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The Fiscal Impact of Tax-Credit Scholarships in Oklahoma

June 2011

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Brian Gottlob

THE FOUNDATION FOR Educational Choice

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Executive Summary

This study seeks to provide outcomes-based information on Oklahoma's proposal to give tax credits for contributing to organizations that provide scholarships to K-12 private schools. The study constructs a model to determine the fiscal impact of tax-credit scholarships on the state and on local school districts.

We estimate the impact that tax-credit funded tuition scholarships will have on the distribution of students between Oklahoma's public and private schools by estimating the number of students transferring from public to private schools in response to different scholarship values. We use these estimates to construct a model to determine the impact that scholarship tax credits will have on state education aid to school districts and to calculate the "break-even" rate of program participation. The program's break-even rate is the number of public school students that would have to transfer from public to private schools in response to the scholarship program in order to make the tax credits fiscally neutral from the perspective of Oklahoma state government. We use district-level expenditure and enrollment data to estimate the percentage of expenditures that vary with changes in enrollment levels across school districts in Oklahoma. We then compare the revenue and expenditure impacts of scholarship tax credits on school districts to determine their net impact on school district finances.

In addition to allowing Oklahoma to expand educational opportunities to a broader segment of families and improving the equity of its education system, a tax-credit scholarship program would generate fiscal benefits for local school districts, thus increasing the available resources for students who remain in public schools. Because much of their revenue does not vary with enrollment, school districts would retain much of the funding associated with students who use scholarships to transfer from public to private schools. The overall impact on public schools would be to increase the financial resources available per student. Depending on a few key design elements, a tax-credit scholarship program can achieve any desired level of fiscal benefits for the state of Oklahoma.

Key findings include:

- When students leave Oklahoma public schools in significant numbers, local school districts experience reductions in expenses greater than the reduction in state aid. In addition, school district revenues from local sources do not decline when enrollments decline. Because expenses decline more than revenues when students leave public schools, there is a net gain of resources available in public schools equal to $2,136 per public school student using a scholarship.

- The total fiscal impact of a tax-credit scholarship program depends on the number and percentage of public school students who receive scholarships in relation to the number of private school students receiving scholarships. This in turn depends on a number of programmatic design factors including income eligibility levels, the size of the scholarships, and the total amount of available scholarship funding. The study uses data from the U.S. Census Bureau and other sources

to estimate how public school families might respond to a tax-credit scholarship program with various design features.

- Contributions to scholarship granting organizations are estimated to cost the state of Oklahoma $26.2 million dollars in tax credits in the first year of the program, resulting from about $32 million in contributions to scholarship granting organizations by businesses and individuals.

- A scholarship program for current public school students that costs the state of Oklahoma $26.2 million in tax credits, including $10 million from businesses at 65 percent of the value of contributions to scholarship granting organizations, and the remainder from individuals receiving tax credits equal to 100 percent of their contributions, will make $31.8 million in funds available to scholarship granting organizations.

- In the first year of the program, 6,480 public school students will have to participate in the program for it to "break even" or have no cost to the state.

- If scholarship eligibility is set at 300 percent or below of the federal free or reduced-price lunch eligibility guidelines, and at least 80 percent of scholarships are awarded to public school students, the program will yield net fiscal benefits to the state of Oklahoma over 10 years of between $8.9 million and $125.6 million if scholarship values average less than $4,000.

- If 80 percent of scholarships are awarded to public school students, peak fiscal benefits of $125.6 million over 10 years occur at scholarship values of $2,750. At scholarship values averaging $4,250 to $5,000, the program would cost the state between $8 million and $49 million over 10 years.

- Raising the income eligibility for scholarships always increases the fiscal benefit of the program, because more public school students would be eligible for scholarships and eligibility is increased most among income groups that have the highest propensity to transfer from public to private schools.

- A tax-credit scholarship program is a more efficient way to direct dollars to education than increasing state aid. Oklahoma data show that every dollar of increased state aid to schools only produces an additional 32 cents of additional school spending, because local governments respond to state spending increases by reducing local spending on education. By contrast, for every dollar spent on a tax-credit scholarship program,90 cents goes directly to a child's scholarship and education. Every dollar of tax-credit scholarships would cost the state of Oklahoma less than one dollar.

