine to what extent operating expenditures (all expenditures less capital expenditures and debt service) are variable (that is, responsive to the addition or loss of students in a district) and to what extent they are fixed. For this study we considered variable expenditures to be expenses that are variable over a period of at least a year. This analysis will test the expectation that school districts can and do adjust their expenditures to reflect enrollment levels from one year to the next.

We developed simple linear regression models to estimate the expenditure structure of public schools in Georgia. After testing many models, we identified the model with the strongest ability to describe and predict the expenditures of public schools according to changes in enrollment. It is expressed by the following equation:

$$ChngExpenditures = \alpha + ChngEnrollment + PPWealth + 1999Expend + \varepsilon$$

Where:

$\alpha$  = Constant

*ChngExpenditures* = Change in district expenditures 1999-2007

*ChngEnrollment* = Change in district enrollment 1999-2007

*PPWealth* = Local property tax base per pupil

*1999Expend* = Total district expenditures in 1999-00 school year

$\varepsilon$  = Error term

This model estimates that the variable expenditures associated with educating each additional public school student in Georgia in 2006-07 school year were \$6,299 (\$5,039 in real, inflation-adjusted 1999 dollars) or 73 percent of the \$8,642 mean expenditure per student across all districts.<sup>10</sup> The model explains 98 percent of the nominal change in school district expenditures between the 1999-00 and 2006-07 school years. The data for this analysis are at the school district level, and, as a result, enrollment changes over the years examined are much larger than those that occurred in individual schools within districts. These results are not meant to imply that an increase or decline in a small number of students in a school would necessarily lead to increases or decreases in school expenditures of \$6,299 per student. But in larger numbers and across districts, over time expenditures are highly responsive to enrollment changes.

Table 3

Variable Expenditure Model Summary								
Model	R	R Square	Adjusted R Square	Standard Error of the Estimate				
1	0.988	0.975	0.975	8347825				
Variable Expenditure Model Summary								
Model		Unstandardized Coefficients	Std. Error	Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B		Beta			Tolerance	VIF
1	(Constant)	631413.8	1486747.200		0.425	0.672		
	ChgEnrollment	6299.1	225.948	0.392	27.878	0.000	0.722	1.384
	PPWealth	6.951	12.314	0.007	0.564	0.573	0.926	1.080
	1999Exp	0.473	0.010	0.721	49.796	0.000	0.683	1.464

a Dependent Variable: ChngExpenditures

Because the change in expenditures associated with each student who enters or leaves Georgia's public schools is greater than the state education aid per student, the loss of students from a school district would have a net positive impact on local school district finances. In the 2006-07 school year, the loss of a student from a district would mean the loss of about 38 percent of revenues associated with that student (about \$3,931 in state education aid), leaving another \$4,651 in per-student revenues in the district. At the same time, the district would (on average) see a decrease in expenditures of \$6,299. Thus, at least in the short run, school districts are financially better off. Even if enrollment declines resulted in the loss of all categorical state aid (an unrealistic scenario) and all federal aid (similarly unrealistic), each district still would retain \$3,603 per student in local revenues.

Each year thousands of school children migrate between school districts; individual districts lose and gain students; and local districts regularly adjust their expenditures to accommodate these changes. Our analysis of U.S. Census Bureau data suggests that about 12 percent of Georgia school age children in 2007 live in a different home or apartment than they did in 2006.<sup>11</sup> This implies that about 170,000 public school students change residences each year, and it is likely that a significant percentage of those who move do so in a way that requires changing school districts. The number is likely to far exceed the number who would participate in a tax-credit scholarship program. Our analysis shows that concerns over the potential fiscal impacts of school choice on local school districts not only are overstated, but they fail to understand the fundamental local district fiscal effect of expanding school choice in Georgia: an increase in the resources available for each student who remains in the school district.

## How State Education Aid Affects Local Education Expenditures

Developing a time-series database of state and local education finance variables in Georgia allows us to examine and understand the impacts of enrollment changes and other important issues in education finance. There are at least three important and related education finance questions that may influence an evaluation of any program to expand the education options available to Georgia families:

- How does state education aid affect the aggregate level of local expenditures?
- How does state education aid affect different expenditure categories?
- How does state education aid affect the equitable provision of education services across local districts and among children across and within districts?

None of these questions is the central focus of this study, but thoughtful consideration of a tax-credit scholarship program cannot escape these critical questions. Consideration of equity across local districts and among individual children is a topic for another study.

## Each Dollar of Additional State Aid Increases School Expenditures by Only 53 Cents

Increases in state education aid do not necessarily result in a concomitant increase in educational expenditures by school districts. Local school districts can respond to an increase in state aid by reducing the local tax burden for education, or by shifting local expenditures from education to non-educational categories without either reducing tax collections or increasing education expenditures.<sup>12</sup>

Based on our analysis of Georgia spending data, we estimate that between 1999 and 2007 each additional dollar of state education aid resulted in only 53 cents of additional education spending in public schools. This figure is very close to estimates nationally and is actually well above the 40 cents found in a recent study of New Hampshire education finance.<sup>13</sup> Nevertheless, it does offer a cautionary note to those who seek to increase education expenditures by increasing state aid to schools.

The legal requirement that state education aid be used for education spending is easy to meet without actually increasing local education budgets. Local governments can simply move the same number of local tax dollars out of the school budget as the number of state dollars that come into the school budget. A local government that reduces education expenditures by \$1 million when it accepts an additional \$1 million in state education aid has complied with the legal requirement to spend state education aid on education. The local government could spend the \$1 million in new state funding on education while spending \$1 million in local tax revenue—which it would have raised for education in the absence of the state aid – for other local services, in which case education spending would not increase and taxes would not be lowered, but spending on other local services would increase. Or it could simply reduce local taxes by \$1 million, in which case taxes would be lowered while spending on both education and other local services would not increase. As our results and those of other researchers indicate, the most likely outcome of additional state education aid is a combination of increases in education spending, increases in non-education spending increases, and tax relief.

The results of this research also indicate that the amount of additional state education aid used for increased education expenditures (53 cents) is divided approximately according to state regulations, with about 72 percent (or 38 cents) going for instructional purposes and about 28 percent (15 cents) going to increase non-instructional expenditures.

These findings and those in prior sections of this study support at least three important conclusions that are relevant to an evaluation of a tax-credit scholarship program:

- Because each dollar of additional state education aid, on average, translates into about 53 cents of additional local spending on education services, the current system of education finance is a relatively inefficient method of increasing educational services and educational opportunities for Georgia students.
- By contrast, education funding that provides scholarships for students to attend schools would result in \$1 of educational expenditures for each \$1 of funding (if administrative expenses for the program are counted as educational expenditures, as are administrative expenses in the public school system). For those most concerned with creating equitable educational opportunities across schools and districts, tax-credit scholarships are thus a more efficient mechanism for directing expenditures to education and for providing increased educational opportunities than is increased state education aid.
- Because the reduction in school district revenue associated with declines in enrollment is less than variable cost of educating students, school districts cannot be made financially worse off (over periods of more than one year) by the loss of students to a scholarship program. This point will be discussed in greater detail later in this study.

## Demographics of Georgia's School-Age Children

Forty percent of students in Georgia's public schools qualify for the federal free and reduced-price lunch program. That means they reside in households with income levels at or below 185 percent of federal poverty guidelines, which are based on family size. A family of four can earn up to \$39,220 in 2008 and have its children qualify for free and reduced-price lunches (see Table 4).

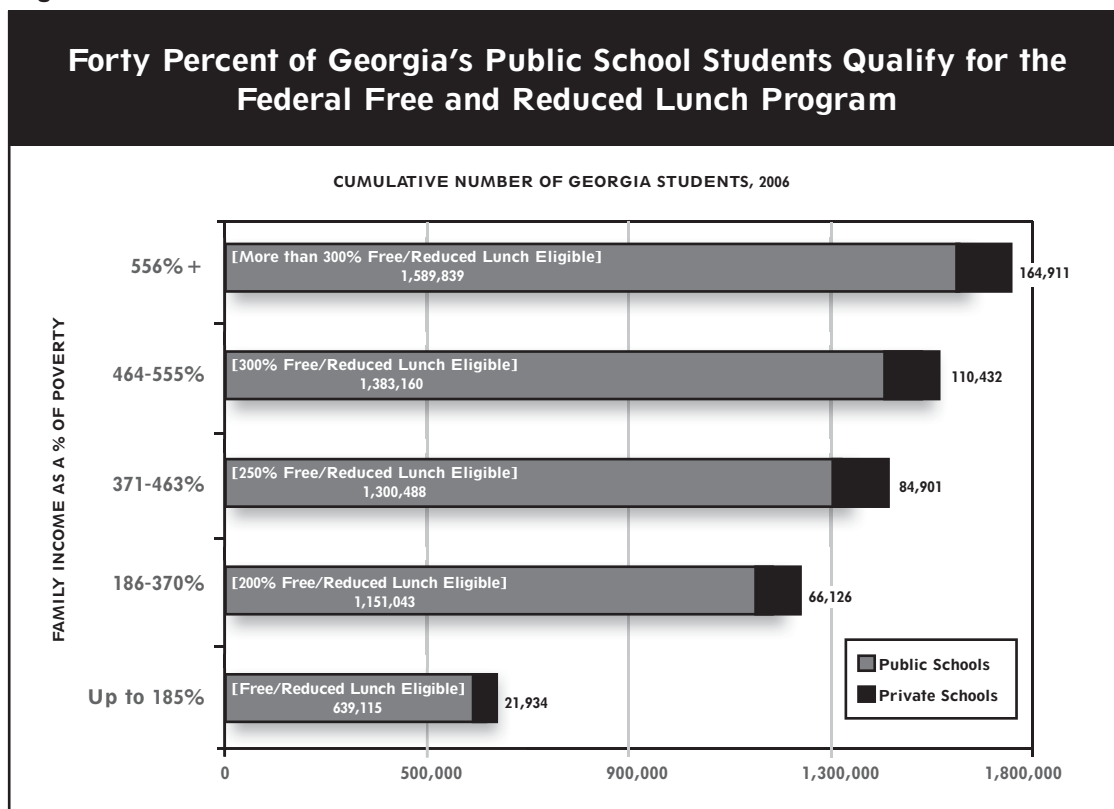
The percentage of students eligible for free and reduced-price lunch reported here is lower than that reported by the Georgia Department of Education. It reports that about 841,000 public school children qualified for free and reduced-price lunches in 2007.<sup>14</sup> Because our analysis examined both public and private school students and looked at some detailed demographic factors for which the Georgia Department of Education does not make data available, we used U.S. Census Bureau 2006 data for our estimates of the characteristics of Georgia school children. In addition, we limited the age range of students for our analysis to ages 5-17. Our results indicate that 639,115 students ages 5-17 in K-12 public schools qualify for free or reduced price lunches and another 22,000 students qualify in private schools (see Figure 1).



