FISCAL RESEARCH CENTER

School Facility Funding in Georgia and the Educational Special Purpose Local Option Sales Tax (ESPLOST)

Eric J. Brunner
Nicholas Warner

Fiscal Research Center
Andrew Young School of Policy Studies
Georgia State University
Atlanta, GA

FRC Report No. 250
October 2012

Georgia State University | ANDREW YOUNG SCHOOL OF POLICY STUDIES

SCHOOL FACILITY FUNDING IN GEORGIA AND THE EDUCATIONAL SPECIAL PURPOSE LOCAL OPTION SALES TAX (ESPLOST)

Eric J. Brunner
Nicholas Warner

Fiscal Research Center
Andrew Young School of Policy Studies
Georgia State University
Atlanta, GA

FRC Report No. 250
October 2012

Acknowledgments

The insightful suggestions and helpful recommendations of David L. Sjoquist and Carolyn Bourdeaux are gratefully acknowledged and appreciated. Any remaining errors and omissions are solely the responsibility of the authors.

Table of Contents

Executive Summary

This study provides a comprehensive review of Georgia's system of school facility finance, with a particular emphasis on the role the Education Special Purpose Location Option Sales Tax (ESPLOST) plays in funding school facilities. In so doing, it attempts to answer five broad questions related to the way Georgia finances its school facility needs: (1) How has the level of school facility funding changed over time and how does it compare to the level of funding in other states; (2) How successful have school districts been at raising revenue through the ESPLOST and how does the amount of revenue generated through the ESPLOST compare to other major funding sources for school facilities; (3) How is ESPLOST revenue and the overall level of school facility funding distributed across school districts; (4) What are the primary causes of inequities in school facility funding across districts; and (5) Would it be feasible to allow school districts to redirect some or all of their ESPLOST revenue toward operating expenses? This report attempts to answer those questions by documenting Georgia's current system of school facility finance and examining the level and distribution of school facility funding since the passage of the ESPLOST program in 1996.

Revenue Raised through the ESPLOST has Significantly Increased School Facility Funding

Since the passage of ESPLOST legislation in 1996, spending per pupil on new school construction and modernization has increased dramatically in Georgia. Prior to 1996, spending per pupil on school facilities in Georgia lagged behind most other states with similar enrollment growth. Shortly after the passage of ESPLOST legislation, however, spending per pupil on school facilities in Georgia began to rise and now mirrors the level of funding observed in states with similar enrollment growth. ESPLOST revenue now represents the single largest source of revenue available to school districts for new school construction and modernization. For example, between 2006 and 2010, ESPLOST revenue represented over 80 percent of the total revenue available to school district for their school facility needs. The ESPLOST program has also proven to be effective in allowing school districts to reduce their dependence on long-term debt to finance school facility needs. While spending per pupil on school facilities has increased dramatically since 1996, school

district debt has remained relatively constant. That stands in stark contrast to what has occurred in the rest of the United States. Among school districts located in states other than Georgia, long term debt per pupil in 1996 averaged approximately $3,900 while it averaged $3,200 in Georgia. By 2008, long term debt per pupil averaged nearly $8,000 in school districts located outside of Georgia while it averaged only $3,560 in Georgia. The differences in debt levels are even more dramatic if one compares Georgia to other states with similar enrollment growth.

ESPLOST Referenda Receive Widespread Voter Support

As noted by the Association County Commissioners of Georgia (ACCG), the unpopularity of the property tax has made the ESPLOST a popular alternative for funding school facilities. One measure of that popularity is the widespread use of the ESPLOST. As of 2011, all but one of Georgia's 159 counties had passed at least two ESPLOST referenda and more than a third of counties had an ESPLOST in place without interruption between 1997 and 2011. Another measure of the popularity of the ESPLOST is the high passage rate of local referenda. Since the first ESPLOST referenda in 1997, all but 32 of 562 referenda held where approved by voters, implying an overall approval rate of 94 percent. Furthermore, while ESPLOST referenda only require the support of a simple majority of voters to pass, the vast majority of referenda are supported by a much higher fraction of local voters. On average, the fraction of local voters supporting ESPLOST referenda is over 67 percent. Finally, we find that voter support for the ESPLOST tends to be high regardless of when ESPLOST referenda are held. Specifically, we find no evidence that support for ESPLOST referenda varies with voter turnout or with the month in which a referenda is held.

There are Wide Disparities in School Facility Funding across Districts

Revenue per pupil for school construction and modernization varies widely across districts. For example, 10 percent of students in Georgia attended a district where facility revenue per pupil (total revenue raised over the period 2001-2010 divided by student enrollment) was less than $6,983, while 10 percent of students attended a district where facility revenue per pupil was greater than $17,673; a difference between the 90th and 10th percentiles of over $10,000. While these disparities have declined over time, large differences across districts in facility funding remain. Part of the variation across districts in

facility funding is due to differences in need, another part is due to differences in the ability to pay for school facility projects. In terms of need, districts with higher enrollment growth rates tend to have substantially higher revenue per pupil. In terms of ability to pay, districts with higher sales tax bases also tend to have substantially higher revenue per pupil. In particular, disparities in school facility funding across districts are systematically related to the sales tax base within districts. Districts with higher sales tax bases are able to raise substantially more revenue through the ESPLOST and consequently, tend to have substantially higher total revenue per pupil. There also appears to be little relationship between facility revenue and the ethnic composition of districts. If anything, districts with higher concentrations of minority students tend to have higher facility revenue per pupil.

Flexible Use of ESPLOST Revenue is Potentially Feasible but Important Issues Remain

In 2010 the Georgia State Senate Budget Task Force recommended "allowing flexible use of ESPLOST revenue for schools' operating expenses and capital improvements." Following that recommendation, the Georgia State Legislature in 2010 proposed an amendment to the Georgia Constitution authorizing school districts to use ESPLOST revenue to fund operating expenses and millage rate reductions in addition to capital improvements. While the proposal was passed by the House of Representatives, it failed to gain traction in the Senate. In light of the Georgia State Senate Budget Task Force recommendation and the 2010 legislation, we end our report by examining the feasibility of allowing school districts to redirect some or all of their ESPLOST revenue toward operating expenses.

Our analysis of enrollment growth projections and the five-year facility needs reports submitted by school districts to the Department of Education suggests that over the next five to ten years, financial need for new school construction and expansion projects will decline as the growth rate of student enrollment slows statewide. At the same time, however, our analysis of the most recent (2011) facility needs reports prepared by school districts suggests that overall financial need for facilities will increase by approximately 34 percent over the next five years, an increase that is being driven primarily by a substantial increase in reported need for renovation and modernization projects.

The continuing financial need for facility investments casts some doubt on whether school districts would have sufficient ESPLOST revenue available to fund operating expenses and millage rate reductions in addition to reported capital improvement needs. We note, however, that the overall increase in facility needs reported above represents an average across all school districts, and thus it is possible that some school districts would have sufficient ESPLOST revenue available to fund operating expenses or millage rate reductions, if given the option to use ESPLOST for operating expenses. In addition, for certain school districts the marginal benefit of additional spending on daily operations (e.g. hiring teachers and teacher aids and providing school enrichment programs) may be higher than the marginal benefit of additional spending on school renovation and modernization projects. In such cases, reallocating ESPLOST revenue towards operating expenses could increase overall productivity. The use of sales tax rather than property tax to fund operating expenses does have some policy implications which are further discussed in this report.

School Facility Funding in Georgia and the Educational Special Purpose Local Option Sales Tax (ESPLOST)

I. Introduction

In 1996 the Georgia State Legislature passed legislation allowing school districts to impose a one cent Special Purpose Local Option Sales Tax for Education (ESPLOST), subject to the approval of a majority of a school district's voters. School districts can use ESPLOST revenue to fund capital outlay projects, retire previously incurred debt, or some combination of both. Since that time, school districts have raised over $21 billion (in constant 2010 dollars) in revenue through the ESPLOST making it the largest source of revenue available to school district for new school construction and modernization.

The purpose of this report is to provide a comprehensive overview of the ESPLOST and to examine the impact of ESPLOST revenue on the size and distribution of school facility investment in Georgia. Section 2 reviews the history of the ESPLOST and Georgia's current system of school facility finance. That chapter borrows liberally from Walker and Sjoquist (1996) and Rubenstein and Freeman (2003) who provide excellent accounts of the evolution of Georgia's system of school facility finance and the origins of the ESPLOST. Section 2 builds on their work by providing a more recent overview of Georgia's system of school facility finance and the role the ESPLOST plays in that system.

Following that review, Section 3 examines how school facility funding in Georgia has changed over time and how it compares to the level of funding in other states. That section shows that prior to the passage of ESPLOST legislation in 1996, spending per pupil on school facilities in Georgia was slightly higher than the national average but significantly lower than the level of spending observed in states with similar enrollment growth. Since 1996, however, spending per pupil on school facilities in Georgia has increased substantially and now mirrors the level of spending observed in states with similar enrollment growth. Section 3 also shows that the ESPLOST program has been quite successful at reducing school district reliance on long-term debt and promoting a system of school facility finance that more closely resembles a "pay as you go" system.

After providing an historical overview of Georgia's system of school facility finance, Sections 4 and 5 turn to examining the level and distribution of school facility funding. Section 4 shows that since 2001 state and local governments in Georgia have raised approximately $20 billion to fund new school construction and modernization projects throughout the state. ESPLOST revenue accounts for approximately 80 percent of that

revenue. The section also shows that school facility funding varies widely across districts. The causes of these wide disparities in funding are the focus of Section 5. That section shows that part of the variation in facility funding can be explained by differences in need. Districts with higher enrollment growth tend to have significantly higher levels of facility funding. However, Section 5 also finds that disparities arise from differences across districts in the ability to pay for new school construction and modernization projects. In particular, school facility funding varies systematically with a district's sales tax base. Districts with high sales tax bases tend to have significantly higher ESPLOST revenue per pupil and consequently, significantly higher total revenue per pupil.

In Section 6, we investigate the feasibility of allowing school districts to redirect some or all of their ESPLOST revenue toward operating expenses. We begin that section by examining the future facility needs of school districts in Georgia, both in terms of enrollment growth projections and the past and present school facility needs reports of school districts. We then turn to examining the revenue generating capacity of ESPLOST under the assumption that all ESPLOST revenue was used to fund current operating expenses. Finally, we examine how allowing school districts to use ESPLOST revenue to fund current operating expenses would likely affect the distribution of per-pupil operating revenue across school districts. The report concludes by summarizing the main findings presented in Sections 2 through 6.

II. Georgia's School Facility Finance System and the Origins and Evolution of ESPLOST

This section provides an overview of Georgia's system of school facility finance. The section begins with a brief overview of the Capital Outlay Program which is the primary system Georgia uses to allocate state funds to local school systems for the construction and renovation of schools. The remainder of the section focuses on the origins and history of the ESPLOST with particular attention paid to voter support for ESPLOST referenda and how voter support and ESPLOST passage rates vary with the timing of elections.

Overview of the Capital Outlay Program

In 1977 the Georgia State Legislature established the Capital Outlay Program to provide local school systems with financial and technical support for new school construction and modernization projects.[1] The governing laws for the Capital Outlay Program specify the types of projects that are eligible for state capital outlay funds and the reimbursement rate for various project costs while the Georgia State Board of Education establishes minimum specifications for the construction of facilities.[2] Projects funded through the Capital Outlay program move forward overseen by the Georgia Department of Education.

Local school systems are required to provide matching funds for approved projects. The local matching rate was historically determined by a school district's annual debt service payment and their local ability ratio, which is the ratio of the local per pupil property tax base and the state per pupil property tax base. School systems with a local ability ratio greater than one are required to contribute a larger share towards eligible projects. Historically, the state has contributed between 80 percent and 92 percent of the funds necessary to cover eligible project costs. Local school systems are responsible for financing the remaining 8

[1] Walker and Sjoquist (1994) and Georgia's Governor's Education Reform Study Commission, Education Facilities Committee (2000), provide detailed reviews of Georgia's Capital Outlay Program.
[2] The Governing laws for the Capital Outlay Program are outlined in Article OCGA 20-2-260 through Article OCGA 20-2-262 of the Georgia Code.

percent to 20 percent of eligible project costs and any non-eligible costs or costs that exceed the reimbursement rate set by the state.[3]

The application for state facility funding begins with the submittal of a Local Facilities Plan by each school system at least every five years. These plans must include a full survey of the real property owned by the school system, its age and condition. With the help of the state, a projection for enrollment growth over the next five years must also be included as a measure of need. A prioritized list of projects requesting funds along with the calculated level of local participation outlines the five year facility needs of the school district. Eligible projects include construction, renovations, modernizations and major programmatic changes which will reallocate space for new uses. The state then determines the overall entitlement level of $200 million, $160 million, $120 million or $80 million based on the statewide need and in most years the entitlement has been $200 million. Each school systems' entitlement portion is based on their facility needs relative to the overall statewide facility need, as well as which projects are ready to begin in that year. Any unused earned entitlement can be transferred into the future thus allowing districts to accumulate earned capital outlay entitlements over time.