This report analyzes an early legislative proposal, not the actual tax credit program enacted in May 2011.

Introduction and Overview

Proposals to increase educational opportunities for students of different backgrounds, abilities, needs and economic circumstances are increasing throughout the country. In part, this reflects increasing support among the public for the concept of school choice, which a majority of U.S. citizens now support.[1] The same goes for Oklahomans.

A 2011 opinion poll found that 48 percent of Oklahoma voters favor legislation to establish tax-credit scholarships (28.5 percent opposed and 23.4 percent had no opinion). When results of that poll were broken down by party, 50.4 percent of Republicans favor the tax-credit scholarship legislation compared to 45.1 percent of Democrats who are supportive.[2]

As that poll, and current educational practices indicate, school choice is not controversial. Indeed, some Oklahoma families already exercise school choice:

- About 51,000 children in grades K-12 attend private schools.[3]
- About 5,900 children attend one of Oklahoma's 18 charter schools.[4]
- Thousands of children are home-schooled.

However, by far, the major form of choice in Oklahoma and in the United States occurs when a family chooses its place of residence. Because higher-quality schools often are found in communities with higher housing prices, this type of school choice is available at a high cost, and is unaffordable to many families. Like families throughout the country, Oklahoma parents tend to sort themselves among schools and school districts largely by income and education levels. If parents could access the education funding allotted for their children, however, we would see less schooling segregation on the basis of parental income and education.

In most states "education reform" has become synonymous with changing state education finance systems and increasing funding to reduce spending disparities. But when remedies for inequality of educational opportunity are not made directly available to affected parties (parents and children), we should not be surprised that the results of these "reforms" have generally been disappointing. Increasingly, across the nation, families have responded positively to the wider variety of educational options. High-quality studies are demonstrating the positive impacts that increased school choice is having on children, families, and education systems, suggesting that Oklahoma should consider the merits of providing even more educational options for school children.

This study uses empirical methods and economic analyses to examine school choice in Oklahoma. Empirical analyses allow us to find analytical answers to important policy questions not skewed by political leanings or ideological principle. Perhaps believing it inappropriate to discuss education in terms of market incentives and pressures, many well-meaning individuals who are concerned about K-12 education ignore, on principle, the educational impacts of market

forces and how they influence the behaviors of families and schools. But school choice occurs even in the absence of official or legislatively enacted school choice policies. Unfortunately, the market for K-12 education without universal school choice contains significant imperfections that prevent many families from sending their children to the schools that best meet their needs.

Our analysis begins with a brief discussion of how Oklahoma funds elementary and secondary education. We examine the demographics of public and private schools in Oklahoma and estimate the impact on public and private school enrollments of a program that provides tax credits for donations to support private school scholarships. We develop a model that shows how the expenditures of Oklahoma school districts vary with changes in student enrollment, and show the fiscal impacts of a school choice program on Oklahoma's state budgets and those of local school districts.

How Oklahoma Funds Public Schools

The expense of educating Oklahoma children is a responsibility shared between all levels of government. The state provides the largest share of funding for common schools annually, and education represents the largest single item in the annual state budget. For the 2008-09 school year, state lawmakers appropriated about $2.5 billion for elementary and secondary schools; other state-dedicated revenues provided another $400 million in funding to local districts. Combined, these state sources provided 64 percent of all Oklahoma public schools' revenue. Local and county sources of revenue totaling $1.03 billion accounted for another 23 percent of public school revenue. Finally, the federal government supplied about 13 percent, or $582 million.[5]

The basic state support mechanism for Oklahoma schools includes a two-tiered equalization program. The first component is a foundation formula with a transportation supplement. The second tier is the salary incentive aid, a modified guaranteed yield formula. Key features of Oklahoma's state education finance program include:

- State aid is appropriated to school districts with a primary goal of increasing the equality of resources available for educating each child across school districts. Thus, in the aggregate, state support for local schools is distributed in inverse proportion to local ability to raise revenue.

- The primary source of state aid for local school districts, equaling 80 percent of the state aid for local schools, is distributed via the Foundation and Salary Incentive aid program.