Table 4

2008 Poverty and Free/Reduced Lunch Income Guidelines					
Family Size	Poverty	Free and Reduced Lunch Eligibility	% of Free and Reduced Lunch		
			200%	250%	300%
1	\$10,400	\$19,240	\$38,480	\$48,100	\$57,720
2	\$14,000	\$25,900	\$51,800	\$64,750	\$77,700
3	\$17,600	\$32,560	\$65,120	\$81,400	\$97,680
4	\$21,200	\$39,220	\$78,440	\$98,050	\$117,660
5	\$24,800	\$45,880	\$91,760	\$114,700	\$137,640
6	\$28,400	\$52,540	\$105,080	\$131,350	\$157,620
7	\$32,000	\$59,200	\$118,400	\$148,000	\$177,600

Figure 1



### Characteristics of Public and Private School Children in Georgia

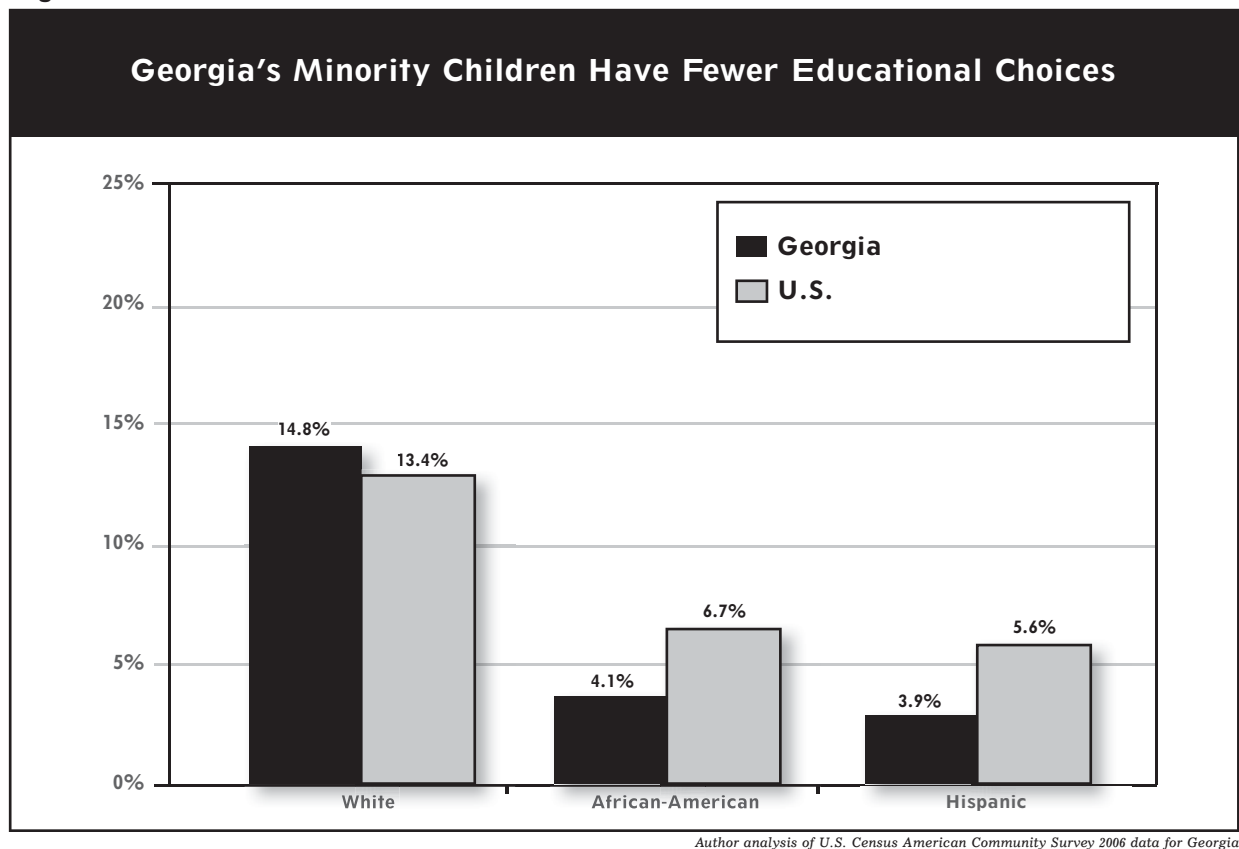
According to the Georgia Department of Education, about 8 percent of Georgia school-age children either attend private schools or are home schooled. Local districts are required to report the number of private school students in their districts. However, the Department of Education does not verify the numbers, and school districts' ability to produce accurate counts, and their incentives for doing so, are uncertain. Our analysis of Census Bureau American Community Survey data, 2000

Decennial Census data, and Census Bureau Current Population Survey data suggests that about 10 percent of K-12 students, or nearly 165,000 students, are enrolled in private schools or home schooled.

In the absence of a universal school choice program, parents will largely exercise school choice by choosing to live in communities that best match their preferences for educational services or by paying to have their children attend private schools. One result of the absence of a universal choice program is that families and school children segregate themselves along lines of income, parental educational attainment and race and ethnicity.

This segregation is apparent in Georgia. An examination of the characteristics of Georgia school children provides some indications of the tendency to segregate in the absence of school choice.

**Figure 2**

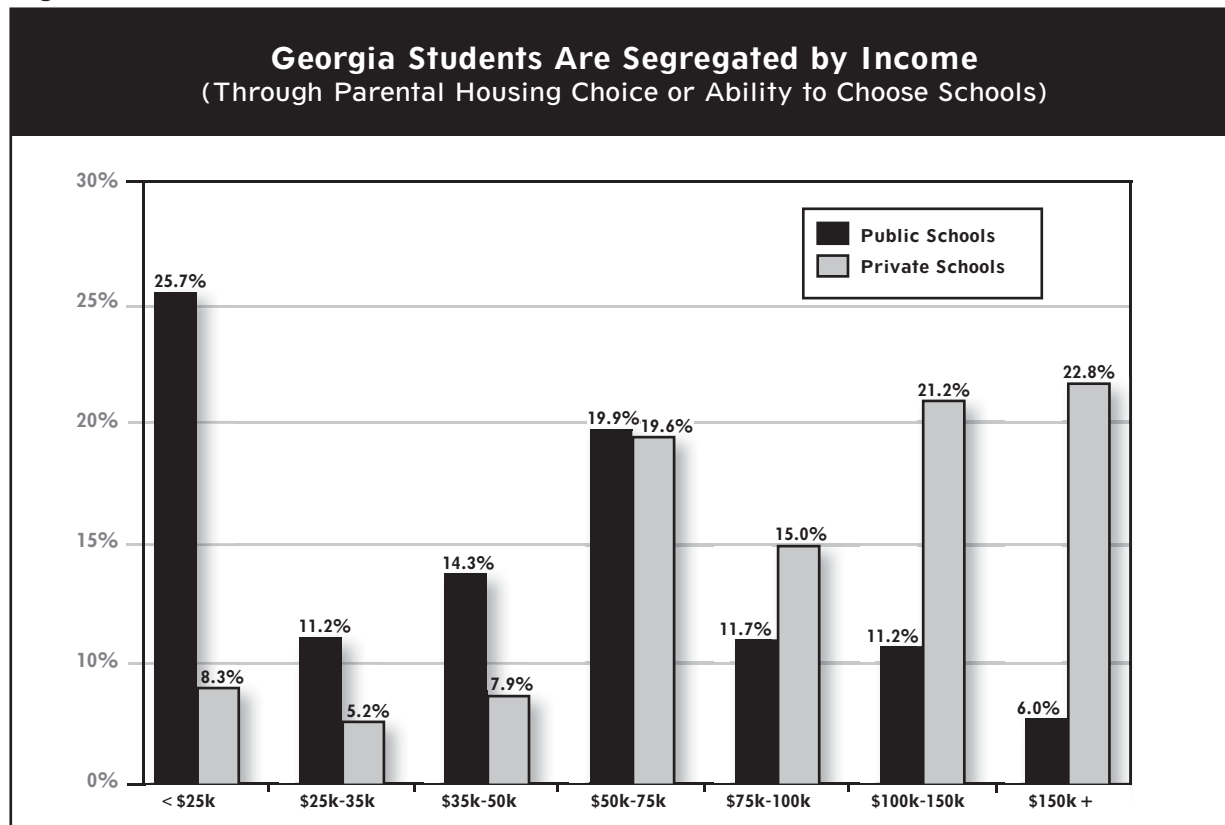


- The percentage of children in private schools in Georgia is relatively low, but among white students the rate is higher than the U.S. average. Compared to the U.S., a smaller percentage of Hispanic and African-American children in Georgia attend private schools (see Figure 2).
- A quarter of students in Georgia public schools come from families with an annual income below \$25,000, compared to just 8 percent of students in private schools. Figure 3 shows the income distribution of both public and private school students in Georgia.