In 1994 the Exceptional Growth Capital Outlay Grant was added to the Capital Outlay Program. The new program was intended to add an additional state revenue source for schools experiencing high enrollment growth. To be eligible, a school system must experience growth of 65 or more students and a growth rate of 1.5 percent or more over the system's previous three-year rolling average of enrollment growth and must earmark the revenue for additional classroom expansion. The entitlement levels are $100 million, $80 million, $60 million and $40 million.

The Exceptional Growth Program was implemented during a period in which many of Georgia's local school districts were experiencing rapid enrollment growth. For example, between 1988 and 1997, the average enrollment growth rate in Georgia was 24.2 percent, nearly double the national average of 14.5 percent over the same time period. In recent years, however, enrollment growth in Georgia has declined thus limiting the benefit of the

[3] As noted by the State Education Finance Study Commission (2010), non-eligible costs include land acquisition, site preparation and expenses related to athletic facilities. In addition, the reimbursement rate the state provides for square footage is typically lower than actual construction costs. As a result, local school districts typically fund a significantly larger share of project costs than the state.

program to most school districts. According to the State Education Finance Study Commission (2011), the number of school districts that qualify for the Exceptional Growth Program has declined over time from 50 in 2002 to just 18 by 2013. As a result, in 2011 both the Georgia Department of Education and the State Education Finance Study Commission recommended phasing out the program and transferring previously accumulated growth entitlements into the Regular Capital Outlay Program. Analysis conducted by the Georgia Department of Education suggests that 164 out of Georgia's 180 school districts would benefit from this change. These recommendations were taken up by the State Legislature in House Bill 760 and approved by the House and Senate in 2012. As a result, the Exceptional Growth Program is set to sunset in 2014 at which point the maximum entitlement level for the Regular Capital Outlay Program will increase from $200 to $300 million.

In 1999, the State Legislature created the Low Wealth Program to assist school districts with low property tax bases, low sales tax bases and low per-capita income in meeting their school facility needs. To qualify for Low Wealth funding a school district must: 1) be less than 75 percent of the state average on property wealth per student, 2) be less than 75 percent of the state average on sales tax wealth per student, 3) be less than 75 percent of the state average on per capita income wealth per student, 4) have a minimum operating levy that represents a minimum of 60 percent of the amount generated by 20 mills, 5) must have an existing ESPLOST or bonded indebtedness and 6) must have at least one year of payments remaining on advance funding. The state provides up to 92 percent of the funding for eligible costs. [4]

In 2011, both the Georgia Department of Education and the State Education Finance Study Commission recommended modifications to the Low Wealth Program that would make it easier for school district to qualify for the program. Based on those recommendations, in 2012 the Georgia State Legislature approved legislation that significantly revamped to Low Wealth Program. Under the new legislation, codified in House Bill 760, school districts qualify for Low Wealth funding if they meet the following criteria: 1) the district ranks in the bottom 25 percent of local school systems for sales tax revenues per full-time equivalent students, 2) the district ranks in the bottom 25 percent of

[4]Capital Outlay Issue Paper provided by the Georgia Department of Education and the State Education Finance Study Commission (2010).

local school systems for value of property per full-time equivalent student[5], 3) the district's millage rate for maintenance and operation is at least 12 mills, 4) an ESPLOST is in effect in the local school district or the local school system has in place a millage rate for debt service on bonds, and 5) the district uses prototypical specifications as defined by the State Board of Education for the project.

The remaining programs administered under the Capital Outlay Program are the Advanced Funding Program and the Merger Program. The Advanced Funding Program works like a low interest loan against future approved entitlements. If a school district's eligible needs described in their Five Year Local Facilities' Plan exceed their entitlement for at least the next three years the system is eligible for this "advancement" of future funds. Systems that receive this funding cannot submit an application under the Regular Capital Grant Program until the state funds advanced to them have been repaid from entitlement earnings. The Merger Program provides funding for school districts that wish to merge with another school district. While the program remains part of the Capital Outlay Program it has not been utilized in over 20 years.

Origins of ESPLOST

Prior to 1997, the property tax represented the only source of funding available to local school districts for new school construction and modernization. In January 1996, the State Legislature passed HR 728, which proposed an amendment to the Georgia Constitution authorizing the boards of education of county and independent school districts to impose, levy, and collect a one percent sales and use tax for certain educational purposes. The legislation was subsequently signed by the Governor in April of 1996 and approved by voters in a state-wide constitutional amendment vote in November of 1996. The ESPLOST legislation allows school districts to impose a one percent sales tax for educational purposes

[5] Criteria 2 may be waived under some circumstances. Specifically, the new legislation allows for the following: "For local school systems in which the amount of special purpose local option sales tax revenues is ranked in the bottom 25 percent of local school systems receiving such sales tax revenues, such systems may submit a request to the department for consideration; provided, however, that the local school system shall be required to commit the equivalent of five years of such revenues for the project. The department shall consider factors such as the high cost of a project, the local school system's ability to manage the project on its own, and the needs of the local school system, in determining whether to approve a project."

subject to the approval of a majority of a school district's voters.[6] Local option sales taxes can be imposed for a maximum of five years and can only be extended through a subsequent referendum. School districts can use ESPLOST revenue to fund capital outlay projects, retire previously incurred debt, or some combination of both. ESPLOST revenue cannot be used for operating expenses such as teacher salaries, etc.[7]

School districts have various financing options for projects intended to be paid for by future ESPLOST revenues. First, when school districts hold ESPLOST referenda, they can ask voters to approve the issuance of general obligation bonds to finance facility investments. Second, districts can annually borrow against ESPLOST revenues to start construction immediately rather than wait for monthly revenue distributions.[8] Any such annual financing cannot be renewed across years and additional loans cannot be incurred until the previous years' debt has been repaid. Third, districts can enter into lease purchase agreements or issue Certifications of Participation (COP's) for facility financing of ESPLOST approved projects. Lease purchase agreements allow local governments to enter into an annually renewable contract for the use and acquisition of the property (i.e. buildings etc.). Payments are typically made over the term of an ESPLOST and a school district acquires the title to the property when full payment has been made. Certificates of Participation are a special form of lease purchase agreements whereby investors purchase certificates for the lease obligations associated with a property.[9]

[6] The ESPLOST was preceded by the Local Option Sales Tax (LOST) in 1975 and the Special Purpose Local Option Sales Tax (SPLOST). These two one percent sales taxes along with the ESPLOST are intended to provide pay as you go financing for capital outlays if approved by referendum. The LOST and SPLOST were county based and the ESPLOST was partially complicated by the existence of City and Independent School Districts. The ESPLOST is also unique in that the referendum is authored and administered by school districts as opposed to county commissioners. School districts must follow most of the referendum protocol required by Article III, Section VI, Paragraph IV(c) of the Georgia Constitution.

[7] In 2006, the Georgia Supreme Court provided further guidance on what school districts could and could not use ESPLOST revenue for. Specifically, in Johnstone et al v. Thompson the court clarified that school districts cannot use ESPLOST revenue for any projects that are determined completely different from those described in the original referendum approved by voters without another approved referendum. The court also clarified that previous case law had found that some reasonable discretion must be allowed because exact budgeting of ESPLOST funds would be impossible to implement. The attorney general has clarified that School Buses and Equipment with an extended useful life are included in the definition of a capital outlay project.

[8] See Official Opinion of the Attorney General of Georgia No. 97-30 (1997).

[9] For more detail see, James Monacell and Smith, Gambrell & Russell LLP (2007).

ESPLOST Referendum Vote History

As described above, the ESPLOST legislation allows school districts to impose a one percent sales tax subject to the approval of a majority of a school district's voters. ESLPOST referenda are held at the county level, implying that the ESPLOST is a county-level sales tax. When a county contains one or more independent school districts, ESPLOST revenue is shared between county schools and any independent schools. In this section, we document the history and level of support for ESPLOST referenda.

As noted by the Association County Commissioners of Georgia (2011), the unpopularity of the property tax has made the Special Purpose Local Option Sales Tax a popular alternative to funding facility investments. One measure of the popularity of the ESPLOST is the widespread use and high passage rate of local referenda. Tables 1 through 3 summarize the history of ESPLOST referenda. Table 1 describes the percentage of counties collecting an ESPLOST by year.[10] As the table reveals, by the end of 1997 over 40 percent of counties had implemented an ESPLOST and by 2007 nearly all counties had an ESPLOST in place. Table 2 documents the number of successful ESPLOST elections held by school districts. As of 2011, 158 of the 159 counties in Georgia had passed two or more ESPLOST referenda.[11] The majority of counties have passed at least three ESPLOST referenda and more than a third (57) of Georgia's counties had an ESPLOST in place without interruption between 1997 and 2011. Table 3 documents the number of ESPLOST referenda held by year and the number of those referenda that either passed or failed. As the table makes clear, the vast majority of ESPLOST referenda have been approved by local voters. Between 1997 and 2011, 94 percent (530 out of 562) of the ESPLOST referenda held were approved by voters. Furthermore, nine of the 32 referenda that failed were held during the first year of ESPLOST elections, namely 1997.

[10] Data on ESPLOST referenda outcomes come from the Georgia Department of Education.
[11] Burke is the only county that has not passed an ESPLOST referendum as of 2011.

TABLE 1 . PERCENTAGE OF COUNTIES COLLECTING AN ESPLOST BY YEAR

Year	Number of Counties Collecting an ESPLOST on December 31st	Percentage of Counties
1997	64	40.30%
1999	125	78.60%
2001	137	86.20%
2003	140	88.10%
2005	148	93.10%
2007	155	97.50%
2009	157	98.70%
2011	157	98.70%

Source: The Georgia Department of Revenue.

TABLE 2. NUMBER OF DISTRICTS BY NUMBER OF ESPLOST REFERENDA PASSED THROUGH DECEMBER 2011

Number of ESPLOST Referendum Passed	Number of Counties with this Number or More Successful Referenda
1	158
2	158
3	138
4	76
5	4
6	1

Count is through Calendar Year 2011 and Burke County is the on School system to never have implemented an ESPLOST Georgia Department of Education.

TABLE 3. NUMBER OF PASSED AND FAILED ESPLOST REFERENDA BY YEAR HELD

Year	Count of Referendums Held	Count of Passed Referendums	Count of Failed Referendums
1997	112	103	9
1998	24	19	5
1999	17	16	1
2000	15	13	2
2001	65	63	2
2002	42	40	2
2003	22	22	0
2004	14	13	1
2005	34	33	1
2006	51	51	0
2007	46	45	1
2008	18	17	1
2009	28	24	4
2010	17	16	1
2011	57	55	2
Total	562	530	32

School districts can choose to hold an ESPLOST referendum at any time during the year. If a referendum fails to pass, a school district must wait one calendar year before holding another election. Table 4 summarizes the pass rate, yes vote percentage and turnout percentage of ESLPOST referenda by month held. The majority of ESPLOST referenda have been held in March and September, with 377 of the 562 referenda[12] being held during those two months alone. Table 4 also reveals that ESPLOST referenda enjoy remarkable support, regardless of the month in which an ESPLOST referendum is held. Specifically, in every month, the average percentage of yes votes exceeds 60 percent and the pass rate exceeds 90 percent. The table also reveals that there is significantly more variation in turnout percentages than in yes vote percentages or pass rates across months. [13]

[12] The total number of referendums held would not match exactly the Georgia Department of Education ESPLOST Data Collection Worksheet. This due to the existence of two instances where two referendums were said to have been held for the same district with the exact same result and these have been treated as duplicates and dropped.

[13] Data on the number of registered voters in each county comes from the Georgia Secretary of State. Turnout percentages are the total numbers of votes cast divided by the number of registered voters.

TABLE 4. ESPLOST VOTE RESULTS BY MONTH HELD

Month Held	1997-2011 Count*	Pass Rate	Yes Vote Percentage	Turnout Percentage
February	5	100%	74.11%	36.92%
March	214	93%	69.79%	10.74%
June	22	95%	60.38%	11.19%
July	20	100%	67.65%	25.35%
August	39	92%	63.68%	15.53%
September	163	94%	69.20%	13.46%
November	99	96%	66.59%	30.78%

*This is a count of county level referendums and treats multi-school district counties holding multiple referendums at one time as one referendum.