- State aid is enrollment driven, with weighted average daily membership (ADM) used as the formula unit of funding. The foundation aid program for a given local district includes a legislatively determined statewide base support factor ($1,667 for FY2008-09) multiplied by the district's weighted ADM.

- The salary incentive aid component of the Oklahoma funding system (fundamentally a

guaranteed yield formula) constitutes a second tier resource equalization program. The local portion of the program was derived from an annual levy up to 20 mills[6] for each local district. In FY 2008-09, the state guaranteed $78.97 per weighted ADM.

- State aid also is distributed via 18 categorical grant programs, some of which are dependent on enrollment levels of particular categories of students.

- The local foundation program income for the district is subtracted from that product. This income includes a district ad valorem tax levy on real property, a county wide levy, and collections from several dedicated revenue sources. State foundation aid results from the subtraction of the local foundation program income from the total foundation program.

How Oklahoma School Funding Varies with Enrollment

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

About 86 percent of state support for public schools in Oklahoma is calculated on the basis of some measure of enrollment. The foundation aid and salary incentive portion of aid account for most of the state funding for schools. These programs are calculated directly on the basis of weighted ADM and thus vary directly as a district adds or loses students, either among the general student population or among specific categories of students (such as students with special needs, economically disadvantaged students, or students with some other characteristics for which these state funding programs provide enhanced funding).

Some of the remaining 14 percent of state aid that is provided via 18 categorical funding programs is determined directly or indirectly by enrollment; however, dollar figures are not directly a function of the number of students in a district. Based on data from the Oklahoma Department of Education, we assume that about $2.36 billion of state education aid in 2008-09 was distributed on the basis of some type of enrollment-based calculation, whereas $399 million did not vary with enrollment. In calculating state aid based on enrollment, districts are allowed to choose either the current or prior year's enrollment (ADM), whichever yields the larger amount of state aid. Thus districts are protected from unexpected declines in state aid because of a drop in enrollment and given at least one year to adjust before a loss of state revenue occurs. The loss of a student who has left a school district for any reason has the same effect on a district. Enrollment has relatively little effect on local revenue in the short term, but, over time, enrollment changes may prompt larger adjustments to local revenues. In terms of either local or state sources of revenue, local districts do not experience significant reductions in revenues in the short term as enrollments decline. Some revenues from federal sources are affected by

enrollment levels but they are calculated on the basis of complex formulas that include provisions, which result in funding not varying directly with enrollments.

Table 1 uses 2008-09 funding levels as reported by the Oklahoma Department of Education to present a basic scenario of how funding changes as enrollments change.

Oklahoma Public School Revenue (2008-09) — ***Table 1***

	Amount	Per Student	Percent
Funding Based on Enrollment	$2,446,462,840	$3,830	86%
Categorical Aid	$399,275,281	$625	14%
Total State Sources	$2,845,738,121	$4,455	64%
Local Sources	$1,034,442,306	$1,619	23%
Federal Sources	$581,796,423	$911	13%
Total	**$4,461,976,850**	**$6,985**	**100%**

Source: Oklahoma Department of Education, Annual Report 2008-2009, and author's calculations. Per student figures based on the "average daily membership" of school districts.

Table 2 further illustrates how school revenues are affected by enrollment declines. The table shows how Oklahoma's aggregate and per-student school district revenues would have been affected if enrollment declined by 10,000 students in the 2008-09 school year and had been 628,817 rather than the actual figure of 638,817.

Oklahoma Public School District Revenues Resulting From a Decline in Enrollment (Enrollment Decline From 638,817 to 628,817) — ***Table 2***

Revenue Source	Amount	Change from Actual 2007-08 Revenue	Revenue Per Student	Change Per Student
Funding Based on Enrollment	$2,408,166,069	($38,296,771)	$3,830	$0
Categorical Aid and Equalization	$399,275,281	$0	$635	+$10
Total State Sources	$2,807,441,350	($38,296,771)	$4,465	+$10
Local Sources	$1,034,442,306	$0	$1,645	+$26
Federal Sources	$581,796,423	$0	$925	+$14
Total	**$4,461,976,850**	**($38,296,771)**	**$7,035**	**+$50**

Source: Oklahoma Department of Education, Annual Report 2008-2009, and author's calculations. Per student figures based on the "average daily membership" of school districts.