Children in Georgia are more segregated by income than children in most states. Compared to the U.S. average, lower- and middle-income families in Georgia have lower private school enrollments while, among families with higher incomes, private school enrollments are as high or higher in Georgia than in the U.S. Nevertheless, the demand for private schooling in Georgia increases significantly as family income increases, suggesting an income elasticity of demand for private schooling of approximately 0.5 at lower income levels and 1.6 at the highest income levels. Income elasticity refers to the change in demand for private schooling that occurs with each percentage-point change in family income. An elasticity of 0.5 indicates

that, if family income doubled (an increase of 100 percent), there would be a corresponding increase in private school attendance of 50 percent. Figure 4 shows that lower and lower-middle income families in Georgia are underrepresented in private schools compared to the U.S. average.

Figure 3



Author analysis of U.S. Census Bureau American Community Survey 2006 data for Georgia

Together, these data suggest that:

- There are substantial economic and racial differences in the composition of public versus private schools in Georgia, indicating a difference in the ability of parents to choose private schools for their children.
- The rates of private school enrollment among Georgia families of middle through higher incomes compared to enrollment among lower-income families suggest that a large percentage of Georgians view the public schools as a less attractive option for educating their children and families and that family income strongly influences the ability of families to exercise their preference for educational services.
- Without increased efforts to introduce more school choice programs, the significant segregation along income and other lines that is apparent in Georgia schools will likely continue.

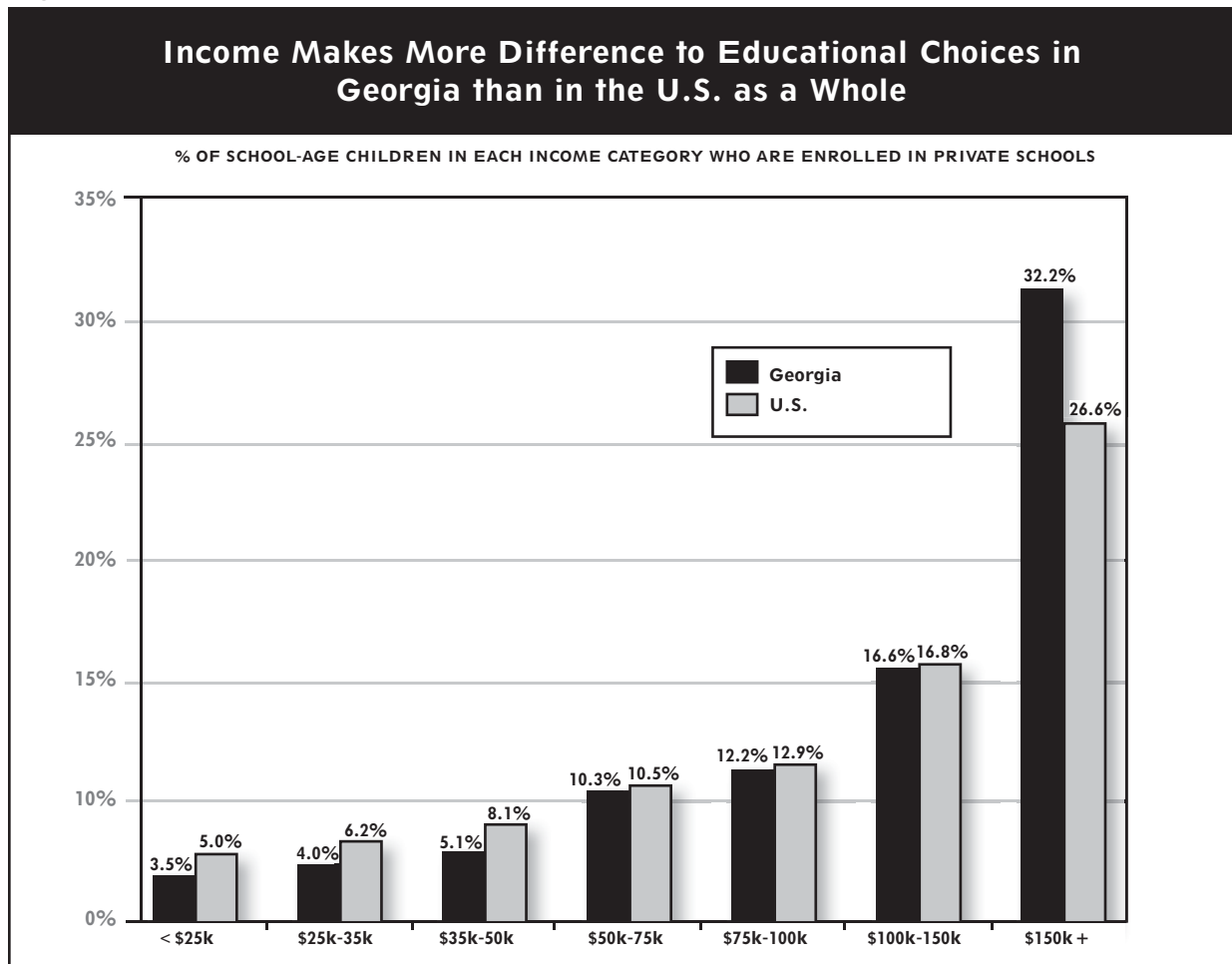
## Proposals to Increase Educational Options and Opportunities

Along with economic, demographic and other factors, the perceived quality of public schools influences the demand for private schooling in a state and a community. Our review of the demographics of Georgia’s public and private schools suggests that there is more separation of students along income and racial lines in Georgia than in most states. At the same time the demand for private schooling by lower-income and minority students likely is not satisfied, largely because of the income constraints these families are more likely to face.

Georgia could achieve a number of important fiscal and educational objectives by increasing the options parents have for educating their children. Tax-credit scholarships are one method of increasing the options parents have for educating their children. Proposals for such scholarships have arisen, in part, in response to concerns about the quality of public schooling and the rising demand for private schooling created by those concerns.

Georgia is considering proposals to allow a tax credit to individuals and business for contributions made to organizations that provide tuition scholarships to families who want to attend private school. Under one proposal, tax credits are capped at \$500 for a single taxpayer or \$1,000 for a married couple filing a joint tax return. Businesses could claim a credit against their corporate taxes up to 75 percent of their corporate tax liability. Total tax credits available to corporate and individual contributors to student scholarship granting organizations and educational improvement organizations would be capped at \$50 million in the first year.

Figure 4



The impact of tax-credit scholarships would be determined by the amount of contributions to scholarship funds. The higher the contributions to scholarship organizations, the more tax credits would be claimed, but higher contributions would also make more scholarships available. Our analysis of tax-credit scholarships begins by considering the volume of contributions to scholarship organizations that can be expected. We will also consider the degree to which the program induces children currently in (or planning to attend) Georgia's public schools to migrate to private schools. During the 2006-07 school year, the state paid, on average, about \$4,352 for every student enrolled in a public school. For the scholarships to be fiscally neutral or better for the state budget, they must induce enough students to migrate from public to private schools so that savings in state per-student education aid equal or exceed the income tax revenue foregone because of the tax credits.

Forecasting the impact of Georgia's proposed tax-credit scholarship program requires that we predict how parents would respond to the availability of scholarships. To estimate the number of students who would receive scholarships and attend private schools, we examined the size of the school-age population in public and private schools; the characteristics and differences of the population of school children in public and private schools; and how those differences likely would affect the demand for scholarships. We analyzed the interactive effects between the volume of scholarship funds available; the average dollar value of individual scholarship awards; the total number of scholarship awards; and the impact the migration of public school students to private schools would have on public school enrollments and finances in Georgia.

## Estimating Program Participation Levels

The fiscal impact of the Georgia tax-credit scholarship proposal first would depend on the volume of contributions and the value of the tax credits claimed by individuals and corporations that fund scholarships. The proposed program calls for a maximum of \$50 million in tax credits available for businesses and individual taxpayers. To begin our analysis, we consider the volume of contributions we can expect to be claimed.

With the proposed tax credit, businesses and individuals can choose to pay taxes to be used for general state services or they can contribute to a scholarship granting organization to provide scholarships for students enrolling in private schools or out-of-district public schools. When businesses or individuals make a contribution to the tax credit program they directly target the use of their tax dollars to support education. Given this choice, many businesses and individuals can be expected to contribute to the program. With the proposed tax credit, Georgia increases educational expenditures in a way that does not occur when state education aid is increased. As we noted earlier, each additional dollar of state education aid increases school expenditures by only 53 cents. With a tax-credit scholarship program, funding facilitated by tax credits would result in \$1 of educational expenditures for each \$1 spent. For many business and individuals, the ability to target their funding to educational expenditures would be an attractive option.

Several states offer some type of tuition tax credit or deduction to assist families who want to send their children to independent schools. Minnesota, Iowa and Illinois offer a direct tax credit or deduction to parents sending their children to private schools. Arizona, Florida, Pennsylvania, Iowa and Rhode Island offer credits to individuals or corporations that contribute to organizations that provide private school scholarships. The experience of these states is directly relevant to the Georgia proposal.

By donating to scholarship organizations and receiving a tax credit in return, individuals and businesses contribute to Georgia's public good in an amount equal to what they would have paid had they not contributed to the scholarship organization. Thus, total payment to the public good of Georgia by individuals and businesses is not lowered by the tax credit program; rather, contributors to scholarship organizations ensure that their payments go directly to support the education of Georgia students. As noted earlier in the study, funding contributed to scholarship organizations produces a larger overall increase in the educational services purchased per dollar compared to money spent on state education aid.

In states such as Florida and Pennsylvania, the opportunity to direct tax payments to scholarship programs proved to be a powerful incentive for businesses to contribute, and in each state the initial caps placed on the total amount of business tax credits were reached in the first year of the program. Each state subsequently increased the total allowable tax credits.