School districts also have the choice to pair their ESPLOST referenda with a general or primary election; an option that may reduce the costs associated with holding referenda but may also change the composition of voters that show up to the polls since voter turnout tends to be substantially higher during primary and general elections. Table 5 summarizes how voter turnout and support for ESPLOST referenda varies based on whether or not a referendum was held on the same day as a primary or general election. ESPLOST referenda held during a general or primary elections experience significantly higher turnout rates and slightly lower yes vote percentages and pass rates. Specifically, voter turnout is approximately 27 percentage points higher and the percentage of yes votes cast in favor of an ESPLOST was approximately 4.5 percentage points lower when an ESPLOST referendum was held during a general or primary election. Despite those facts, pass rates for ESPLOST referenda held during a general or primary election are within two percentage points of those held on other dates.

TABLE 5. ESPLOST REFERENDA RESULTS BY ELECTION YEAR STATUS

Election Year Status	Count	Pass Rate	Yes Vote Percentage	Turnout Percentage
Held During a General Election or Primary	69	92.5%	64.1%	40.6%
Not held During a General Election or Primary	493	94.5%	68.6%	12.9%

* Georgia Secretary of State.

Support for ESPLOST Referenda and the Timing of Elections

The results presented in Table 5 provided some evidence that support for ESPLOST referenda varies with voter turnout and the timing of elections. In this section we investigate that possibility in more detail by asking whether the timing of an election affects the percentage of votes cast in favor of an ESPLOST referenda and the probability that an ESPLOST referenda passes. To answer those questions we turn to linear regression analysis to determine what possible effect election timing choice has on referendum outcomes.

Table 6 presents coefficient estimates from specifications designed to examine the impact of election timing on the percentage of votes cast in favor of ESPLOST referenda. All the specifications reported in Table 6 are weighted by the number of registered voters and in addition to the variables listed in the table, all specifications include year and district fixed effects[14] as well as time varying controls for the county per-capita income and the percentage of minority students within a district.[15] In column 1, we examine whether the percentage of yes votes varies with the month in which an ESPLOST referenda is held. The omitted month is February so all the estimated coefficients on the month indicator variables are relative to that month. The results reported in column 1 provide little evidence that support for ESPLOST referenda varies with the month in which a referenda is held. All of the estimated coefficients are relatively small in magnitude and statistically insignificant.

In columns 2 through 4 of Table 6 we add additional controls to the specification reported in column 1. Specifically, in column 2 we add a control for voter turnout to examine whether higher voter turnout affects support for ESPLOST referenda. We find that it does not. The estimated coefficient on the voter turnout is once again small in magnitude and statistically insignificant. In column 3 we replace the voter turnout variable with an indicator variable that takes the value of unity if a referendum was held on the same date as a general or primary election. The estimated coefficient on the general / primary election

[14] The inclusion of district fixed effects implies we are identifying the impact of election timing on approval rates based on within district variation in the timing of elections. Fortunately, there is considerable within-district variation in the month during which districts hold an ESPLOST election. The inclusion of district fixed effects also implies that our models control for any time-invariant characteristics of a district that might be correlated both with ESPLOST passage rates and the timing of elections.

[15] Data on county per-capita income comes from The Georgia Statistics System, provided by the University of Georgia while data on the fraction of minority students in each county comes from the National Center for Educational Statistics.

TABLE 6. REGRESSION RESULTS: DEPENDENT VARIABLE: YES VOTE PERCENTAGE

Variables	Yes Vote Percentage	Yes Vote Percentage	Yes Vote Percentage	Yes Vote Percentage
Turnout Percentage		-0.0332		0.0181
		(0.0717)		(0.0906)
During a General Election or Primary			-0.0303	-0.0350
			(0.0299)	(0.0379)
March	0.0103	0.00198	0.0148	0.0200
	(0.0831)	(0.0851)	(0.0832)	(0.0874)
June	-0.0669	-0.0759	-0.0615	-0.0558
	(0.0877)	(0.0900)	(0.0879)	(0.0926)
July	-0.00540	-0.0134	0.0162	0.0239
	(0.0899)	(0.0917)	(0.0924)	(0.100)
August	-0.0369	-0.0424	-0.0290	-0.0248
	(0.0871)	(0.0880)	(0.0874)	(0.0900)
September	0.0478	0.0396	0.0505	0.0554
	(0.0819)	(0.0839)	(0.0819)	(0.0857)
November	0.0243	0.0220	0.0391	0.0426
	(0.0828)	(0.0830)	(0.0840)	(0.0860)
Observations	562	562	562	562
R-squared	0.615	0.615	0.616	0.616

The unit of observation is a referendum and all independent variables are at the county level. Regressions have been weighted by the number of registered voters. All specifications include controls for county per capita income, the percentage of minority students and year and county fixed effects. Standard errors in parentheses. *** significant at 1% level, ** significant at 5% level.

indicator variable suggests that referenda held on the same date as a general or primary election receive approximately three percentage points fewer yes votes than referenda held on other dates. However, the estimated coefficient is not statistically different from zero. In the final column we present results from a specification that includes both voter turnout and the indicator variable for referenda held at the same time as a general or primary election. Once again, none of the estimated coefficients are statistically different from zero suggesting that election timing has little impact on the outcome of ESPLOST referenda.

III. Trends in School Facility Funding

The previous section provided an overview of Georgia's system of school facility finance and the role the ESPLOST plays in that system. This section documents how the level of school facility funding has changed over time and how spending on school infrastructure in Georgia compares to the rest of the nation and individual states with similar enrollment growth trends.

Figure 1 compares school facility spending per pupil in Georgia with spending per pupil in the rest of the U.S between 1988 and 2008.[16] Spending levels are adjusted for inflation, with 2008 as the base year. Prior to 1997, school facility spending in Georgia cycled around the national average. With the passage of ESPLOST legislation in 1996, spending per pupil in Georgia began to rise relative to the rest of the nation and has remained above the national average ever since.

Figure 2 compares school facility spending in Georgia with spending in three other states with enrollment growth similar to Georgia. All spending levels are adjusted for inflation and measured in constant 2008 dollars. As the figure reveals, prior to 1997, Georgia typically spent less per pupil on K-12 school facilities than other states with similar enrollment growth trends. For example, between 1988 and 1996 Georgia spent about $400 less per pupil on school facilities than Florida, $150 per pupil less than Texas and approximately $100 per pupil less than Colorado. Following the passage of ESPLOST legislation in 1996, however, spending per pupil on school facilities in Georgia rose and reached a level similar to that of Colorado in Texas but still below Florida.

[16] Data on K-12 School facility spending in the U.S. comes from the U.S. Department of Commerce, Bureau of the Census, Annual Survey of Local Government Finances. Annual facility spending is measured as the sum of total state and local capital expenditures. Prior to 1988, data on capital outlays by state and local governments for K-12 education were not reported in a consistent manner. As a result, the analysis begins in 1988.

FIGURE 1. FACILITY SPENDING PER PUPIL: GA VERSUS THE U.S., 1988-2008

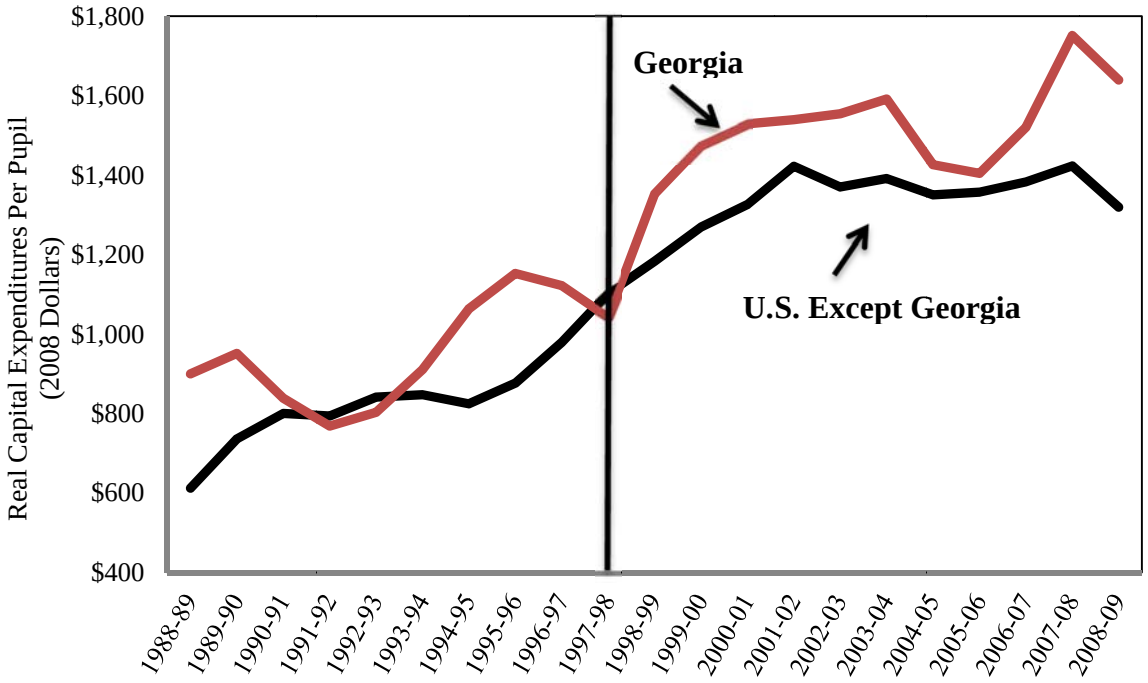

FIGURE 2. FACILITY SPENDING PER PUPIL: GA VERSUS SIMILAR ENROLLMENT GROWTH STATES

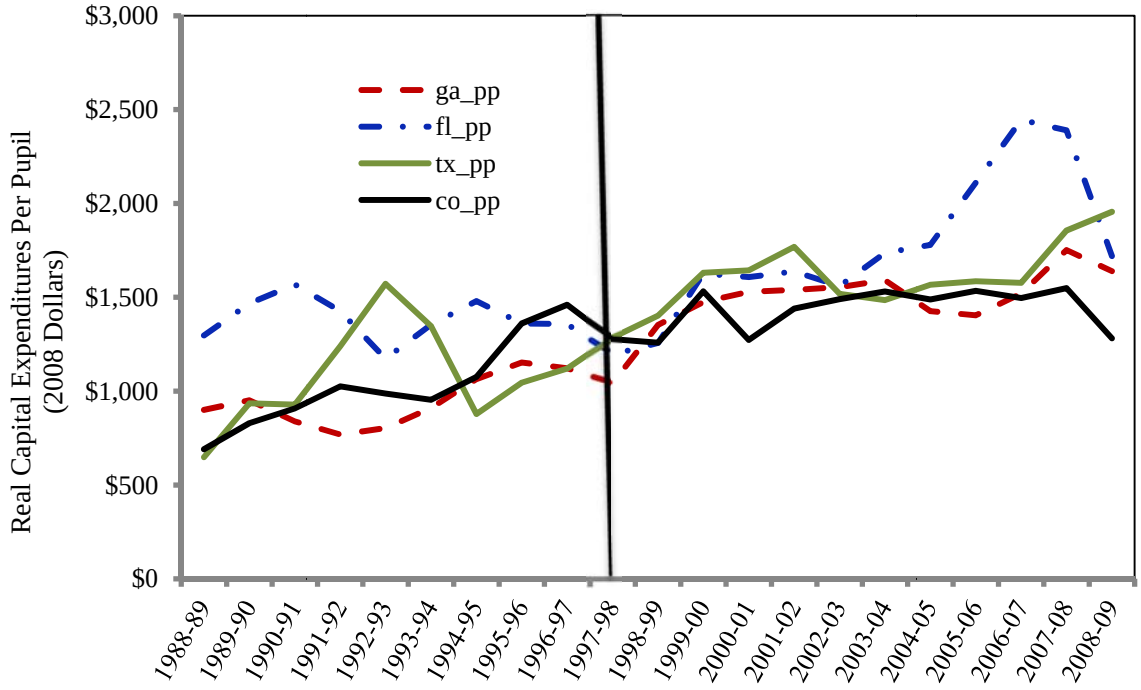

Table 7 presents more detailed information on how spending per pupil on school facilities in Georgia compares to the rest of the United States and other states with similar enrollment growth. The top panel of the table compares facility spending per pupil in five-year increments. The second panel first compares facility spending over the entire time period and then for the periods pre and post passage of ESPLOST legislation in Georgia. For comparison purposes, the final panel compares enrollment growth trends for the same time periods listed in the second panel. While on average Georgia consistently spent about $100 to $150 more per pupil than the rest of the nation during each time period, its enrollment growth rate was also substantially higher than the national average. For example, while the enrollment growth rate for all states other than Georgia between 1988 and 2008 was 22 percent, the enrollment growth rate in Georgia over the same time period was 49.4 percent. Compared to the three states with similar enrollment growth, Georgia consistently spent less on average prior to 1997 even though Georgia's enrollment growth rate was higher than the growth rate experienced by Texas or Colorado. Following the passage of ESPLOST legislation, however, spending on school facilities in Georgia increased dramatically. On average, spending per pupil in Georgia increased from $955 per pupil during the period 1988-1997 to $1,526 per pupil during the period 1998-2008, or by nearly 60 percent. As a result, between 1998 and 2008 spending per pupil in Georgia rose to a level that was comparable to other states with high enrollment growth rates.