Table 2 shows that, on average (but with large variations depending on the level of disability), for each student the state of Oklahoma provides about $4,455 in education aid. Of this amount, about 86 percent, or $3,830, is directly responsive to changes in enrollment levels. Thus if nothing else changed, when a new student enters a school district that district would, on average, receive $3,830 in additional state funding via the state's foundation and other enrollment-based forms of education aid payments. On average, districts received about $5,745 for each student in their district on average.

When a student leaves a district, state per-student funding is reduced. However, Oklahoma's school finance laws allow school districts the option to base their calculations for determining state enrollment-based education aid on the prior year's enrollment levels. Thus, districts with enrollment declines are cushioned against the loss of state aid and given time to adjust budgets to accommodate enrollment declines. This hold-harmless provision, or "cushion," preventing revenue declines would occur with an enrollment decline whether or not it was resulting from a tax-credit scholarship program. In effect, the state of Oklahoma may provide state education aid for students who already have left school, or worse, pay twice for a child who transfers between districts (because districts can opt to use the prior year's or current enrollments in determining state aid, a student could be included in the state aid calculations of two districts in the same year). Federal regulations for funding under the Individuals with Disabilities Education Act (IDEA) guarantee that local school districts receive at least 85 percent of their prior-year allocation, even if the number of eligible students declines. Other federal revenues also are affected by enrollment levels, whether this includes special needs students or not. Many of these revenue funds are only loosely affected by year-to-year changes in enrollment levels. Federal revenues are a small portion of funding for schools and for this analysis we assume that the relatively small scale of the tax-credit scholarship program will not produce changes in enrollment of a sufficient magnitude to affect federal revenues.

Finally, the entire $1,645 of revenue from local sources per student is retained in the district. In the long run, all revenue is at least potentially variable with enrollment, with the exact extent dependent upon the decisions of local school boards and those that approve their budgets. But it is the shorter-term impacts that are often of greatest concern.

The table shows that, compared to actual revenues for the 2008-09 school year, the decline of 10,000 students would lower total district revenues by $38.3 million, but per-student revenues actually would increase by $50 per student.

The implications of this analysis are:

- Under the current system of Oklahoma public school funding, a decline in local district student enrollments on average, although resulting in a decline in total revenues, actually produces a slight increase in the resources available for educating each student who remains in the district.

- Because local school funding does not vary with enrollment in the short term, a loss of students cannot result in lower per-student revenues being available to school districts.

- Smaller public school enrollments can result in large savings for the state without reducing the per-student revenues available to local school districts.

As long as the revenue loss associated with each student who leaves a school district is lower than the amount by which total school district expenditures are reduced when a student leaves, a local school district cannot be made worse off financially by losing a student. In Oklahoma, the loss of $3,830 in state funds, on average, is lower than the expenditures attributable to each child. In the next section we will consider the extent to which these expenditures vary with enrollment.

How School Expenditures Vary with Enrollment

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

When students leave a school district, the district loses state aid associated with those children, but expenditures associated with educating children also decline. One criticism of school choice is that the loss of students is not accompanied by a concomitant decrease in expenses. Although that may be true in the very short term (less than one school year) or with very small enrollment changes, the conclusion that expenditures can never decline when enrollments drop produces logically and empirically implausible conclusions. Increasingly, studies have demonstrated that local school district expenditures are sensitive to declines in enrollment.[7]

Using detailed school district data from the Oklahoma Department of Education, we employed an econometric approach to estimate the variable expenditures associated with educating each student in Oklahoma. We used detailed school district financial data from all districts for the 1997-98 and 2007-08 school years. We determine what "current expenditures" are variable ("current expenditures" do not include capital expenditures and debt service). By "variable," we measure responsiveness to the addition or loss of students in a district. We go on to determine the extent costs are indeed variable, and to what extent they are "fixed." For this study we considered variable expenditures to be expenditures that are variable over a period of at least a year. This analysis will test the expectation that school districts can and do adjust their expenditures to reflect enrollment levels from one year to the next.