## Business Contributions to Scholarship Organizations

The experience of other states clearly indicates that we can reasonably expect businesses to contribute up to the maximum amount allowed by the cap, \$50 million, in the first year. There are many reasons Georgia may want to provide a tax credit for businesses that contribute directly to educating Georgia's children. Doing so would:

- Establish a convenient and consistent mechanism and incentive for businesses to contribute directly to educating Georgia's children.
- Target educational expenditures directly to families and children rather than institutions that may reduce the amount of resources that go directly to students.
- Direct resources to students most in need of educational options and least likely to benefit from general increases in school district budgets.
- Give businesses a meaningful and convenient way to address their concerns about the quality of public education and its impact on businesses and the Georgia economy.

Beyond the experience of other states, there are clear reasons why businesses can be expected to make contributions up to the maximum tax credit allowance:

- In nationwide surveys, nearly half (48 percent) of all businesses indicated that education was their top priority for their philanthropic and civic activities.<sup>15</sup>
- In general, businesses are rewarded by owners, shareholders, equity analysts and financial institutions for minimizing the percentage of income going to taxes, because a lower tax burden is associated with sound financial management (even though contributions to Georgia tax-credit scholarships would be equivalent to the amount that would have been paid in taxes).
- Unlike tax payments, contributions to a program such as the Georgia tax-credit scholarship program are assumed to generate concomitant civic and public relations opportunities and benefits.

According to the Georgia Department of Revenue, 233,567 corporate income tax returns were filed in Georgia in 2006, with total taxable income of about \$12 billion. Corporations paid about \$812 million in corporate taxes to Georgia in 2006.<sup>16</sup> These numbers suggest that a tuition tax credit program that capped credits at \$50 million would, at most, allow Georgia corporations to offset about 6 percent of their corporate tax liability. However, because credits also are available to individuals as a credit against personal income taxes, competition for available credits is likely.

## Scholarship Contributions from Individuals

According to data from the Georgia Department of Revenue, if all \$50 million in available credits were claimed by individuals rather than corporations, the more than \$8 billion in income tax liability for Georgia residents would be reduced by about 0.6 percent.<sup>17</sup>

To estimate the volume of contributions and tax credits that would be claimed by individuals we developed a model that uses data on the charitable contributions of Georgia residents derived from the Internal Revenue Service's Statistics of Income; historical survey research data on the percentage of charitable contributions that are directed to educational organizations; and analyses of the experience of other states with tuition tax credits.

Among individuals, historically, about 20 percent of taxpayers have indicated that they contribute to educational organizations and about 30 percent of their total contributions go to education organizations.<sup>18</sup> Charitable contributions as a percentage of Adjusted Gross Income (AGI) in Georgia have increased in recent years; in 2005, the most recent year for which contribution data are available, Georgia residents claimed charitable tax deductions equal to just more than 3 percent of their total AGI, or about \$6.5 billion.<sup>19</sup>

Arizona has more than eight years’ experience with an individual tax-credit scholarship program (more recently Arizona has enacted a corporate tax-credit scholarship program). In Arizona, individual contributions to scholarship organizations equal just over 1 percent of the total volume of charitable contributions in the state, and equal to about 0.03 percent of the total AGI of Arizona residents.<sup>20</sup> We applied Georgia’s historical rate of charitable giving to projections of the AGI of state residents to estimate the overall level of charitable contributions from individuals in the state for each year to 2015. We then applied ratios derived from the Arizona’s experience to produce two estimates (based on scholarship contributions as a percentage of all charitable contributions in Georgia and scholarship contributions as a percentage of total AGI) of total contributions to student scholarship organizations. Our final estimate was an average of the two projections. Table 5 presents our estimate of contributions from individual taxpayers by AGI in Georgia from 2008 to 2015.<sup>21</sup> The table indicates that individual taxpayers can be expected to claim tax credits for contributions in amounts nearly equal to the capped amount, again suggesting that there would be significant competition for credits between corporations and individuals.

Table 5

Projected Tax Credits Claimed by Individuals, by Taxpayer Income								
Income	2008	2009	2010	2011	2012	2013	2014	2015
< \$20k	\$1,326,806	\$1,366,611	\$1,407,609	\$1,449,837	\$1,493,332	\$1,538,132	\$1,584,276	\$1,631,804
\$20-30k	\$1,835,354	\$1,890,415	\$1,947,127	\$2,005,541	\$2,065,707	\$2,127,678	\$2,191,509	\$2,257,254
\$30-50k	\$5,523,450	\$5,689,154	\$5,859,828	\$6,035,623	\$6,216,692	\$6,403,193	\$6,595,288	\$6,793,147
\$50-75k	\$8,534,251	\$8,790,279	\$9,053,987	\$9,325,606	\$9,605,375	\$9,893,536	\$10,190,342	\$10,496,052
\$75-100k	\$6,753,570	\$6,956,177	\$7,164,862	\$7,379,808	\$7,601,202	\$7,829,239	\$8,064,116	\$8,306,039
\$100-150k	\$6,498,613	\$6,693,572	\$6,894,379	\$7,101,210	\$7,314,246	\$7,533,674	\$7,759,684	\$7,992,475
\$150-200k	\$2,749,932	\$2,832,430	\$2,917,403	\$3,004,925	\$3,095,073	\$3,187,925	\$3,283,563	\$3,382,070
\$200-500k	\$5,071,043	\$5,223,175	\$5,379,870	\$5,541,266	\$5,707,504	\$5,878,729	\$6,055,091	\$6,236,744
\$500k-1M	\$2,299,564	\$2,368,551	\$2,439,607	\$2,512,796	\$2,588,179	\$2,665,825	\$2,745,800	\$2,828,174
1M >	\$6,182,562	\$6,368,039	\$6,559,080	\$6,755,853	\$6,958,528	\$7,167,284	\$7,382,303	\$7,603,772
<b>Total</b>	<b>\$46,775,147</b>	<b>\$48,178,401</b>	<b>\$49,623,753</b>	<b>\$51,112,466</b>	<b>\$52,645,840</b>	<b>\$54,225,215</b>	<b>\$55,851,971</b>	<b>\$57,527,530</b>

The figures in Table 5 represent the amount of contributions that can be expected in the absence of a cap on available tax credits. Because contributions from corporations can be expected to be much greater than those from individuals, the actual amount of contributions claimed by individuals would depend upon how credits are allocated between corporations and individuals.

### Tuition Prices Strongly Influence Demand for Private Schools

The impact that a tax-credit scholarship program would have on public and private school demographics in Georgia, as well as on state and local finances, depends on the dollar amount of contributions, the decisions of scholarship organizations and the response of families of children in public and private schools to the availability of scholarships. These are difficult to forecast. Program design elements and eligibility criteria would combine to influence the participation of Georgia families.

To estimate the response of Georgia families to the availability of tax-credit scholarships, we developed a model of the demand for private schooling that allows the manipulation of key policy variables and program design elements. Some of the variables included are:

- The income-eligibility requirements for program participation;
- The average dollar value of tuition scholarships; and
- The expected price elasticity of demand for private schooling according to income level.

Tax-credit scholarships lower the price of private schools for students who receive them. A number of studies have estimated the increase in demand for private schooling as a result of changes in the price of the schools. The most widely cited studies of the impact of changes in the price of private schools on demand (the price elasticity of demand) indicate that the demand for private schools increases as the price to families declines (and the demand decreases as the price rises), a so-called negative price elasticity. The range of estimates between these studies is large, however. Chiswick and Koutroumanes (1996) estimate a price elasticity of about -0.5, suggesting that a 10 percent decline in the price of private schools would lead to a 5 percent increase in demand, while Gwarntey and Stroup (1997) estimate a price elasticity of -1.1, suggesting that a 10 percent decline in the price of private schools would lead to an increase in demand of 11 percent.<sup>22</sup> In Georgia, a 1994 study estimated the elasticity of demand for private schooling in the state to be -1.07.<sup>23</sup>

Both the participation rate and fiscal impact of a scholarship program would be strongly influenced by the dollar value of the scholarships. To demonstrate the effect of changing the dollar value of scholarships, we consider a range of scholarship values from \$1,500 to \$4,500.

The number of scenarios and program design combinations is nearly infinite. Our purpose is to create an understanding of how design elements would affect program participation, and ultimately the fiscal impact. For Georgia families, a scholarship with a value of \$1,500 would represent a 25 percent reduction in the estimated average 2008 private school tuition of \$5,940.<sup>24</sup> To estimate program participation, we calculated the reduction in price that scholarships of various dollar values would have on our forecast of the average price of tuition and applied different price elasticities and means tests to the distribution of school-age children in public and private schools in Georgia.

Figure 5 presents our estimate of participation in a scholarship program in Georgia at different scholarship values if all students were eligible regardless of income and if scholarships were of the same value regardless of family income. The chart shows that as many as 94,000 public school students, or about 6 percent, would seek to participate in a scholarship program with these design features, while obviously all of the current private school students (not including those home schooled or in private schools outside the state) would seek to take advantage of the program.

Figure 5 assumes that eligibility for scholarships is available to all children, regardless of family income. However, if a scholarship program were enacted in Georgia it might restrict eligibility—especially for students currently enrolled in private schools—by means testing or in some other manner. For fiscal reasons that will be highlighted later in this study, it is beneficial for the state to make as many public school children eligible for scholarships as possible to encourage maximum migration from the public to private schools. Depending on the dollar value of scholarships, means testing or a reduction in the value of scholarships as income rises can have a negative effect on the fiscal impact of a tax-credit scholarship program.

Figure 6 shows the impact on estimated demand for scholarships among public school students if eligibility is means tested. The means tests are based on eligibility for the federal free and reduced-price lunch program as highlighted in Table 4. Eligibility ranges from the standard set for the free and reduced-price lunch program (185 percent of federal poverty guidelines) to three times the family income that would make a student eligible for free and reduced-price lunches (about 555 percent of federal poverty guidelines).