TABLE 7. STATE COMPARISONS OF SCHOOL FACILITY SPENDING PER PUPIL, 1988-2008

Period	U.S. Except GA	GA	FL	TX	CO
1988-92	$736	$865	$1,440	$938	$864
1993-97	$926	$1,058	$1,349	$1,135	$1,226
1998-02	$1,314	$1,490	$1,537	$1,593	$1,399
2003-08	$1,371	$1,556	$2,030	$1,671	$1,480
1988-08	$1,105	$1,254	$1,597	$1,381	$1,259
1988-97	$841	$955	$1,368	$1,100	$1,057
1998-08	$1,345	$1,526	$1,806	$1,636	$1,443
Enrollment Growth					
1988-08	22.0%	49.4%	52.9%	44.7%	46.1%
1988-97	14.5%	24.2%	33.3%	18.5%	22.7%
1998-08	5.6%	18.2%	12.6%	20.4%	17.1%

Recall that school districts can use ESPLOST revenue to fund capital outlay projects, retire previously incurred debt, or some combination of both. As Rubenstein and Freeman (2003) note, the ESPLOST program "represents a dramatic shift in financing strategy for capital construction from long-term debt toward "pay-as-you-go" financing from current revenues or short-term bonded debt." It is therefore interesting to examine how long-term debt levels associated with school construction and modernization have changed over time. Table 8 compares school district debt in Georgia with district debt in the rest of the United States and with three states experiencing similar enrollment growth between 1996 and 2008. Debt levels are reported in per pupil terms and measured in constant 2008 dollars. In 1996, the year the ESPLOST program was approved, the average school district in Georgia had a per-pupil long-term debt level of $3,162, a level slightly lower than in the rest of the United States and between $1,000 and $3,400 below that of other states with similar enrollment growth trends. Since that time, Georgia's per pupil long-term debt level has risen only moderately from $3,162 in 1996 to $3,561 in 2008 or by 13 percent. In contrast, per pupil debt in the rest of the United States has increased by over 100 percent over the same time period from $3,882 in 1996 to $7,980 in 2008. Georgia's per-pupil debt levels have also grown significantly slower than all three other states with similar enrollment growth trends. Specifically, while on average per pupil debt among school districts in Georgia rose by approximately 13 percent in real terms, it rose by approximately 38 percent in Colorado and by over 170 percent in Texas. Furthermore, recall from Table 7 and Figures 1 and 2 that Georgia's modest increase in long-term debt occurred over a time period when school districts in the state were investing heavily in school facilities. Thus, Tables 7 and 8 combined suggests that the ESPLOST program has been quite successful at reducing school

TABLE 8. STATE COMPARISONS OF LONG-TERM DEBT PER PUPIL, 1996-2008

Year	U.S.	GA	FL	TX	CO	NC
1996	$3,882	$3,162	$4,109	$4,630	$6,546	$3,043
2001	$6,311	$3,296	$4,856	$8,952	$9,090	$4,497
2008	$7,980	$3,561	$6,592	$12,577	$9,029	$6,852
Growth Rate of Debt 1996-08	106%	13%	60%	172%	38%	125%
Enrollment Growth 1996-08	8.1%	22.9%	17.3%	24.1%	21.5%	23.0%

district reliance on long-term debt and promoting a system of school facility finance that more closely resembles a “pay as you go” system.

IV. The Size and Distribution of School Facility Funding

As previously noted, the ESPLOST program was established in 1996. Since that time, ESPLOST revenue and revenue from state and other local sources have provided over $22 billion for new school construction and renovation projects throughout the state. In this section we use detailed data on ESPLOST revenue distributions to local school districts from the Georgia Department of Revenue and school district-level data on revenue available for school facility investment from the Georgia Department of Education, to describe the level and distribution of school facility funding in Georgia since the passage of the ESPLOST program.

The Level of School Facility Funding

Table 9 summarizes the total revenue made available to local school districts for new school construction and modernization projects from 2001 to the present.[17] The first panel of Table 9 presents aggregate ESPLOST revenue, other local revenue, state aid and total revenue for school facility projects over the period 2001to 2010.[18] Panels 2 and 3 of Table 9 show the same information for the five-year time intervals 2001-2005 and 2006-2010. As column 1 of Table 9 reveals, between 2001 and 2010 school districts raised $15.7 billion through the ESPLOST. Over the same time period, local school districts budgeted $1 billion from other sources and the state appropriated $3.1 billion to local school districts. Thus, ESPLOST revenue accounted for approximately 80 percent of the revenue available for new construction and modernization over the time period. Column 2 of Table 9 summarizes these revenue sources in terms of average revenue per pupil. The per-pupil revenue figures reported in the table represent the sum of all revenue raised between 2001 and 2010 (measured in constant 2010 dollars) divided by the average enrollment over the time period. ESPLOST revenue averaged $1,426 per-pupil over the time period while state aid averaged $358.

[17] Since school district can and do use ESPLOST revenue to retire previously incurred long-term debt, the amount of revenue raised through the ESPLOST represents an upper bound on the amount of revenue available for school facility investment.

[18] All revenue figures reported in Table 9 are adjusted for inflation using the producer price index and measured in constant 2010 dollars.

TABLE 9. SOURCES OF REVENUE FOR SCHOOL CONSTRUCTION AND MODERNIZATION 2001 THROUGH 2012

	Total (In $Millions)	Per Pupil (In $ Thousands)
Revenue for Facility Investment		
2001-2010 ESPLOST Revenue	$15,713	$1,426
2001-2010 Other Local Revenue	$1,005	$106
2001-2010 State Aid	$3,086	$358
2001-2010 Total Revenue	$19,804	$1,890
2001-2005 ESPLOST Revenue	$7,695	$686
2001-2005 Other Local Revenue	$481	$54
2001-2005 State Aid	$1,559	$182
2001-2005 Total Revenue	$9,736	$922
2006-2010 ESPLOST Revenue	$8,018	$743
2006-2010 Other Local Revenue	$523	$51
2006-2010 State Aid	$1,526	$178
2006-2010 Total Revenue	$10,068	$972

*All figures are in 2010 Dollars using the Producer Price Index for Construction Products.

The Distribution of School Facility Funding

The averages reported in Table 9 mask wide variations in the distribution of school facility funding across districts. Table 10 illustrates how per-pupil facility revenues are distributed across school districts. The top panel of Table 10 illustrates the distribution of revenues between 2001 and 2010 while panels 2 and 3 illustrate the distribution over the five year time periods 2001 to 2005 and 2006 to 2010. For each panel, the first row shows the distribution of ESPLOST revenue per pupil while the second, third and fourth rows show the distribution of other local revenue per pupil, state aid per pupil total revenue per pupil (i.e. the sum of ESPLOST revenue, other local revenue and state aid), respectively.[19] The percentiles listed in the table are weighted by the number of students in each district. For

[19] Note that in Table 10 and all subsequent tables, ESPLOST revenue is coded as zero if a county did not have an ESPLOST in place during a given time period. Thus, the distribution of ESPLOST revenue reported in Table 10 captures both the effect of variation across districts in the revenue raising capacity of the ESPLOST and variation across districts in the passage of ESPLOST referenda. We note however that given the widespread use of the ESPLOST, excluding districts that did not raise any revenue through the ESPLOST in a given time period does not change the distribution of ESPLOST revenue reported in Table 10 in any meaningful way.

TABLE 10. DISTRIBUTION OF REVENUE FOR SCHOOL CONSTRUCTION AND MODERNIZATION 2001 THROUGH 2012

	Percentiles				
	10th	25th	50th	75th	90th
Revenue for Facility Investment					
2001-2010 ESPLOST Revenue	$5,590	$7,657	$10,878	$11,656	$15,095
2001-2010 Other Local Revenue	$219	$365	$491	$836	$1,290
2001-2010 State Aid	$601	$1,179	$1,751	$2,680	$3,243
2001-2010 Total Revenue	$6,983	$10,435	$13,218	$15,210	$17,673
2001-2005 ESPLOST Revenue	$2,051	$3,613	$5,576	$6,359	$7,359
2001-2005 Other Local Revenue	$62	$140	$214	$415	$548
2001-2005 State Aid	$195	$435	$1,001	$1,430	$1,887
2001-2005 Total Revenue	$2,578	$4,846	$6,950	$8,311	$10,546
2006-2010 ESPLOST Revenue	$2,885	$4,093	$4,904	$5,846	$7,263
2006-2010 Other Local Revenue	$94	$197	$286	$405	$584
2006-2010 State Aid	$68	$462	$929	$1,399	$1,783
2006-2010 Total Revenue	$4,166	$5,418	$6,161	$6,928	$9,410

*All figures are in 2010 dollars using the Producer Price Index for Construction Products and percentiles are weighted by enrollment.

example, the first row of Table 10 implies that 10 percent of students were enrolled in a district where ESPLOST revenue per pupil was less than $5,590. Similarly, 10 percent of students were enrolled in a district where ESPLOST revenue per pupil was greater than $15,095. As the first panel of Table 10 reveals, over the entire time period there is wide variation in the distribution of ESPLOST and total revenue per pupil. For example, ESPLOST revenue per pupil at the 75th percentile is approximately $4,000 per pupil higher than that of the 25th percentile. Total revenue per pupil shows a similar difference between the 75th and 25th percentiles. Panels 2 and 3 of Table 10 show that over time, ESPLOST revenue have become more equally distributed. For example, over the most recent time period 2006 to 2010, the difference between the 75th and 25th percentiles of ESPLOST revenue per pupil was only about $1,750. This narrowing of the distribution is most likely a consequence of the fact that over time more and more districts have adopted the ESPLOST. Nevertheless, large disparities in school facility revenues still remain as indicated by the

$4,378 difference between the 90th and 10th percentiles in ESPLOST revenue per pupil and the nearly $8,000 difference between the 90th and 10th percentiles in total revenue per pupil.

Of course, part of this variation in school facility funding across districts may simply reflect differences in need. For example, student enrollment might be increasing rapidly in some districts and declining or remaining stable in others. Similarly, some districts might have invested heavily in new school construction and modernization in the period just prior to 2001 and thus have little need for further investment in school facilities. On the other hand, the variation in school facility funding across districts might also reflect differences in the ability to fund new school facility projects. High-income districts and districts with a high sales tax base, for example, might be more willing and able to finance new school construction and modernization projects. The next section addresses these possibilities by examining how variation in school facility funding is related to measures of need and measures of ability to pay.

V. Determinants of Variation in School Facility Funding

The need for school facility funding arises primarily for two reasons: (1) capacity constraints due to enrollment growth and (2) modernization/renovation needs due to the aging of the existing capital stock. While we do not have a good measure of the age of the existing capital stock or historical investment in school facilities, we do have information on enrollment growth. Consequently, this section begins by examining how variation in school facility funding across districts is related to enrollment growth.

Need and the Distribution of School Facility Funding

Table 11 illustrates how per-pupil facility revenue is distributed across school districts when districts are separated into quintiles of enrollment growth.[20] The quintiles listed in the table are weighted by student enrollment so that each quintile contains 20 percent of the total student enrollment in the state. For example, the first panel of Table 11 shows that 20 percent of students were enrolled in a district where enrollment growth was less than -3.8 percent (the first quintile). Similarly, 20 percent of students were enrolled in a district where enrollment growth was greater than 36.6 percent (the fifth quintile). The row immediately following the quintile definitions lists the number of school districts that fall into each quintile. Similar to Table 10, the first panel of Table 11 shows the distribution of revenue per pupil over the entire time period 2001-2010 while panels 2 and 3 show the distribution over the five year time intervals, 2001 to 2005 and 2006 to 2010.