The Difficulty in Estimating Marginal Costs

There is no publicly available data for all school districts in Oklahoma that allows for a true estimation of the marginal cost of educating each additional student. Research on education finance generally uses expenditures or revenues as synonymous with "costs" but these measures do not reflect costs in a traditional economic

sense. However, our procedure for estimating variation in expenditures does provide more of an empirical basis for estimating the expenditure impact related to educating each student in the short run than is typically used in education funding research.

We developed simple linear regression models to estimate the expenditure structure of public schools in Oklahoma. After testing several models, we identified the model with the strongest ability to describe how the expenditures of public schools vary according to changes in enrollments, while controlling for other key variables that may influence changes in expenditures. It is expressed by the following equation:

$$ChngExpend = \alpha + ChngEnroll + ChngSpecialNeeds + ChngStRev + PctFreeLunch + \varepsilon$$

Where: α = Constant
ChngExpends = Change in district current expenditures 1997-2008
ChngEnroll = Change in district enrollment 1997-2008
ChngStRev = Change in state education aid 1997-2008
ChngSpecialNeeds = Change in district special needs student enrollments 1997-2008
PctFreeLunch = Percentage of district students eligible for federal free or reduced-price lunch program
ε = Error term

This model estimates that the variable expenditures associated with educating each additional public school student in Oklahoma are $5,258 or 75 percent of the $6,985 average 2008-09 expenditure per student across all districts. The model also suggests that the expenditures associated with each special needs student are $11,939. There are, however, large differences in estimated variable expenditures depending on the size of school districts. Small school districts have a lower percentage of expenditures that are variable (about 54 percent) and thus would experience smaller reductions in expenditures as students leave the district, whereas the largest school districts in Oklahoma have much higher variable expenses (about 84 percent) associated with each student (lower fixed expenses per student and would see greater declines in required expenses as students leave a district). This result is expected, as larger school districts have a greater number of students across which to spread fixed expenditures, lowering their average cost per student.

Our model explains 98 percent of the nominal change in school district expenditures over the 10-year period examined. The data for this analysis are at the school district level, and, as a result, enrollment changes over the years examined are much larger than those that occurred in individual schools within districts. These results are not meant to imply that an increase or decline in a single or small number of students in a school would necessarily lead to increases or

decreases in school expenditures of $5,258 per student in a single year. But, over time in larger numbers and across districts, expenditures are highly responsive to enrollment changes.

Because the change in expenditures associated with each student who enters or leaves Oklahoma's public schools is greater than the state education aid per student, the loss of students from a school district would have a net positive impact on local school district finances. In the 2008-09 school year, the loss of a student from a district would mean the loss of about 55 percent of revenues associated with that student (about $3,830 in state education aid), leaving a majority of the remaining per-student revenues in the district. At the same time, the district would (on average) see a decrease in expenditures of $5,258 for regular students and $11,939 for special needs students. Thus, at least in the short run, school districts are financially better off.

Changes in enrollment are the strongest predictor of changes in school district expenditures
Expenditure Model

Table 3

Variable	Standardized Coefficient	Unstandardized Coefficient	Standard Error
Enrollment Change	0.19**	5,257.9	208.2
State Revenue Change	0.10**	0.316	0.068
Special Needs Enrollment Change	0.15**	11,939	643.9
Percent Free or Reduced-Price Lunch Students	0.80**	7.880E-02	87.8
Constant	---	-174,571	53,792.9
Adjusted R^2	0.984	0.984	0.984

* Significant at .05 level ** Significant at .01 level

Note: Many economic models exhibit collinearity among independent variables. We do see some collinearity in this model. However, the level of collinearity in this model is not significant enough to invalidate parameter estimates. See Peter Kennedy, A Guide to Econometrics (Second Edition), Cambridge, MA: MIT Press, 1985, for an excellent explanation of the diagnosis and complications of collinearity in econometric models.