The figure shows that means testing can dramatically reduce program participation because fewer public school families are eligible. As important, the elasticity of demand for private schooling is much lower among lower-income families, meaning they are less likely to participate in a scholarship program than higher-income families regardless of the value of the scholarship.



Figure 5

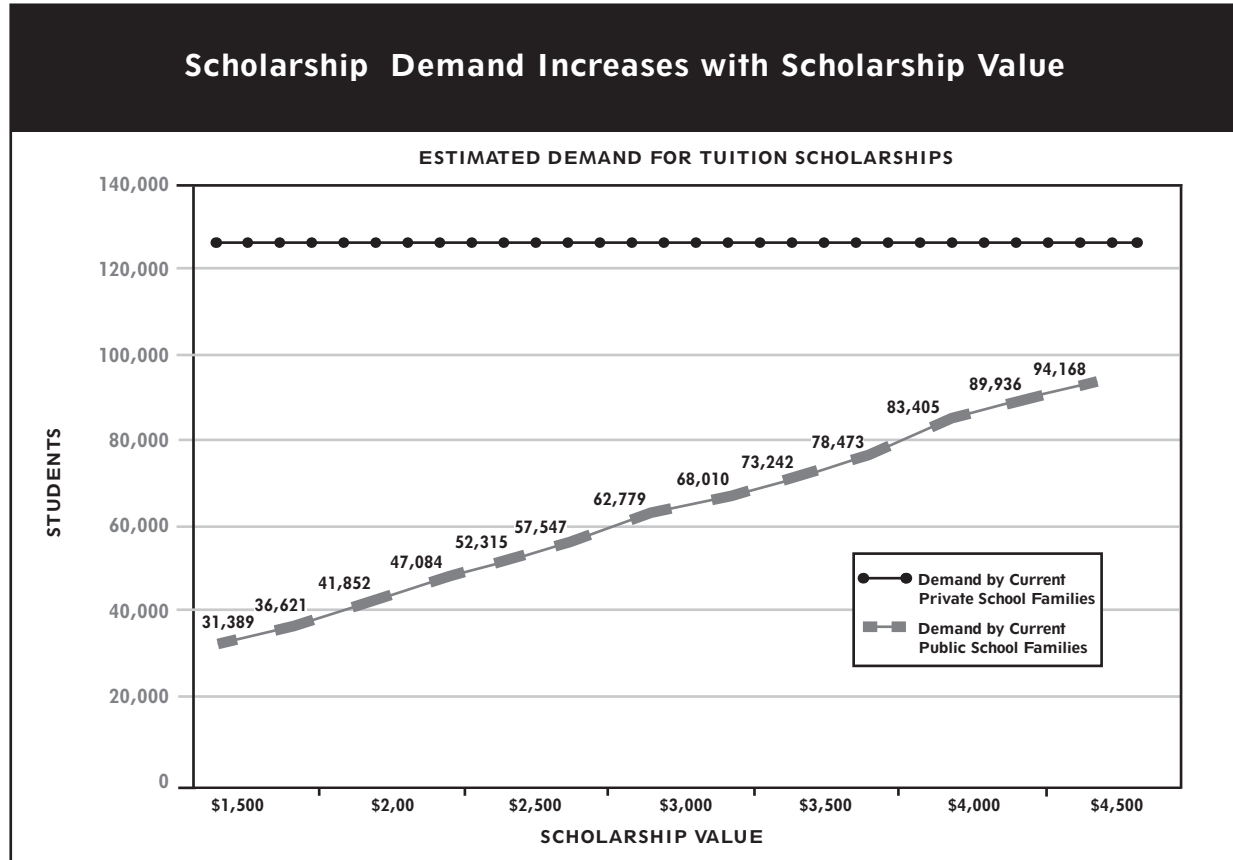
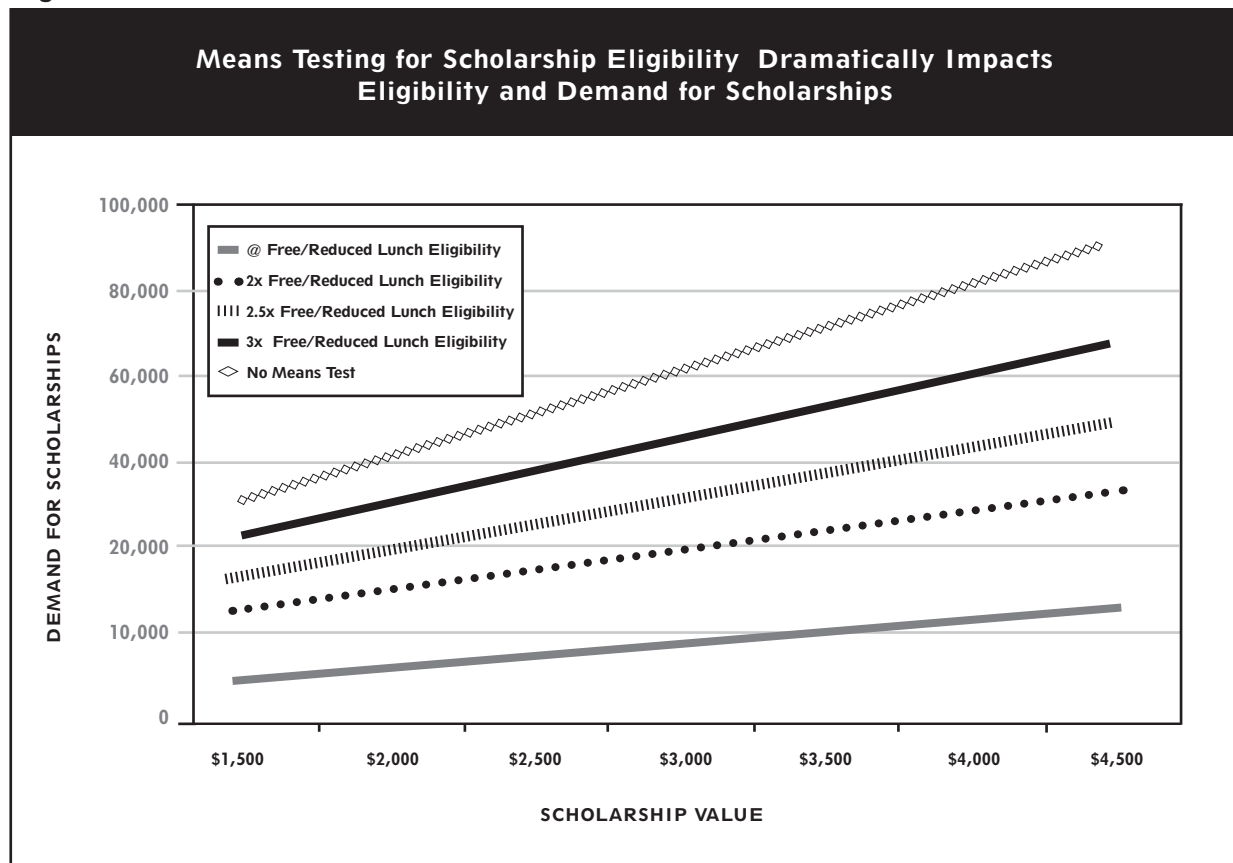


Figure 6

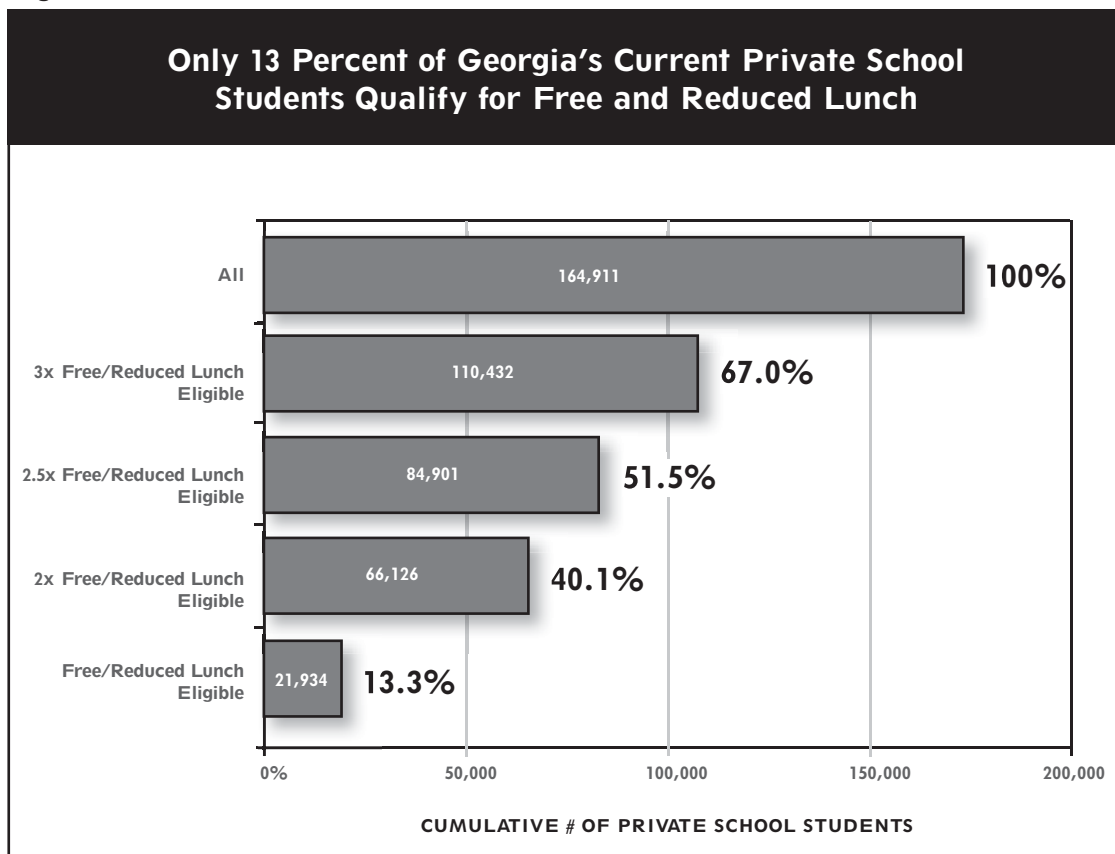


As we document in subsequent sections of this study, reducing eligibility among public school families actually results in lower fiscal benefits (or even fiscal losses) for the program. Thus, more restrictive means testing does not improve the fiscal impact of a program.