As Table 11 reveals, school facility funding appears to be positively related to enrollment growth. School districts with the highest enrollment growth rates tend to have higher ESPLOST and total revenue per pupil. Table 11 also reveals that the distribution of total revenue per pupil is primarily driven by the distribution of state aid. In each panel, the sum of ESPLOST revenue plus state aid increases steadily across the quintiles of enrollment growth. The increase is particularly clear for districts in the highest quintile of enrollment growth. Of course the strong positive relationship between enrollment growth and state aid is to be expected given that funding for new school construction is based partially on current

[20] For the remainder of this study per-pupil revenue is measured as the sum of all revenue raised between 2001 and 2010 (measured in constant 2010 dollars) divided by the average enrollment over the time period.

TABLE 11. DISTRIBUTION OF REVENUE PER PUPIL BY QUINTILES OF ENROLLMENT GROWTH

	Quintile Number				
	1	**2**	**3**	**4**	**5**
Enrollment Growth Quintiles	Less than -3.8% n = 69	-0.076 n =30	3.8% - 12% n = 36	12% - 36.6% n = 31	Greater than 36.6% n = 14
01-10 Georgia ESPLOST Revenue	$6,823	$8,371	$8,741	$8,498	$8,986
01-10 Other Local Revenue	$598	$434	$458	$808	$703
01-10 State Aid	$1,591	$1,764	$2,051	$2,346	$3,499
01-10 Total Revenue	$9,012	$10,569	$11,250	$11,652	$13,188
Enrollment Growth Quintiles	Less than -2.9% n = 59	-0.047 n = 42	1.8% - 5.8% n = 31	5.8% - 14.3% n = 32	Greater than 14.3% n = 16
01-05 Georgia ESPLOST Revenue	$3,142	$4,042	$4,063	$4,137	$4,540
01-05 Other Local Revenue	$380	$167	$195	$455	$276
01-05 State Aid	$739	$642	$1,187	$1,298	$2,046
01-05 Total Revenue	$4,261	$4,851	$5,446	$5,890	$6,861
Enrollment Growth Quintiles	Less than -3.7% n = 59	-0.049 n = 43	1.2% - 5.6% n = 34	5.6% - 10% n = 21	Greater than 10% n = 23
06-10 Georgia ESPLOST Revenue	$4,035	$3,974	$4,267	$4,321	$4,261
06-10 Other Local Revenue	$257	$240	$250	$374	$418
06-10 State Aid	$772	$1,028	$1,105	$708	$1,567
06-10 Total Revenue	$5,064	$5,242	$5,622	$5,403	$6,246

*All figures are in 2010 dollars using the Producer Price Index for Construction Products and quintiles are weighted by enrollment.

and projected enrollment growth. What is slightly more surprising is the relationship between ESPLOST revenue per pupil and enrollment growth. One would expect local ESPLOST revenue to be positively related to enrollment growth as districts with high enrollment growth rates should have greater need for school facility funding. However, Table 11 reveals that ESPLOST revenue is only weakly related to enrollment growth. In particular, while ESPLOST revenue increases across quintiles of enrollment growth, the differences in revenue are relatively small. For example, during the 2006 to 2010 time period, the difference in ESPLOST revenue between districts with the lowest enrollment growth rates (quintile 1) and those with the highest enrollment growth rates (quintile 5) was only $200 per pupil.

Table 11 suggests that at least part of the variation in school facility funding across districts can be explained by differences in need: in general, districts with higher enrollment

growth rates tend to have higher revenue per pupil. Nevertheless, given the large disparities in school facility funding reported in Table 10, it seems likely that other factors are also driving the distribution of funding across districts. The next part of this section therefore focuses on examining how the distribution of school facility funding is related to measures of ability to pay for new school construction and modernization projects.

Ability to Pay and the Distribution of School Facility Funding

Table 12 shows the distribution of revenue per pupil when districts are separated based on quintiles of median household income.[21] The quintiles are once again weighted by student enrollment. As Table 12 reveals, there appears to be only a weak positive relationship between median household income and revenue per pupil. While districts in the top quintile of median household income tend to raise more ESPLOST revenue per pupil and have higher total revenue per pupil than any other quintile, the differences across quintiles are not exceptionally large. The one exception is the first quintile of median household income (i.e. the lowest income districts). Districts in the first quintile tend to have significantly lower ESPLOST revenue per pupil and total revenue per pupil than districts in any other quintile.

The reliance of local school districts on ESPLOST revenues and thus the sales tax to finance school facilities leads naturally to the question of how differences across districts in the sales tax base affect the ability and willingness of districts to finance school facility spending. Table 13 documents the relationship between school facility funding and a district's sales tax base by showing how revenue per pupil varies when school districts are separated into quintiles of their per pupil sales tax base.[22] Once again, these quintiles are weighted by student enrollment. The first panel documents the relationship over the entire time period from 2001 to 2010 and uses a district's 2003 tax base to separate districts into quintiles. Panels 2 and 3 document the relationship over the five year time periods 2001 to 2005 and 2006 to 2010 and use a district's 2002 and 2007 tax base respectively to separate districts into quintiles.

[21] Data on the median household income of districts comes from special school district tabulations of the 2006-2010 American Community Survey prepared by the U.S. Census Bureau and the National Center for Education Statistics.

[22] Data on county-level sales tax bases were obtained from the Georgia Department of Revenue.

TABLE 12. DISTRIBUTION OF REVENUE PER PUPIL BY QUINTILES OF MEDIAN FAMILY INCOME

	Quintile Number				
	1	**2**	**3**	**4**	**5**
Median Family Income in 2005 Quintiles	Less than $38,247 n = 94	$38,247-$45,047 n = 43	$45,047-$52,551 n = 22	$52,550-$65,291 n = 14	Greater than $65,291 n = 7
01-10 Georgia ESPLOST Revenue	$6,640	$9,465	$9,319	$8,351	$10,391
01-10 Other Local Revenue	$536	$662	$608	$562	$790
01-10 State Aid	$1,921	$2,071	$1,611	$2,614	$2,372
01-10 Total Revenue	$9,097	$12,198	$11,538	$11,527	$13,554
Median Family Income in 2002 Quintiles	Less than $38,457 n = 92	$38,457-$44,490 n = 43	$44,490-$53,454 n = 28	$53,454-$66,169 n = 11	Greater than $66,169 n = 6
01-05 Georgia ESPLOST Revenue	$2,967	$4,879	$4,335	$4,314	$5,759
01-05 Other Local Revenue	$291	$361	$266	$205	$394
01-05 State Aid	$982	$999	$896	$1,291	$1,512
01-05 Total Revenue	$4,240	$6,240	$5,497	$5,810	$7,665
Median Family Income in 2007 Quintiles	Less than $38,446 n = 96	$38,446-$44,586 n = 42	$44,586-$53,873 n = 23	$53,873-$64,413 n = 11	Greater than $64,413 n = 8
06-10 Georgia ESPLOST Revenue	$3,558	$4,946	$4,762	$4,131	$4,802
06-10 Other Local Revenue	$243	$307	$355	$370	$378
06-10 State Aid	$975	$978	$935	$1,368	$871
06-10 Total Revenue	$4,777	$6,230	$6,053	$5,869	$6,052

*All figures are in 2010 dollars using the Producer Price Index for Construction Products and quintiles are weighted by enrollment.

TABLE 13. DISTRIBUTION OF REVENUE PER PUPIL BY QUINTILES OF PRE-PUPIL SALES TAX BASE

	Quintile Number				
	1	**2**	**3**	**4**	**5**
2003 Per Pupil County Sales Tax Base in $1,000's	Less than $61 n = 85	$61-$82 n = 51	$82-$91 n = 15	$91-$104 n = 16	Greater than $104 n = 13
01-10 Georgia ESPLOST Revenue	$5,238	$8,614	$10,359	$12,216	$14,651
01-10 Other Local State Aid for Construction	$369	$750	$566	$1,078	$790
01-10 State Aid for Construction	$2,062	$2,348	$1,163	$1,607	$1,548
01-10 Total Revenue for Construction	$7,668	$11,712	$12,089	$14,900	$16,989
2002 Per Pupil County Sales Tax Base in $1,000's	Less than $62 n = 88	$62-$82 n = 48	$82-$94 n = 18	$94-$108 n = 15	Greater than $108 n = 11
01-05 Georgia ESPLOST Revenue	$2,507	$4,189	$5,059	$6,485	$6,919
01-05 Other Local State Aid for Construction	$277	$209	$261	$670	$477
01-05 State Aid for Construction	$1,137	$951	$752	$946	$746
01-05 Total Revenue for Construction	$3,921	$5,349	$6,072	$8,101	$8,142
2007 County Sales Tax Base in $1,000's	Less than $81 n = 88	$81-$98 n = 39	$98-$105 n = 16	$105-$122 n = 20	Greater than $122 n = 17
06-10 Georgia ESPLOST Revenue	$2,788	$4,303	$5,137	$5,734	$7,803
06-10 Other Local State Aid for Construction	$200	$308	$538	$321	$404
06-10 State Aid for Construction	$1,127	$1,150	$499	$586	$852
06-10 Total Revenue for Construction	$4,115	$5,762	$6,173	$6,642	$9,059

*All figures are in 2010 dollars using the Producer Price Index for Construction Products and quintiles are weighted by enrollment.

Not surprisingly, there appears to be a strong positive relationship between the sales tax base and ESPLOST revenue per pupil. Compared to districts in the lowest sales tax base quintile, districts in the highest quintile have substantially higher ESPLOST revenue across all three time periods. Table 13 also reveals a strong positive relationship between the sales tax base and total revenue per pupil. For example, during the 2006 to 2010 time period, total revenue per pupil averaged $4,115 among districts in the first quintile while it averaged

TABLE 14. DISTRIBUTION OF REVENUE PER PUPIL BY QUINTILES OF PERCENT OF MINORITY STUDENTS

	Quintile Number				
	1	**2**	**3**	**4**	**5**
Percent Minority Quintiles	Less than 26.7% n =50	26.7% - 44.7% n = 50	44.7% - 52.5% n = 23	52.5% - 75.5% n = 31	Greater than 75.5% n = 26
01-10 Georgia ESPLOST Revenue	$8,597	$6,709	$7,467	$7,810	$9,488
01-10 Other Local Revenue	$613	$405	$414	$596	$1,029
01-10 State Aid	$1,949	$2,380	$1,462	$1,796	$2,021
01-10 Total Revenue	$11,158	$9,493	$9,343	$10,202	$12,538
Percent Minority Quintiles	Less than 22.9% n = 47	22.9% - 39.7% n = 41	39.7% - 47.8% n = 28	47.8% - 73.7% n = 39	Greater than 73.7% n = 25
01-05 Georgia ESPLOST Revenue	$4,295	$3,640	$2,772	$3,937	$4,154
01-05 Other Local Revenue	$291	$150	$147	$348	$676
01-05 State Aid	$959	$1,334	$638	$919	$1,127
01-05 Total Revenue	$5,545	$5,124	$3,557	$5,204	$5,958
Percent Minority Quintiles	Less than 26.9% n = 49	26.9% - 47.7% n = 57	47.7% - 61.4% n = 30	61.4% - 77.5% n = 21	Greater than 77.5% n = 23
06-10 Georgia ESPLOST Revenue	$4,395	$3,549	$3,985	$4,566	$4,768
06-10 Other Local Revenue	$339	$238	$271	$254	$340
06-10 State Aid	$995	$1,158	$982	$899	$658
06-10 Total Revenue	$5,729	$4,945	$5,238	$5,719	$5,766

*All figures are in 2010 dollars using the Producer Price Index for Construction Products and quintiles are weighted by enrollment.

$9,059 among districts in the fifth quintile. Table 13 also reveals that the large disparities in ESPLOST revenue per pupil are partially offset by state aid. Districts with the lowest sales tax base tended to receive more state aid per pupil than districts with the highest sales tax base.

Table 14 examines how school facility funding is related to one final measure of interest to policymakers, namely the percentage of students that are nonwhite. The table shows how revenue per pupil is distributed across school districts when districts are separated into quintiles based on the percentage of nonwhite students. In contrast to the results reported in Table 13, there appears to be no systematic relationship between revenue per pupil and the percentage of nonwhite students. For all three time periods, ESPLOST revenue and total revenue per pupil are rather equally distributed across quintiles.

Taken together, Tables 11 through 14 suggest that disparities in school facility funding across districts are related to both measures of need, such as enrollment growth, and measures of willingness and ability pay, such as the sales tax base. Those tables also make clear that the observed disparities in the distribution of revenue across districts are primarily driven by the distribution of the sale tax base: districts with high sales tax bases tend to have substantially higher revenues for school facility investment. In Table 15 we examine how the demographic characteristics of school districts are related to the per-pupil sales tax base. Specifically, Table 15 shows how enrollment growth, median household income, the percent of the population age 25 or older with a college degree, the percent of the population that is non-white and the percent of the population that is urban is distributed across school districts when districts are separated into quintiles based on their 2003 per-pupil sales tax base.[23] Once again, all quintiles are weighted by student enrollment such that 20 percent of all students are located in each of the five quintiles.