Each year thousands of school children transfer between school districts; individual districts lose and gain students; and local districts regularly adjust their expenditures to accommodate these changes. Our analysis of U.S. Census Bureau data suggests that about 8 percent of Oklahoma school-age children, in 2009, live in a different home or apartment than they did in 2008.[8] This implies that about 51,000 public school students change residences each year, and it is likely that a significant percentage of those who move do so in a way that requires changing school districts. Even if the movement of students out of one school district is partially offset by movement into the district, the net change in enrollment on an annual basis is likely to far exceed the number of students who would participate in any recently proposed tax-credit scholarship program in Oklahoma. School districts in Oklahoma are subject to annual enrollment changes greater

than would occur under a tax-credit scholarship program. Our analysis shows that concerns over the potential fiscal impacts of school choice on local school districts not only are overstated, but they fail to understand the fundamental local district fiscal effect of expanding school choice in Oklahoma: an increase in the resources available for each student who remains in the school district.

How State Education Aid Affects Local Education Expenditures

Developing a time-series database of state and local education finance variables in Oklahoma allows us to examine and understand the impacts of enrollment changes and other important issues regarding education finance. One key issue is how does state education aid affect the aggregate level of local expenditures?

Each Dollar of Additional State Aid Increases School Expenditures by Only 32 Cents

Increases in state education aid do not necessarily result in a concomitant increase in educational expenditures by school districts. Local school districts can respond to an increase in state aid by reducing the local tax burden for education, or by shifting local expenditures from education to non-educational categories without either reducing tax collections or increasing education expenditures.[9]

We included a variable measuring the change in state education aid to each school district in our analysis of Oklahoma spending data. As the model in Table 3 indicates, changes in state education aid are significant predictors of changes in district education expenditures. To that point, between 1997 and 2008, each additional dollar of state education aid is associated with only 32 cents of additional education spending in Oklahoma public schools. This figure is low compared to estimates nationally and to recent studies in other states.[10] Increasingly advocates for school finance reforms have based their arguments on a desire for increased spending on education (adequacy arguments) rather than on equity in funding among districts (equalizing resources without necessarily increasing overall spending). These results offer a cautionary note regarding the inefficiencies associated with efforts to increase local education spending by increasing state aid to local school districts.

The legal requirement that state education aid be used for education spending is easy to meet without actually increasing local education budgets. Local governments can simply move the same number of local tax dollars out of the school budget as the number of state dollars that come into the school budget. A local government that reduces education expenditures by $1 million when it accepts an additional $1 million in state education aid has complied with the legal requirement to spend state education aid on education. The local government could spend the $1 million in new state funding on education while spending $1 million in local tax revenue – which it would have raised for education in the absence of the state aid – for other local services, in which case education spending would not increase and taxes would not be lowered, but

spending on other local services would increase. Or it could reduce local taxes by $1 million, in which case taxes would be lowered while spending on both education and other local services would not increase. As our results and those of other researchers indicate, the most likely outcome of additional state education aid is a combination of increases in education spending, increases in non-education spending, and tax relief.

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

- Because each dollar of additional state education aid, on average, translates into about 32 cents of additional local spending on education services, the current system of education finance is a relatively inefficient method of increasing educational services and educational opportunities for Oklahoma students.

- By contrast, education funding that provides tax-credit scholarships for students to attend private schools would result in $1 of educational expenditures for each $1 of funding (if administrative expenses for the program are counted as educational expenditures, as are administrative expenses in the public school system). Moreover, when a tax credit is awarded for just 65 percent of an individual's or business's contributions to scholarship granting organizations, Oklahoma gets $1 of educational services at a cost of only 65 cents. Thus Oklahoma is able to purchase three times as much in educational services for its children ($1 dollar in a scholarships compared to 32 cents when state aid to schools is increased) at a lower cost (65 cents for each $1 dollar in businesses tax credits). For those most concerned with creating equitable educational opportunities across schools and districts, tax-credit scholarships are a more efficient mechanism for directing expenditures for education and for providing increased educational opportunities than is increased state education aid.

- Because the reduction in school district revenue associated with declines in enrollment is less than the variable cost of educating students, school districts cannot be made financially worse off (over periods of more than one year) by the loss of students to a scholarship program. That point will be discussed in greater detail later in this study.