On the other hand, restricting eligibility for participation among students currently attending private schools would yield more fiscal benefits to the state than if restrictions were applied to public school families. Because the decision to attend private schools already has been made by those students, Georgia would receive no fiscal benefit (in the form of reduced state education aid payments) from increasing their eligibility. The primary effect of restricting the eligibility of current private school students would be to reduce the competition for scholarships and increase the fiscal benefits to the state.

That said, there is no justification for reducing or denying one group of citizens a benefit that is available to others simply because of where they chose to educate their children. This is especially true for lower-income families who may have made tremendous sacrifices by enrolling their children in private schools to obtain the educational services they believe are best for their children. Nevertheless, restricting eligibility via means testing is an option in program design.

**Figure 7**



Source: Author estimates based on U.S. Census Bureau American Community Survey 2006 data for Georgia

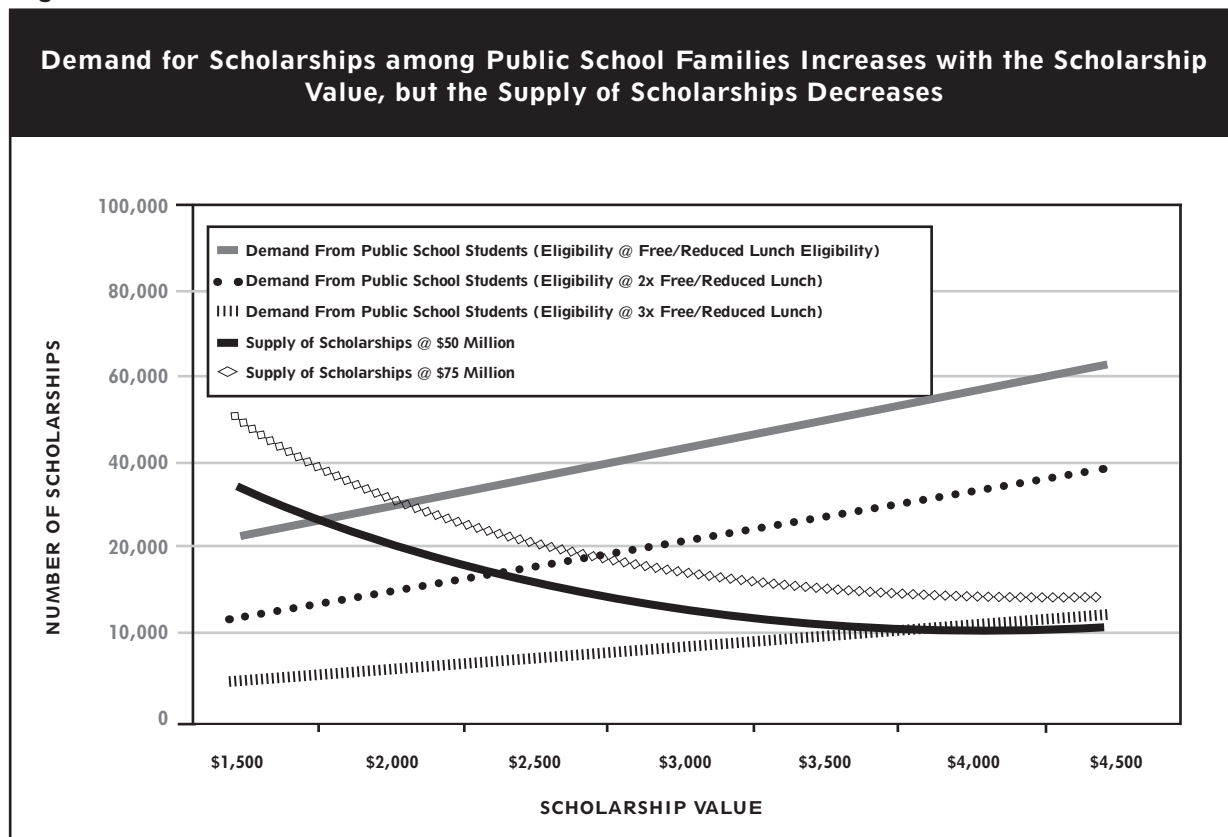
Figure 7 shows how eligibility for scholarships among private school students is affected by means testing based on multiples of eligibility for the federal free and reduced-price lunch program. For example, if private school students' participation is limited to students from families with incomes less than 2.5 times the level that would qualify them for the federal free and reduced-price lunch program, half of private school students are eliminated from eligibility, while lower-income families are not discriminated against because they made sacrifices to have their children educated in a school of their choosing prior to the enactment of a scholarship program.

## Combining Supply and Demand Models to Estimate the Number of Scholarships

The experience of states such as Arizona suggests that the number of scholarship applicants (i.e. demand) would be greater than the available number of scholarships. In Georgia, the supply of scholarship money likely would be limited in each year, and it likely would not be sufficient to award scholarships to all applicants. As an example, we have estimated that the average private school tuition in Georgia is \$5,940 and a scholarship of \$3,000 would reduce tuition by 51 percent on average. Using a reasonable estimate of price elasticity of -0.75, a 51 percent decline in private school tuition should increase demand for private schools by about 63,000 students currently enrolled in Georgia public schools, or about 32,000 if eligibility is limited to students from families with incomes below 2.5 times the income level for free and reduced-price lunch eligibility. At the same time, scholarship funds would be limited to \$50 million, meaning that only 16,667 scholarships would be available. That is about 28 percent of the demand for scholarships, or about 52 percent of demand if eligibility is restricted to children at 2.5 times free and reduced-price lunch eligibility. If scholarship funding were increased to \$75 million, 25,000 scholarships would be available and 77 percent of the demand for scholarships could be met.

Figure 8 highlights the relationship between the demand for scholarships and their supply at scholarship values ranging between \$1,500 and \$4,500 and at several means-tested eligibility levels. These examples highlight the important relationships between the total amount of scholarship money available; the average size of scholarship awards, program eligibility; and the migration of students to private schools. These variables, along with the decisions of scholarship organizations, are difficult to model, but they would determine the fiscal impact of the program. They are discussed more thoroughly in the following sections.

Figure 8



### Program Tradeoffs

A tax-credit scholarship program could be constructed in various ways to yield important fiscal, educational, equity and social objectives. A high-dollar-value scholarship does the most to attract low-income students to participate in a choice program but would reduce the number of scholarships available. Conversely, relatively low scholarship values would provide many more scholarships but would reduce overall program participation among the low-income families who need educational options the most. Limiting participation to the lowest-income public school students would dramatically reduce overall demand for scholarships and reduce fiscal benefits while targeting the program to lower-income children.

These sorts of tradeoffs are inherent in all important public policies, and school choice programs are no exception. The analyses and tools in this study are designed to make clear the impact of key program design variables and to highlight the tradeoffs they imply.

Table 6

<b>Cumulative Scholarship Demand among Public School Students by Scholarship Value and Income Eligibility</b>											
<b>Income Eligibility</b> (% of Free/Reduced Lunch)	<b>SCHOLARSHIP VALUE</b>										
	<b>\$4,500</b>	<b>\$4,250</b>	<b>\$4,000</b>	<b>\$3,750</b>	<b>\$3,500</b>	<b>\$3,250</b>	<b>\$3,000</b>	<b>\$2,750</b>	<b>\$2,500</b>	<b>\$2,250</b>	<b>\$2,000</b>
185%	12,525	11,829	11,133	10,437	9,741	9,046	8,350	7,654	6,958	6,262	5,567
200%	37,760	35,662	33,564	31,466	29,369	27,271	25,173	23,075	20,978	18,880	16,782
250%	48,480	45,787	43,094	40,400	37,707	35,014	32,320	29,627	26,933	24,240	21,547
300%	63,059	59,556	56,053	52,549	49,046	45,543	42,040	38,536	35,033	31,530	28,026
Above 300%	94,168	88,936	83,705	78,473	73,242	68,010	62,779	57,547	52,315	47,084	41,852

Table 6 presents the cumulative distribution of projected scholarship demand by income for scholarship values ranging from \$2,000 to \$4,500. As has been noted, our analysis suggests that scholarships would induce a higher rate of public school migration if the value of scholarships is increased and means testing for program eligibility is less restrictive.

Table 7

<b>Cumulative Scholarship Demand among Public School Students (as a Percentage of all Public School Students) by Income Eligibility</b>											
<b>Income Eligibility</b> (% of Free/Reduced Lunch)	<b>SCHOLARSHIP VALUE</b>										
	<b>\$4,500</b>	<b>\$4,250</b>	<b>\$4,000</b>	<b>\$3,750</b>	<b>\$3,500</b>	<b>\$3,250</b>	<b>\$3,000</b>	<b>\$2,750</b>	<b>\$2,500</b>	<b>\$2,250</b>	<b>\$2,000</b>
185%	0.8%	0.7%	0.7%	0.6%	0.6%	0.6%	0.5%	0.5%	0.4%	0.4%	0.3%
200%	2.3%	2.2%	2.1%	2.0%	1.8%	1.7%	1.6%	1.4%	1.3%	1.2%	1.0%
250%	3.0%	2.8%	2.7%	2.5%	2.3%	2.2%	2.0%	1.8%	1.7%	1.5%	1.3%
300%	3.9%	3.7%	3.5%	3.3%	3.0%	2.8%	2.6%	2.4%	2.2%	2.0%	1.7%
Above 300%	5.9%	5.5%	5.2%	4.9%	4.6%	4.2%	3.9%	3.6%	3.3%	2.9%	2.6%

Table 7 translates the estimates of scholarship demand in Table 6 into the context of the public school population and shows that, at an average scholarship value of \$4,500, about 6 percent of public school students would seek scholarships if no income limits were established for scholarship eligibility. Lower scholarship values and means testing of eligibility would have substantial impacts on scholarship demand.