Table 15 reveals that districts with high sales tax bases tend to be wealthier (as measured by income), more highly educated, and tend to be more urban than districts with lower sales tax bases. For example, among districts with the lowest sales tax base (quintile 1), median household income averaged approximately $37,00 while among districts with the highest sales tax base (quintiles 4 and 5) median family income averaged approximately $47,000. Similarly, the fraction of the population with a bachelor's degree or higher was less than 8 percent in the lowest sales tax base districts while it more than 16 percent in the highest sales tax base districts. Table 15 also reveals that per pupil sales tax bases are largely independent of enrollment growth.

[23] Data on median household income, the percent of the population age 25 or older with a college degree, the percent of the population that is non-white and the percent of the population that is urban comes from special school district tabulations of the 2006-2010 American Community Survey prepared by the U.S. Census Bureau and the National Center for Education Statistics.

TABLE 15. DEMOGRAPHIC CHARACTERISTICS BY QUINTILES OF PER-PUPIL SALES TAX BASE

	Quintile Number				
	1	**2**	**3**	**4**	**5**
2003 County Sales Tax Base in $1,000's	Less than $61 n = 85	$414 - $1,440 n = 51	$1,440- $2,871 n = 15	$2,871- $11,226 n = 16	Greater than $11,226 n = 13
Median Family Income in 2005	$36,960	$41,435	$44,925	$47,174	$46,717
Enrollment Growth Between 2000 and 2010	-0.7%	12.2%	-1.1%	15.4%	7.2%
Percent With a Bachelor Degree	7.6%	10.6%	13.7%	16.5%	16.2%
Percent of Population Minority	36.6%	32.9%	40.8%	40.0%	35.2%
Percentage of Area Defined as Urban	28.2%	42.3%	66.2%	65.3%	52.7%

*All figures are in 2010 Dollars using the Producer Price Index for Construction Products and Quintiles are weighted by Enrollment.

Regression Results

To determine which factors (a district's sales tax base, household income, enrollment growth, etc.), are most important in explaining the level of school facility funding, the remainder of this section turns to multivariate regression analysis. Column one of Table 16 reports coefficient estimates from a model designed to explain total school facility revenue per pupil. The dependent variable is the log of total facility funding per pupil over the period 2001 to 2010. The primary independent variables are: the log of a district's 2003 per pupil sales tax base, the growth rate of enrollment between 2001 and 2010, the log of median household income, and the fraction of students that are nonwhite in a district. The model also includes the log of district enrollment to account for economies of scale and size effects on the level of school facility funding.

The coefficient estimates reported in column one of Table 16 are generally consistent with expectations. For example, the estimated coefficients on the log of the per pupil sales tax base and enrollment growth are both positive and statistically significant. Furthermore, consistent with the results reported in Table 14, the fraction of minority students in a district appears to have little effect on the level of school facility funding. Turning to the interpretation of the estimated coefficients, the results indicate that a one percent increase in the per pupil sales tax base results in approximately a 0.77 percent increase in total revenue per pupil while a one percent increase in enrollment growth results in approximately a 0.55 percent increase in total revenue per pupil.

TABLE 16. REGRESSION ESTIMATES: COEFFICIENT / (STANDARD ERROR)

Variable	Log of Real per Pupil Total Revenue	Log of Real per Pupil ESPLOST Revenue
Log of 2003 per Pupil Sales Tax Base	0.774***	0.997***
	(0.073)	(0.0537)
Enrollment Growth 01-10	0.550***	0.25
	(0.177)	(0.187)
Log Of Median Family Income	0.0436	-0.189
	(0.260)	(0.364)
Percentage of Minority Students	0.0551	-0.0197
	(0.116)	(0.0865)
Log Of Total Enrollment	-0.092***	-0.0289
	(0.034)	(0.0299)
Observations	180	179
R-squared	0.479	0.652

Notes: (1) Robust standard errors in parentheses. (2) *** Significant at 1% level.

The second column of Table 16 reports coefficient estimates from a model designed to explain ESPLOST revenue per pupil. The dependent variable in the model is the log of local ESPLOST revenue per pupil over the period 2001 to 2010. The independent variables are the same variables used to explain total revenue per pupil. We first note that the estimated coefficient on the sales tax base variable is larger in magnitude in the regression designed to explain ESPLOST revenue per pupil than in the regression designed to explain total revenue per pupil. In fact, the sales tax base is responsible for explaining most of the variation in local ESPLOST revenue. Specifically, a simple regression of the log of local ESPLOST revenue per pupil on the log of the sales tax base yields an R-Squared of 0.64, indicating that 64 percent of the variation in local ESPLOST revenue is explained by this variable alone. Furthermore, as seen by the R-Squared reported in column 2, adding all the other explanatory variables to the model leads to only a modest increase in the R-Squared from 0.64 to 0.65.

The results reported in column 2 also reveal that ESPLOST revenue per pupil appears to be unrelated to enrollment growth once we control for the sales tax base: the estimated coefficient on enrollment growth in column 2 is small and statistically insignificant. The fact that the estimated coefficient on enrollment growth is positive and statistically significant in

the total revenue per pupil regression (column 1) reflects the fact that that state aid is positively related to enrollment growth.

To examine the robustness of the results reported in Table 16, we also estimated models based on several alternative specifications. First, we re-estimated the models in Table 16 weighting by student enrollment. Weighting by student enrollment allows us to examine how the sales tax base, income, etc., affect facility revenue at the student level versus the district level. Thus, the weighted regressions place more weight on the characteristics of school districts that enroll more students. Results based on these student weighted regressions were qualitatively and quantitatively similar to those reported in Table 16 and are available upon request. Second, to examine whether the results were sensitive to regional variation in the demand for school facility spending, we also estimated models that included a set of 12 regional fixed effects. These regional fixed effects control for any unobserved regional variation in the demand for school facility spending. The regions consist of contiguous counties and were developed by the Georgia Department of Community Affairs and the Department of Economic Development. In general, results based on models that included regional fixed effects were once again qualitatively and quantitatively similar to those reported in Table 16.

VI. School District Operating Revenue and the ESPLOST

In 2010 the Georgia State Senate Budget Task Force recommended "allowing flexible use of ESPLOST revenue for schools' operating expenses and capital improvements." The recommendation was taken up by the Georgia State Legislature in 2010 with HR 1203 and HB 1020. The legislation proposed an amendment to the Georgia Constitution authorizing school districts to use ESPLOST revenue to fund maintenance and operating expenses and millage rate reductions in addition to capital improvements. While the House of Representatives passed the legislation in March of 2010, the Senate never took action on the proposed legislation. In this section we examine the feasibility of allowing school districts to use some or all of their ESPLOST revenue to fund maintenance and operating expenses. We begin by examining the future facility needs of school districts in Georgia to get a better sense of whether or not school districts might have sufficient ESPLOST revenue available to fund operating expenses and millage rate reductions. To do so, we examine both enrollment growth projections and the facility needs reports submitted by school districts to the Georgia Department of Education. We then turn to examining the revenue generating capacity of ESPLOST under the assumption that all ESPLOST revenue was used to fund current operating expenses. Finally, we examine how allowing school districts to use ESPLOST revenue to fund current operating expenses would likely affect the distribution of per pupil operating revenues across school districts.

Future Facility Needs of Georgia School Districts

Table 17 shows actual and projected enrollment growth trends in the United States and in Georgia over the period 1996 through 2020.[24] The top panel of the table shows enrollment growth in five-year intervals while the bottom panel shows enrollment growth over the periods 2001-2010 and 2011-2020. As both the top and bottom panels of Table 17 illustrate, between 1996 and 2010, enrollment growth in Georgia significantly outpaced that of the rest of the United States. For example, between 1996 and 2000 the enrollment growth rate in the United States was 3.53 percent while it was nearly double that (7.28 percent) in

[24] Actual and projected enrollment growth rates were calculated using data from the National Center for Education Statistics. See Projections of Education Statistics to 2020, prepared by the National Center for Education Statistics, September 2011.

TABLE 17. ACTUAL AND PROJECTED PERCENTAGE CHANGES IN K-12 ENROLLMENT: 1996-2020

Time Period	U.S. (NCES)	Georgia (NCES)
1996-00	3.53%	7.28%
2001-05	2.99%	8.66%
2006-10	-0.02%	2.86%
2011-15	2.50%	3.84%
2016-20	3.19%	3.40%
2001-10	3.39%	13.92%
2011-20	6.56%	8.28%

Georgia. Following the national trend, enrollment growth in Georgia began to slow during the 2006-2010 period but remained significantly above the national average. Moving forward, between 2011 and 2020, Georgia's enrollment growth rate is projected to be only slightly above the national average and well below the enrollment growth rate of nearly 14 percent experienced between 2001 and 2010.[25]

The enrollment growth projections shown in Table 17 suggest that the need for new school construction (as measured by enrollment growth) by Georgia school districts is likely to decline over the next decade. That interpretation is reinforced by an examination of the five-year facility needs plans submitted by school districts to the Georgia Department of Education. Table 18 documents trends in school facility needs as reported by school districts on their 2007 and current five-year facility needs plans. The figures reported in the table are in thousands of dollars and have been adjusted for inflation to reflect constant 2010 dollars. The first panel of the table shows statewide trends in school facility needs. The second panel shows the facility needs of the 15 largest school systems, which enroll approximately 50 percent of all students, while the third panel shows the same information for all remaining school systems. Each panel in the table includes four rows. The first row shows reported financial need for new school construction and major additions that are eligible for state

[25] Enrollment projections prepared by the Georgia Department of Education suggest even slower enrollment growth than the projections prepared by the National Center for Education Statistics. Specifically, the Georgia Department of Education predicts that enrollment will grow by approximately 2 percent between 2011 and 2015 compared to the 3.84 percent growth rate predicted by the NCES.

TABLE 18. COMPARISON OF 2007 AND 2011 SCHOOL FACILITY NEEDS REPORTS

	Previous Needs Report	Current Needs Report	Percent Change
	----------State Totals----------		
New Schools and Additions	$856	$828	-3%
Renovations and Modifications	$351	$1,621	362%
Local Costs Above State Participation	$4,390	$5,093	16%
Total Project Costs	$5,636	$7,579	34%
	----------15 Largest Districts----------		
New Schools and Additions	$383	$351	-8%
Renovations and Modifications	$144	$780	440%
Local Costs Above State Participation	$2,263	$2,612	15%
Total Project Costs	$2,812	$3,756	34%
	----------All Other Districts----------		
New Schools and Additions	$474	$477	1%
Renovations and Modifications	$206	$841	308%
Local Costs Above State Participation	$2,127	$2,481	17%
Total Project Costs	$2,824	$3,823	35%

* Notes: Dollar values are in thousands. Includes data gathered from 174 Georgia school districts. Support Area facility needs have been excluded.

funding through the Capital Outlay Program. The second row shows reported financial need for renovations and modifications that are eligible for state funding through the Capital Outlay Program. The third row shows reported financial need for all non-eligible projects (either new school construction or modernization) that are to be funded solely with locally raised revenue and the fourth row shows total reported financial need for all eligible and non-eligible projects.

As the first panel of Table 18 reveals, statewide financial need for new school construction and additions during the current five-year facility need period is projected to fall by approximately 3 percent relative to the 2007-2011 period. That finding is consistent with the enrollment projections reported in Table 17. In particular, as enrollment growth slows, school districts have less need for new classroom capacity and thus less need for funding for new school construction and additions. However, the reduced need for new school construction and additions is significantly overshadowed by the significant rise in projected need for renovations and modifications. As the second row of the table reveals, statewide financial need for renovations and modifications is projected to increase by approximately

360 percent relative to the 2007-2011 period. The substantial increase in need for renovation and modernization projects implies that overall facility needs are projected to increase 34 percent statewide (see row 4 of panel 1). As panels 2 and 3 of Table 18 reveal, the statewide patterns depicted in panel 1 also hold for the 15 largest school districts and all other school districts, with the largest districts showing a larger predicted decline in financial need for new school construction and a slightly larger increase in need for renovation and modernization.[26]

In summary, Tables 17 and 18 suggest that financial need for new school construction and expansion projects will decline as the growth rate of student enrollment slows statewide. At the same time, however, overall financial need for facility investment will increase by approximately 34 percent over the next five years, an increase that is being driven primarily by a substantial increase in reported need for renovation and modernization projects. The continuing financial need for facility investments suggests that if the state were to allow "flexible use of ESPLOST revenue for schools' operating expenses and capital improvements," school districts would have to weigh the marginal benefit of additional spending on school renovation and modernization projects (the vast majority of projected future facility spending) against the marginal benefit of additional spending on daily operations (e.g. teachers, books, teacher aids, etc.). In particular, if school district were granted flexibility over the use of their ESPLOST revenues, some of those districts might find it more productive to reallocate some of their ESPLOST revenue away from facility investments and towards operating expenses. Thus, we now turn to examining how much additional revenue school districts would have available for operating expenses if they chose to allocate ESLPOST revenues away from facility spending and towards operating expenses.