Demographics of Oklahoma's School-Aged Children

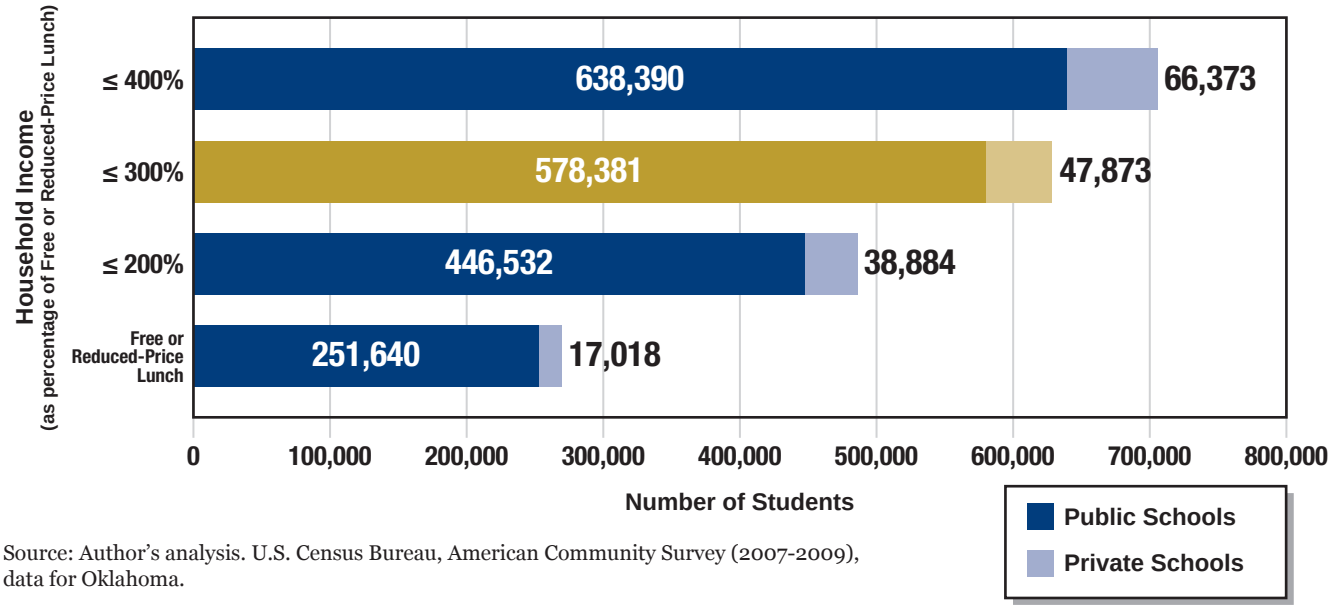
Nearly 90 percent of students in Oklahoma's public schools reside in families at or below 300 percent of the federal free or reduced-price lunch income guidelines. Students are eligible to receive a free school lunch if they reside in a family with income at or below 130 percent of federal poverty guidelines, and they are eligible for reduced-price lunches if their family income is less than 185 percent of federal poverty guidelines. Table 4 shows a family of four could earn up to $124,044, in 2011, and still be at 300 percent of the federal free or reduced-price lunch income guidelines.

2011 Federal Poverty and Free or Reduced-Price Lunch (FRPL) Income Guidelines — *Table 4*

Family Size	Poverty Level	FRPL Level	3 x FRPL Level
1	$10,890	$20,147	$60,441
2	$14,710	$27,214	$81,642
3	$18,530	$34,281	$102,843
4	$22,350	$41,348	$124,044
5	$26,170	$48,415	$145,245
6	$29,990	$55,482	$166,446
7	$33,810	$62,549	$187,647
8	$37,630	$69,616	$208,848

Using data from the U.S. Census Bureau's American Community Survey (2007-09) on the number of school children in Oklahoma families by income level, our results indicate that more than 581,000 Oklahoma public school students live in families at or below 300 percent of the federal free or reduced-price lunch income guidelines, and another 48,000 students in private schools reside in families at or below that income level (see Figure 1).

About 90% of public school students meet scholarship eligibility at 300% of federal Free or Reduced-Price Lunch guidelines. — *Figure 1*



Source: Author's analysis. U.S. Census Bureau, American Community Survey (2007-2009), data for Oklahoma.