Table 8 shows the cumulative percentage of scholarship demand that can be satisfied with tax-credit scholarships if \$50 million of tax credits were allocated to scholarship organizations. The table shows that, if funds are limited to \$50 million, a tax-credit scholarship program could satisfy demand for scholarships among public school students only if the average value of scholarships is relatively low (reducing demand and increasing the number of scholarships available) and more restrictive income criteria are used. Unfortunately, even in this situation the demand is met only because fewer public school families would seek scholarships at such low values, and fewer would be eligible under the most restrictive income criteria. In addition, as we will see later in this study, this combination of variables results in a fiscal loss for the state.

Table 8

Percentage of Scholarship Demand among Public School Students that Can Be Satisfied by \$50 Million in Scholarships											
Income Eligibility (% of Free/Reduced Lunch)	SCHOLARSHIP VALUE										
	\$4,500	\$4,250	\$4,000	\$3,750	\$3,500	\$3,250	\$3,000	\$2,750	\$2,500	\$2,250	\$2,000
185%	88.7%	99.5%	112.3%	127.7%	146.6%	170.1%	199.6%	237.5%	287.4%	354.9%	449.1%
200%	29.4%	33.0%	37.2%	42.4%	48.6%	56.4%	66.2%	78.8%	95.3%	117.7%	149.0%
250%	22.9%	25.7%	29.0%	33.0%	37.9%	43.9%	51.6%	61.4%	74.3%	91.7%	116.0%
300%	17.6%	19.8%	22.3%	25.4%	29.1%	33.8%	39.6%	47.2%	57.1%	70.5%	89.2%
Above 300%	11.8%	13.2%	14.9%	17.0%	19.5%	22.6%	26.5%	31.6%	38.2%	47.2%	59.7%

Table 9 shows the projected cumulative number of scholarships that would be awarded for each combination of eligibility and scholarship value criteria under a cap of \$50 million. The table illustrates some subtle points about the design of a tax-credit scholarship program. First, it suggests that, at average scholarship values of \$4,000 or less, it would be important to increase the income-eligibility criterion above the level that qualifies a student to receive free and reduced-price school lunches. If the income criterion is not above the free and reduced-price lunch eligibility threshold, there likely would be insufficient demand among public school students to use all the \$50 million in scholarships. One implication of that is that Georgia would not maximize its fiscal benefits, a point that is demonstrated in the next section.

Table 9

Cumulative Scholarship Awards among Public School Students by Income Eligibility (with \$50 Million in Scholarships)											
Income Eligibility (% of Free/Reduced Lunch)	SCHOLARSHIP VALUE										
	\$4,500	\$4,250	\$4,000	\$3,750	\$3,500	\$3,250	\$3,000	\$2,750	\$2,500	\$2,250	\$2,000
185%	11,111	11,765	11,133	10,437	9,741	9,046	8,350	7,654	6,958	6,262	5,567
200%	11,111	11,765	12,500	13,333	14,286	15,385	16,667	18,182	20,000	18,880	16,782
250%	11,111	11,765	12,500	13,333	14,286	15,385	16,667	18,182	20,000	22,222	21,547
300%	11,111	11,765	12,500	13,333	14,286	15,385	16,667	18,182	20,000	22,222	25,000
Above 300%	11,111	11,765	12,500	13,333	14,286	15,385	16,667	18,182	20,000	22,222	25,000

The table also illustrates the key points that families with higher incomes would participate at rates higher than those of lower income even with lower scholarship values, and the demographic mix of participants would shift more to higher-income

families in the absence of income-eligibility requirements. At the same time, imposing strict income requirements for participation would make it unlikely that public school students would make full use of the scholarships at lower scholarship values, and full fiscal benefits would not be realized. The table highlights the need for balance in designing a program and how inordinate attention to a single program objective may result in a reduction of the overall educational and fiscal benefits of the program.

The final sections of this study will turn the projection in the preceding tables and charts into estimates of the fiscal impact of a tax-credit scholarship program for the state and for local school districts.

## Fiscal Impact on the State

The most important factor in determining the fiscal impact of a scholarship program is the degree to which scholarships induce students attending or planning to attend Georgia's public schools to migrate to private schools, and at what expense. During the 2006-07 school year, Georgia state government paid about \$4,352 in education aid to school districts for every student enrolled in public school. Scholarships would save money to the extent that they induce students to migrate from public to private schools at a low enough cost in foregone tax revenue to generate savings in state per-student education aid.

Inducing sufficient public-to-private-school migration to result in fiscal savings (because the reduction of state education aid payments offsets the cost of the scholarships) can be accomplished easily. When scholarships to current private school students are added to the equation, inducing enough migration from public schools at a low enough scholarship value to offset the cost of scholarships provided to current private school students is a more complex analysis than can be provided in this study. For example, when the total amount of scholarships is limited, it would be necessary to determine how the available scholarships would be distributed across current private school students and migrating public school students. For now, we will operate on the assumption that current private school students would not be eligible for tax-credit scholarships. However, the results of this analysis will provide important information about the fiscal impact of program-design decisions, which would still be relevant even if current private school students are eligible for a program that is enacted.

It bears repeating that the basic fiscal calculus of a scholarship program is simple. If the cost to Georgia of each scholarship student who migrates from a public school is less than the cost per student in state aid, there would be a fiscal benefit to the state.

Our analyses indicate that even relatively low scholarship values (lower than the current per-student state education aid) can induce relatively high rates of participation and migration from public to private schools if eligibility for scholarships is not limited to lower-income families. This is because higher-income families in Georgia have a high elasticity of demand for private schooling. As a result, even a relatively modest scholarship would prompt significant numbers of families to migrate from public to private schools. However, as noted, lower scholarship values would reduce the percentage of participants who come from lower-income families.

Table 10 highlights some combinations of scholarship program variables and the fiscal impacts they would have on the state under a scenario where:

- Current private school students are not eligible for tax-credit scholarships.
- The state realizes a reduction in education spending of \$3,913 (out of a total of \$4,352 of per-student state aid) for each public school student who leaves.
- A total of \$50 million in tax-credit scholarships are available.

Table 10

Fiscal Impact of a Scholarship Program on the State by Income Eligibility (with \$50 Million in Scholarships)											
Income Eligibility (% of Free/Reduced Lunch)	SCHOLARSHIP VALUE										
	\$4,500	\$4,250	\$4,000	\$3,750	\$3,500	\$3,250	\$3,000	\$2,750	\$2,500	\$2,250	\$2,000
185%	(\$6.5)	(\$4.0)	(\$6.4)	(\$9.2)	(\$11.9)	(\$14.6)	(\$17.3)	(\$20.0)	(\$22.8)	(\$25.5)	(\$28.2)
200%	(\$6.5)	(\$4.0)	(\$1.1)	\$2.2	\$5.9	\$10.2	\$15.2	\$21.1	\$28.3	\$23.9	\$15.7
250%	(\$6.5)	(\$4.0)	(\$1.1)	\$2.2	\$5.9	\$10.2	\$15.2	\$21.1	\$28.3	\$37.0	\$34.3
300%	(\$6.5)	(\$4.0)	(\$1.1)	\$2.2	\$5.9	\$10.2	\$15.2	\$21.1	\$28.3	\$37.0	\$47.8

Under this scenario, 12,778 public school students must participate in the program and migrate to a private school for the state to break even—that is, for the costs of the tax credit to be offset by savings in state education aid.

Note that the estimates in Table 10 include only state-level fiscal impacts. As we noted above, one result of the school choice program outlined here is a shifting of expenses from local districts to the state. As we demonstrate in the following section, when the fiscal impacts on local school districts are factored into our analysis, additional state expenses are more than offset by reductions in local expenses. Table 10 demonstrates that certain combinations of scholarship values and income eligibility would generate enough demand and provide a large enough supply of scholarships to generate fiscal benefits for the state.

Some key information that can be gleaned from Tables 6-10 include:

- Low scholarship values generate less demand and may limit participation.
- Demand is increased at lower scholarship values if income-eligibility requirements are more generous, allowing higher-income families to participate.
- Raising the income eligibility for scholarships would always increase the program’s fiscal benefit, though it also would alter the composition of scholarship applicants.
- Limiting eligibility to families at or below federal free and reduced-price lunch income eligibility would not generate sufficient participation to meet demand even at scholarship values up to \$4,500.
- At lower scholarship values, allowing higher-income families to participate would increase demand and thus increase the program’s fiscal benefits. With low scholarship values, limited demand from lower-income families would not generate enough participation to produce a positive fiscal impact.
- At higher scholarship values, demand for scholarships from families of all incomes would outstrip the \$50 million limit, so increased demand from higher-income families would not produce additional participation. Higher-income eligibility would increase competition for scholarships and might alter the demographic mix of participants.

Demand for scholarships and participation levels increase dramatically as income-eligibility restrictions are relaxed. More generous means testing would also produce the greatest fiscal benefits, because more public school students would be eligible for scholarships and eligibility is increased most among groups with the highest propensity to migrate from public to private schools. If enough public school students migrate, the savings the state realizes from reduced state education aid could offset the costs of providing the tax credits.