[26] The substantial increase in projected need for renovations and modifications leads naturally to the question of why this particular category of facility investment need has increased so dramatically in recent years. While we have no definitive answer to that question, there are several plausible explanations. First, school districts may have deferred funding modernization projects while need for new school construction was high due to rapid enrollment growth. Consequently, now that enrollment growth has slowed, school districts may be changing their emphasis from new school construction to renovation and modernization. Second, on prior facility needs reports school districts may have classified their renovation and modification needs primarily as part of the non-eligible local participation category in order to maximize their eligibility for state funding for new school construction and expansion. However, as new schools have been constructed and expanded, school districts may now be classifying more of their renovation and modernization needs as eligible for state funding through the Capital Outlay Program. This would explain why the increase in renovation and modification need is much higher than the increase in overall or local participation facility needs.

In particular, the next section asks, what is the revenue generating capacity of the ESPLOST in terms of operating revenues and how would the addition of ESPLOST revenue to operating revenues affect the distribution of per pupil operating revenue across school districts?

The Impact of ESPLOST Revenue on Current Operating Revenues

Table 19 illustrates the distribution of ESPLOST revenue as a percentage of local and total operating revenue (i.e. ESPLOST revenue divided by the sum of ESPLOST revenue plus local or total operating revenue).[27] The table is designed to answer the following question: If all ESPLOST revenue were dedicated to operating expenditures, what percentage of local and total operating revenue would it represent and how is that percentage distributed across districts? Similar to previous tables, the top panel of Table 19 illustrates the distribution of ESPLOST revenue as a percentage of local and total operating revenue between 2001 and 2010 while panels 2 and 3 illustrate the same distribution over the five year time periods 2001 to 2005 and 2006 to 2010. All figures are measured in constant 2010 dollars and the percentiles listed in the table are weighted by the number of students in each district. For example, the first row of Table 19 implies that 10 percent of students are enrolled in a district where ESPLOST would represent 16.7 percent of local operating revenue. As the first panel of Table 19 reveals, ESPLOST revenue would represent between 17 percent and 31 percent, of local operating revenues with 50 percent of all students enrolled in a district where ESPLOST revenue would represent over 21 percent of local operating revenues. ESPLOST revenue represents a much smaller percentage of total operating revenues, ranging between 7 percent and 14 percent. Panels 2 and 3 also illustrate that ESPLOST revenue as a share of both local and total operating revenue has been relatively stable over time.

Table 20 illustrates how adding ESPLOST revenue to local and total operating revenues would affect the distribution of operating revenue per pupil across school districts. Specifically, the first row of Table 20 shows the distribution of local operating revenue per pupil in 2009-10 across school districts while the second row shows how that distribution

[27] Data on school district operating revenues comes from the Georgia Department of Education.

TABLE 19. DISTRIBUTION OF ESPLOST REVENUE AS A SHARE OF LOCAL AND TOTAL OPERATING REVENUE

	Percentiles*				
Revenue Shares	**10th**	**25th**	**50th**	**75th**	**90th**
2001-2010 ESPLOST Revenue / Local + ESPLOST Revenue	16.7	19.0	21.1	25.4	30.6
2001-2010 ESPLOST Revenue / Total + ESPLOST Revenue	6.6	9.0	10.6	12.9	14.6
2001-2005 ESPLOST Revenue / Local + ESPLOST Revenue	16.7	20.1	22.9	26.2	31.2
2001-2005 ESPLOST Revenue / Total + ESPLOST Revenue	5.0	8.4	10.9	12.8	14.9
2006-2010 ESPLOST Revenue / Local + ESPLOST Revenue	16.8	18.3	20.8	24.4	30.2
2006-2010 ESPLOST Revenue / Total + ESPLOST Revenue	7.0	9.2	10.4	12.5	14.3

* Percentiles are weighted by enrollment.

TABLE 20. DISTRIBUTION OF OPERATING PLUS ESPLOST REVENUE PER PUPIL, 2009-10

	Percentiles*				
Revenue Source	**10th**	**25th**	**50th**	**75th**	**90th**
Local Revenue	$2,109	$2,632	$3,473	$4,352	$6,347
Local + ESPLOST Revenue	$2,767	$3,577	$4,353	$5,414	$7,689
Total Revenue	$7,256	$7,512	$7,957	$8,446	$9,496
Total + ESPLOST Revenue	$7,883	$8,463	$8,750	$9,564	$10,911

* Percentiles are weighted by total enrollment.

would change if all ESPLOST revenue was used to fund operating expenditures. Similarly, the third row shows the distribution of total operating revenue per pupil in 2009-10 across school districts while the last row shows how the distribution of total operating revenue per pupil would change if all ESPLOST revenue was allocated toward operating expenditures. The percentiles listed in the table are once again weighted by enrollment. For example, the first row indicates that 50 percent of all students were enrolled in a district where local revenue per pupil was $3,473 or more and 10 percent of all students were enrolled in a district where local revenue per pupil was $6,347 or more.

If school districts used all of their ESPLOST revenue for current operations, it would increase the amount of local revenue available to a school district by between $650 and

$1,350 per pupil (or between 21 percent and 31 percent) and it would increase the total amount of revenue available for current operations by a similar amount. Table 20 also reveals that allowing school districts to use ESPLOST revenue for current operations would have only a limited impact on the distribution of revenue per pupil across school districts. For example, the difference between the 75th and 25th percentiles of local revenue per pupil is $1,720. Adding all ESPLOST revenue to current operations would increase that difference by only $117, from $1,720 to $1,837. The impact of ESPLOST revenue on the distribution of total operating revenues per pupil is also relatively small: if school districts used all their ESPLOST revenue for current operations, the difference between the 75th and 25th percentiles of total operating revenue per pupil would increase from $934 to $1,101 or by $167. We note, however, that ESPLOST revenue has a larger impact on the distribution of revenues at the tails, namely the 90th and 10th percentiles. Specifically, adding ESPLOST revenue to either local or total operating revenues would increase the difference between the 90th and 10th percentiles by approximately $700.

Discussion

Our analysis of the future facility needs of school districts in Georgia suggests that over the next decade slower enrollment growth is likely to reduce the amount of revenue school districts require for new school construction. At the same time, however, financial need for school renovation and modernization projects is projected to increase substantially, leading to an overall increase in the facility needs of school districts. Given the continued need for facility improvements, the benefit of allowing "flexible use of ESPLOST revenue for schools' operating expenses and capital improvements" depends on the marginal value of additional spending on school facilities versus the marginal value of additional spending on current operations. For some school districts the marginal value of additional spending on current operations may be greater than the marginal value of additional spending on school facilities. In such cases, reallocating ESPLOST revenue towards operating expenses could increase overall productivity.

Our analysis also indicates that allowing such flexibility could potentially provide school districts with a relatively large influx of funding for current operations. For example, we find that if school districts were to use all of their ESPLOST revenue for current

operations, it would increase school district operating budgets by between 9 percent and 15 percent (see Table 20). In the remainder of this section we discuss some of the issues that are likely to arise if the State were to allow school districts to use ESPLOST revenue to fund current operating revenues.

As noted by Loeb (2001), while local sales taxes are relatively easy to collect and administer and can potentially provide school districts with a significant source of additional funding, they also have some potential drawbacks. First, the sales tax is generally regressive, implying it places a higher burden on low-income households than on higher income households. Of course, sales taxes can be made less regressive by exempting basic necessities such as food and medicine and such an exemption is built into Georgia's four percent state sales tax. However, local option sales taxes such as the ESPLOST do not exempt food purchases making those sales taxes more regressive than the state sales tax and the local property tax.

Second, local sales taxes are paid not only by local residents but also by non-residents that shop within the boundaries of a local jurisdiction. Thus, counties that attract large numbers of non-resident shoppers enjoy an implicit subsidy to local educational funding. The magnitude of the subsidy, which is commonly referred to as tax exporting, is likely to vary substantially across counties, with large urban counties such as DeKalb and Fulton experiencing relatively large benefits from such tax exporting and smaller more rural counties experiencing little or no benefit. Consequently, the "cost" to local voters of raising an additional dollar for educational funding is likely to vary systematically with the degree of tax exporting across school districts. Furthermore, as noted by Inman and Rubinfeld (1996), the implicit subsidy from tax exporting may "encourage the inefficient over-use of the subsidized tax."

Third, because there tend to be wide disparities in the sales tax base across jurisdictions, local option sales taxes have the potential to exacerbate existing funding inequalities across jurisdictions. For example, as noted above, adding ESPLOST revenue to either local or total operating revenues would increase the difference in revenue per pupil between the 90th and 10th percentiles by approximately $700. The state, however, could offset these disparities by distributing state aid in inverse proportion to a counties sales tax base.

Finally, Loeb (2001) and Rubenstein and Freeman (2003) note that sales tax revenues tend to be more sensitive to economic fluctuations than property tax revenues, making the sales tax a less stable source of operating revenue. That conclusion is reinforced by recent evidence based on Georgia's LOST and property tax revenues. Specifically, using data from 1985 to 2005 on local sales (LOST) and property tax revenue in Georgia counties, Hou and Seligman (2007) find that, "local sales taxes are related to very significant increases in short-run volatility, and that property taxes are related to more modest decreases in both the long- and short-run volatility." Furthermore, as noted by Rubenstein and Freeman (2003), a jurisdiction's sales tax base is more difficult to forecast than its property tax base. Consequently, jurisdictions that rely more heavily on the sales tax may face greater difficulties in effectively planning and managing their budgets.

VII. Conclusion

Since the passage of ESPLOST legislation in 1996, school districts in Georgia have raised over $21 billion in revenue through the ESPLOST making it the largest source of revenue available to school district to fund school construction and modernization projects. This report has provided an overview of Georgia's system of school facility finance and an analysis of the unique role the ESPLOST plays in that system.

Our analysis of school facility spending over time indicates that the passage of the ESPLOST program led to a substantial increase in facility investment. Prior to the passage of ESPLOST legislation in 1996, spending per pupil on school facilities in Georgia lagged behind the level of investment witnessed in other states with similar enrollment growth. Since 1996, however, Georgia has invested heavily in school facilities and now spends as much on facility investment as other states with similar enrollment growth. Furthermore, our analysis indicates that the ESPLOST program has allowed school districts to fund their facility needs without substantially increasing their long-term debt levels, a finding that stands in stark contrast to school districts in the rest of the United States. In particular, while Georgia school districts have invested heavily in school facilities, their long-term debt rose by only $400 per pupil on average between 1996 and 2008. In contrast, over the same time period, long-term debt rose by over $4,000 per pupil on average in the rest of the United States.

The ESPLOST program has also proven to be a popular method of funding school facilities. Since the first ESPLOST referenda in 1997, all but 32 of 562 referenda held were approved by voters, implying an overall approval rate of 94 percent. Furthermore, the fraction of local voters supporting ESPLOST referenda tends to be quite high, with over 67 percent of voters within school districts voting in favor of ESLPOST referenda on average.

Looking forward, our analysis of the future facility needs of Georgia school districts suggests that over the next decade school districts are likely to require less funding of new school construction due to declining enrollment growth rates. At the same time, however, the overall facility needs of Georgia school districts are likely to increase, due primarily to a substantial increase in need for school renovation and modernization projects. Given the continued need for facility improvements, the benefit of allowing school districts to reallocate some of their ESPLOST revenue towards current expenses comes down to an

analysis of the marginal value of additional spending on school facilities versus the marginal value of additional spending on current operations which is beyond the scope of this report. Theoretically, for some school districts the marginal value of additional spending on current operations may be greater than the marginal value of additional spending on school facilities. In such cases, reallocating ESPLOST revenue towards operating expenses could increase overall productivity. Using sales tax revenues to fund operating expenses would introduce some other issues that policymakers should be aware of including increased volatility and unpredictability of revenue streams as well as the potential for increased disparity across school districts.

References

Association County Commissioners of Georgia (2011). "Special Purpose Local Option Sales Tax: A Guidebook for County Officials." 4th Edition.

Georgia's Governor's Education Reform Study Commission, Education Facilities Committee (2000). "Financing School Facilities." (November 28).