Table 11

<b>Fiscal Impact of a Scholarship Program on the State by Scholarship Value</b> (Assumes Means Testing at Two Times Eligibility for Free and Reduced Lunch)						
	<b>SCHOLARSHIP VALUE</b>					
	\$4,500	\$4,000	\$3,500	\$3,000	\$2,500	\$2,000
Cost of Public School Student Scholarships	\$50,000,000	\$50,000,000	\$50,000,000	\$50,000,000	\$50,000,000	\$50,000,000
Scholarships Available	11,111	12,500	14,286	16,667	20,000	25,000
Demand for Scholarships	37,760	33,564	29,369	25,173	20,978	16,782
Scholarships Awarded	11,111	12,500	14,286	16,667	20,000	16,782
State Education Aid Savings	\$43,477,778	\$48,912,500	\$55,901,118	\$65,217,971	\$78,260,000	\$65,667,966
Net State Fiscal Impact	(\$6,522,222)	(\$1,087,500)	\$5,901,118	\$15,217,971	\$28,260,000	\$15,667,966

Table 11 provides details of the calculations of the state fiscal impacts presented in Table 10, under a scenario where:

- \$50 million in scholarships are made available
- Income eligibility is set at two times the income eligibility for the federal free and reduced-price lunch program

The table shows that, if average scholarship values exceed the amount of per-student state education aid savings for each student who migrates to a private school, the state would experience a small negative fiscal impact from the program. At average scholarship values that are less than the amount of per-student state education aid, the state would realize a positive fiscal impact.

Table 12

<b>Impact of a Scholarship Program on Local School Districts</b> (with \$50 Million in Scholarships & Means Testing at Two Times Eligibility for Free and Reduced Lunch)						
	\$4,500	\$4,000	\$3,500	\$3,000	\$2,500	\$2,000
# of Scholarships	11,111	12,500	14,286	16,667	20,000	16,782
Loss of State Aid	(\$43,677,341)	(\$49,137,500)	(\$56,158,266)	(\$65,517,977)	(\$78,620,000)	(\$65,970,042)
Reduction in School Expenditures	\$69,988,189	\$78,737,500	\$89,987,514	\$104,985,433	\$125,980,000	\$105,709,818
Net Change	\$26,310,848	\$29,600,000	\$33,829,248	\$39,467,456	\$47,360,000	\$39,739,776
Revenue Associated with Scholarship Students who Stay in Local Districts	\$46,999,530	\$52,875,000	\$60,429,780	\$70,501,410	\$84,600,000	\$70,987,860
Net Fiscal Impact for Students Who Remain in Public Schools	\$73,310,378	\$82,475,000	\$94,259,028	\$109,968,866	131,960,000	\$110,727,636
Impact per Scholarship	\$6,598	\$6,598	\$6,598	\$6,598	\$6,598	\$6,598



## Fiscal Impact on Local School Districts

Table 12 shows the impact of a tax-credit scholarship program on local school districts. As demonstrated earlier in this study, scholarship participants who leave the public schools would reduce per-student state aid to their local school districts, but local revenues that do not change with enrollments (those raised from property taxes and other local revenue sources) would remain unchanged. Meanwhile, the reduction in students would result in a reduction in variable expenses for school districts. In combination, these changes result in a net increase in the resources available for use in educating the students who do not participate in the program and remain in public schools.

The combination of a reduction in expenses that is greater than the loss of state aid and the continued support of local revenues that remain in school districts even when students leave results in a large positive fiscal impact to school districts. Each scholarship student produces a net increase in resources available to students who remain in the district of about \$6,600.

## Conclusion

Our analysis indicates that school district revenues vary considerably based on enrollment levels, but that expenditures also vary with enrollments. We conclude that a number of variables would affect the fiscal impacts of a tax-credit scholarship program, but that there are many ways to structure such a program to yield fiscal benefits. A balance of fiscal interests and the desire to increase educational opportunities for those most in need can be achieved in a way that would not adversely affect the per-student resources available to local school districts, but will instead increase the resources available to students who do not participate in the scholarship program and remain in public schools.

Our analysis makes it clear that a number of scholarship program designs would yield fiscal benefits while some would produce limited costs, but all would create greater educational choices and opportunities for students from all backgrounds and without adversely affecting students who do not participate in the program.

## Endnotes

- <sup>1</sup> See the opinion poll data collected in "ABCs of School Choice, 2007-08 Edition," Friedman Foundation for Educational Choice, February 2008, p. 57-62.
- <sup>2</sup> See Robert Enlow, "Georgia's Opinion on School Vouchers," Friedman Foundation for Educational Choice, March 2007.
- <sup>3</sup> The Georgia Department of Education reports a figure of 97,348 for the 2005-06 school year; however, that figure is based on figures reported by local school districts that are not verified. Because local districts have no incentive to conduct an accurate census of private school enrollment, this figure is questionable. Data from the 2006 American Community Survey of the U.S. Census Bureau show that more than 168,000 Georgia children in kindergarten through grade 12 attend something other than a public school. Subtracting the home-schooled population and the 3,251 children in schools operated by the military (Department of Defense) suggests that approximately 128,000 school-aged (kindergarten through grade 12) attend private schools.
- <sup>4</sup> "The Basics of Georgia School Finance," Georgia School Council Institute, 2007.
- <sup>5</sup> See Catherine Sielke, "Georgia School Finance 2004," 2004 State of the States and Provinces AERA Special Interest Group on Fiscal Issues.
- <sup>6</sup> The state revenue figures vary slightly between the QBE "Earnings Sheet Report for 2007" and the totals reported by the online application "School System Financial Reports." The number of FTE students also varies. Because we are interested in examining the state funding that varies by enrollment, we used the Earnings Sheet Report, which provides the most detailed reporting of state funding.
- <sup>7</sup> Although categorical aid is in part determined by enrollment levels, the amount of funding does not respond to changes in enrollment levels.
- <sup>8</sup> Because state funds do not cover the entire amount of local district direct and indirect expenditures, districts can easily see to it that state money is used for designated purposes while using the remaining local funds as desired. In this way, the distinction between uses of state and local funds becomes blurred and funds from the two sources are fungible.
- <sup>9</sup> Brian Gottlob, "The Fiscal Impacts of School Choice in New Hampshire," Friedman Foundation for Educational Choice, February 2004; Cotton Lindsay, "Fiscal Impact of the Universal Scholarship Tax Credit Proposal," South Carolina Policy Council, March 2004; "Estimating Demand and Supply Response to Tuition Tax Credits for Private School Tuition in Utah," Utah State University, December 2004; Brian Gottlob, "The Fiscal Impact of Tuition Tax Credits in New Mexico," Friedman Foundation for Educational Choice, April 2005; Susan Aud and Leon Michos, "Spreading Freedom and Saving Money: The Fiscal Impact of the D.C. Voucher Program," 2006.
- <sup>10</sup> This average differs slightly from the \$8,428 figure obtained by dividing total expenditures in the state by total enrollment. For this analysis it is more appropriate to use the average of each district's per-student expenditure. The effect of this treatment is to lower the calculated percentage of expenditures that vary by enrollment from 74.7 percent to 72.9 percent.
- <sup>11</sup> Based on data from the U.S. Census Bureau Current Population Survey, March Supplements 2005-2007.
- <sup>12</sup> For a more complete explanation of how this occurs see: Gottlob, B, and Kenyon, D., "Dollars Diverted: Taking a Hard Look at Education Finance Reform in New Hampshire," *State Tax Notes*, Vol. 35., Number 12, March 2005.
- <sup>13</sup> Ibid.
- <sup>14</sup> "Free and Reduced Price Meal Eligibility Report," Georgia Department of Education, Data Collection System, Office of Technology Services, October 2, 2007.
- <sup>15</sup> "The State of Corporate Citizenship: A View From Inside," The Center for Corporate Citizenship at Boston College, 2004.
- <sup>16</sup> "2006 Statistical Report," Georgia Department of Revenue, March 2007.
- <sup>17</sup> "2006 Statistical Report," Georgia Department of Revenue, March 2007.
- <sup>18</sup> "Giving and Volunteering in the United States," Independent Sector, the Gallup Organization, reports for 1989, 1991, 1993, 1995, and 1997.
- <sup>19</sup> Available at <http://www.irs.gov/pub/irs-soi/>
- <sup>20</sup> Author's analysis of Internal Revenue Service Statistics of Income data for Arizona and Arizona tax credit data reported in Lukas, C., "The Arizona Scholarship Tax Credit: Providing Choice For Arizona Taxpayers and Students," Goldwater Institute (No. 186), December 2003.
- <sup>21</sup> 2003 AGI from IRS "Statistics of Income" was adjusted to reflect an average annual growth rate of 1.5 percent.
- <sup>22</sup> Chiswick, B. R., and S. Koutroumanes, "An Econometric Estimate of the Demand for Private Schooling," *Research in Labor Economics*, 15:209-237, 1996; and Gwartney, J. D., and R. L. Stroup, *Economics: Private and Public Choice* (8th Edition), South-Western College Publishing, 1997.
- <sup>23</sup> Andrew Keeler and Warren Kriesel, "School Choice in Rural Georgia: An Empirical Analysis," *Journal of Agriculture and Applied Economics*, December 1994.
- <sup>24</sup> The most recent private school price survey for Georgia was conducted in 1999-2000 and is available from the National Center for Education Statistics. We inflated the average prices from that survey at an annual rate of 4 percent to arrive at an estimate of the average tuition for 2008.
- <sup>25</sup> Our research indicates that the price elasticity for lower income families is lower than the elasticity for higher income families; -0.75 represents a median figure. In estimating scholarship demand among families of different income levels, however, the demonstrated preference for private schooling in Georgia at each level of family income is used.

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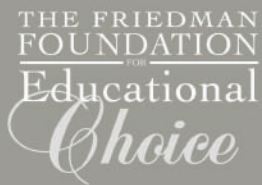
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