Georgia State Senate Budget Task Force (2010). "Final Report." (March 16).

Hou, Yilin, and Jason S. Seligman (2007). "LOST Stability? Consumption Taxes and the Cyclical Variability of State and Local Revenues." (November 1). Available at SSRN: http://ssrn.com/abstract=1029697.

Hussar, William J., and Tabitha M. Bailey (2011). "National Center for Education Statistics: Projections of Education Statistics to 2020." (September). Available at: http://nces.ed.gov/pubs2011/2011026.pdf.

Inman, Robert, P. and Daniel L. Rubinfeld (1996). "Designing Tax Policy in Federalist Economies: An Overview." *Journal of Public Economics* 60:307-34.

Loeb, Susanna (2001). "Local Revenue Options for K-12 Education." In J. Sonstelie & P. Richardson (eds), *School Finance and California's Master Plan for Education, 2001*, pp.125-154.

Monacell, James and Smith, Gambrell & Russell LLP (2007). "*Overview of Lease-Purchase Financing and COPs"* (2007). Available at: http://www.sgrlaw.com/resources/briefings/bond_practice/457.

Rubenstein, Ross and Catherine Freeman (2003). "Do Local Sales Taxes for Education Increase Inequities? The Case Of Georgia's ESPLOST." *Journal of Education Finance* 28(3):425-41.

State Education Finance Study Commission (2010). "Issue Paper: Capital Outlay." Available at: http://www.doe.k12.ga.us/Finance-and-Business-Operations/Financial-Review/Pages/State-Education-Finance-Study-Commission.aspx.

Walker, Mary Beth, and David L. Sjoquist (1996). "Allocation of State Funds for Construction and Renovation of Schools." *Journal of Education Finance* 22:161-79.

About the Authors

Eric J. Brunner is an Associate Professor in the Department of Economics at Georgia State University. His primary fields of research are state and local public finance and political economy. More narrowly, much of his work has focused on issues related to the provision and financing of K-12 education, the economics of school choice, and the political economy school funding and school choice.

Nicholas Warner is a Research Associate at the Fiscal Research Center. His recent research has included expenditure and revenue portfolio analysis, tax expenditure estimation, and examination of Georgia's special option sales tax for school facility funding.

About The Fiscal Research Center

The Fiscal Research Center provides nonpartisan research, technical assistance, and education in the evaluation and design of state and local fiscal and economic policy, including both tax and expenditure issues. The Center's mission is to promote development of sound policy and public understanding of issues of concern to state and local governments.

The Fiscal Research Center (FRC) was established in 1995 in order to provide a stronger research foundation for setting fiscal policy for state and local governments and for better-informed decision making. The FRC, one of several prominent policy research centers and academic departments housed in the School of Policy Studies, has a full-time staff and affiliated faculty from throughout Georgia State University and elsewhere who lead the research efforts in many organized projects.

The FRC maintains a position of neutrality on public policy issues in order to safeguard the academic freedom of authors. Thus, interpretations or conclusions in FRC publications should be understood to be solely those of the author(s)

FISCAL RESEARCH CENTER STAFF

Sally Wallace, Director of FRC, Chair and Professor of Economics
Carolyn Bourdeaux, Associate Director of FRC and Associate Professor of PMAP[1]
Peter Bluestone, Senior Research Associate
Robert Buschman, Senior Research Associate
Margo Doers, Senior Administrative Coordinator
Huiping Du, Research Associate
Jaiwan M. Harris, Business Manager
Kenneth J. Heaghney, Research Professor of Economics
Kim Hoyt, Program Coordinator
Lakshmi Pandey, Senior Research Associate
Dorie Taylor, Assistant Director
Arthur D. Turner, Microcomputer Software Technical Specialist
Nick Warner, Research Associate
Laura A. Wheeler, Senior Research Associate

ASSOCIATED GSU FACULTY

Roy W. Bahl, Regents Professor of Economics
H. Spencer Banzhaf, Associate Professor of Economics
Rachana Bhatt, Assistant Professor of Economics
Eric J. Brunner, Associate Professor of Economics
Paul Ferraro, Professor of Economics
Martin F. Grace, Professor of Risk Management and Insurance
Shiferaw Gurmu, Professor of Economics
Andrew Hanson, Assistant Professor of Economics
W. Bartley Hildreth, Professor of PMAP
Charles Jaret, Professor of Sociology
Gregory B. Lewis, Professor of PMAP
Cathy Yang Liu, Assistant Professor of PMAP
Jorge L. Martinez-Vazquez, Director of ISP[3] and Regents Professor of Economics
John W. Matthews, Part-Time Instructor, PMAP
Harvey Newman, Chair of PMAP and Professor of PMAP
Theodore H. Poister, Professor of PMAP
Mark Rider, Associate Professor of Economics
Glenwood Ross, Clinical Associate Professor of Economics
Bruce A. Seaman, Associate Professor of Economics
Cynthia S. Searcy, Assistant Dean of Academic Programs and Professor of PMAP
David L. Sjoquist, Director of DPO[2] and Professor of Economics
Rusty Tchernis, Associate Professor of Economics
Erdal Tekin, Associate Professor of Economics
Neven Valev, Associate Professor of Economics
Mary Beth Walker, Dean, AYSPS[4] and Professor of Economics
Katherine G. Willoughby, Professor of PMAP

FORMER FRC STAFF/GSU FACULTY

James Alm, Tulane University
Richard M. Bird, University of Toronto
Tamoya A. L. Christie, University of West Indies
Kelly D. Edmiston, Federal Reserve Bank of Kansas City
Robert Eger, Florida State University
Nevbahar Ertas, University of Alabama/Birmingham
Alan Essig, Georgia Budget and Policy Institute
Dagney G. Faulk, Ball State University
Catherine Freeman, HCM Strategists
Richard R. Hawkins, University of West Florida
Zackary Hawley, Texas Christian University
Gary Henry, University of North Carolina, Chapel Hall
Julie Hotchkiss, Federal Reserve Bank of Atlanta
Mary Matthewes Kassis, University of West Georgia
Stacie Kershner, Center for Disease Control
Nara Monkam, University of Pretoria
Ross H. Rubenstein, Syracuse University
Michael J. Rushton, Indiana University
Rob Salvino, Coastal Carolina University
Benjamin P. Scafidi, Georgia College & State University
Edward Sennoga, Makerere University, Uganda
William J. Smith, University of West Georgia
Jeanie J. Thomas, Consultant
Kathleen Thomas, Mississippi State University
Geoffrey K. Turnbull, University of Central Florida
Thomas L. Weyandt, Atlanta Regional Commission
Matthew Wooten, University of Georgia

AFFILIATED EXPERTS AND SCHOLARS

Kyle Borders, Federal Reserve Bank of Dallas
David Boldt, State University of West Georgia
Gary Cornia, Brigham Young University
William Duncombe, Syracuse University
Ray D. Nelson, Brigham Young University

[1]PMAP: Public Management and Policy. [2]DPO: Domestic Programs. [3]ISP: International Studies Program. [4]Andrew Young School of Policy Studies.

RECENT PUBLICATIONS

(All publications listed are available at http://frc.aysps.gsu.edu or call the Fiscal Research Center at 404/413-0249, or fax us at 404/413-0248.)

School Facility Funding in Georgia and the Educational Special Purpose Local Option Sales Tax (ESPLOST) **(Eric J. Brunner and Nicholas Warner)**. This report reviews Georgia's system of school facility finance, emphasizing the role of the Educational Special Purpose Local Option Sales Tax (ESPLOST). FRC Report/Brief 250 (October 2012).

Georgia's Revenue and Expenditure Portfolio in Brief, 1989-2009. **(Carolyn Bourdeaux, Sungman Jun, and Nicholas Warner)**. This brief uses Census data to examine how Georgia ranks in terms of spending and revenue by functions and objects and examines how Georgia's portfolio has changed over time compared to national peers. FRC Brief 249 (August 2012).

Estimated Distributional Impact of T-SPLOST in the Atlanta Metropolitan Area. **(Peter Bluestone)** This brief examines the distributional impact of the Atlanta area T-SPLOST by income level and age. FRC Brief 248 (July 2012)

Georgia's Tax Portfolio: Present and Future **(Ray D. Nelson)**. This paper proposes a tax policy analysis methodology that applies financial market portfolio concepts to simultaneously consider both the growth and volatility of Georgia's historical and future tax revenue receipts. FRC Report 247 (September 2012)

Jobs in Georgia's Municipalities: Distribution, Type, and Quality of Jobs **(Zackary Hawley)**. This brief discusses the distribution, type, and quality of jobs and examines the percentage by municipality of total state employment. FRC Brief 246 (June 2012)

Jobs in Georgia's Counties: Distribution, Type, and Quality of Jobs **(Zackary Hawley)**. This brief discusses the distribution, type, and quality of jobs and examines the percentage by county of total state employment. FRC Brief 245 (June 2012)

Measuring Preferences for and Responses to Alternative Revenue Sources for Transportation **(Pam Scholder Ellen, David L. Sjoquist, and Rayna Stoycheva)**. This report contains a survey of published public opinion polls and the results of a new Georgia poll regarding citizens' attitude towards alternative transportation revenue sources. FRC Report 244 (June 2012)

The Incentive Effect of Tax-Benefit System Facing Low-Income Families in Georgia **(Chelsea Coleman, Mark Rider, and Kendon Darlington)**. This report examines the incentives created by the state and federal tax system and the phase-in and phase-out of means tested benefit programs on low income households in Georgia. FRC Report 243 (April 2012)

An Analysis of Reducing the Corporate Income Tax Rate **(David L. Sjoquist and Laura Wheeler).** This brief discusses the likely revenue and incentive effects associated with various options for modifying the current corporate income tax structure. FRC Brief 242 (April 2012)

Georgia's Corporate Income Tax: A Description and Reform Options **(David L. Sjoquist and Laura Wheeler)** This report describes the existing corporate income tax structure and discusses the likely revenue and incentive effects associated with various options for modifying the current corporate income tax structure. FRC Report 241 (April 2012)

An Analysis of Options for Reforming Georgia's Income Tax: Simplicity, Equity, and Adequacy **(Robert Buschman and David L. Sjoquist)** This report develops a framework for analysis of individual income tax reform proposals, and analyzes recent reform packages and some simple alternatives. FRC Report 240 (February 2012)

An Inventory of Transportation Funding Options **(David L. Sjoquist)**. This report provides a discussion of the advantages and disadvantages of various options for funding transportation. FRC Report 239 (February 2012)

Federal Tax Burden and Tax Breaks for Georgia Residents **(Andrew Hanson and Zach Hawley)**. This report examines the federal taxes paid and the tax breaks received by Georgia residents, it also places these in context of other U.S. states. FRC Report 238 (January 2012)

Georgia's Taxes: A Summary of Major State and Local Government Taxes, 18th Edition (**Carolyn Bourdeaux and Richard Hawkins**). A handbook on taxation that provides a quick overview of all state and local taxes in Georgia. FRC Annual Publication A(18) (January 2012)

Impact of Small Business on the Georgia Economy **(Julia Namgoong and Laura Wheeler).** The brief explores the impact of small businesses on the Georgia economy. FRC Brief 237 (October 2011)

Flexible Work Arrangements in Georgia: Characteristics and Trends **(Cathy Yang Liu and Rick Kolenda)**. This report traces the growth of workers with flexible work arrangements in Georgia between 1990 and 2007 and examines their demographic and economic characteristics. FRC Report 236 (July 2011)

Can Georgia Adopt a General Consumption **Tax? (Mark Rider)**. This report examines the feasibility of replacing Georgia's current tax system with a general consumption tax. FRC Report 235 (June 2011)

(All publications listed are available at http://frc.gsu.edu or call the Fiscal Research Center at 404/413-0249, or fax us at 404/413-0248.)

Document Metadata

This document was retrieved from IssueLab - a service of the Foundation Center, http://www.issuelab.org

Date information used to create this page was last modified: 2014-02-15

Date document archived: 2013-02-07

Date this page generated to accompany file download: 2014-04-15

IssueLab Permalink:
http://www.issuelab.org/resource/school_facility_funding_in_georgia_and_the_educational_special_purpose_local_option_sales_tax_esplost

School Facility Funding in Georgia and the Educational Special Purpose Local Option Sales Tax (ESPLOST)

Publisher(s): Fiscal Research Center of the Andrew Young School of Policy Studies

Author(s): Eric J. Brunner; Nicholas Warner

Date Published: 2012-10-13

Rights: Copyright 2012 Fiscal Research Center of the Andrew Young School of Policy Studies.

Subject(s): Education and Literacy; Government Reform