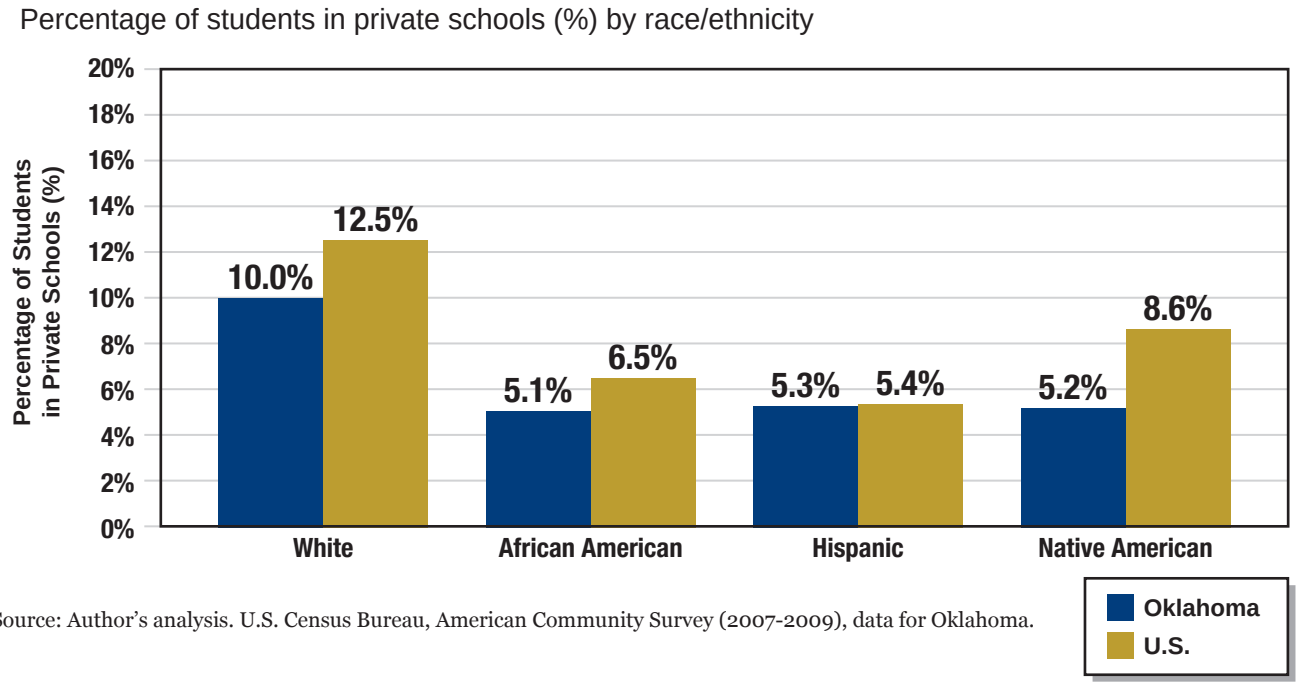
Oklahoma Children Have Fewer School Choices

Data from the U.S. Census Bureau indicate that 7.9 percent of Oklahoma's K-12 school-age students attend private schools, well below the 10.8 percent for the nation as a whole. The percentage in Oklahoma rises to 9 percent when pre-kindergarten students are included, lagging even further behind the national figure of 13.7 percent.[11] In the absence of a universal school choice program, parents largely will exercise school choice by choosing to live in communities that best match their preferences for educational services or by paying to have their children attend private schools. One result of the absence of a universal choice program is that families and school children segregate themselves along lines of income, parental educational attainment, and race and ethnicity.

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

- The percentage of children in private schools in Oklahoma is lower than the U.S. average, but is especially low in Oklahoma among the two largest segments of the state's student population, non-Hispanic whites and Native Americans. More than 5 percent of Native American children in the state attend private schools compared with the national average of 8.6 percent. More than 10 percent of non-Hispanic white children in Oklahoma attend private schools compared with the U.S. figure of 12.5 percent (Figure 2).

Minority students in Oklahoma are less likely to attend private schools than white students. ***Figure 2***

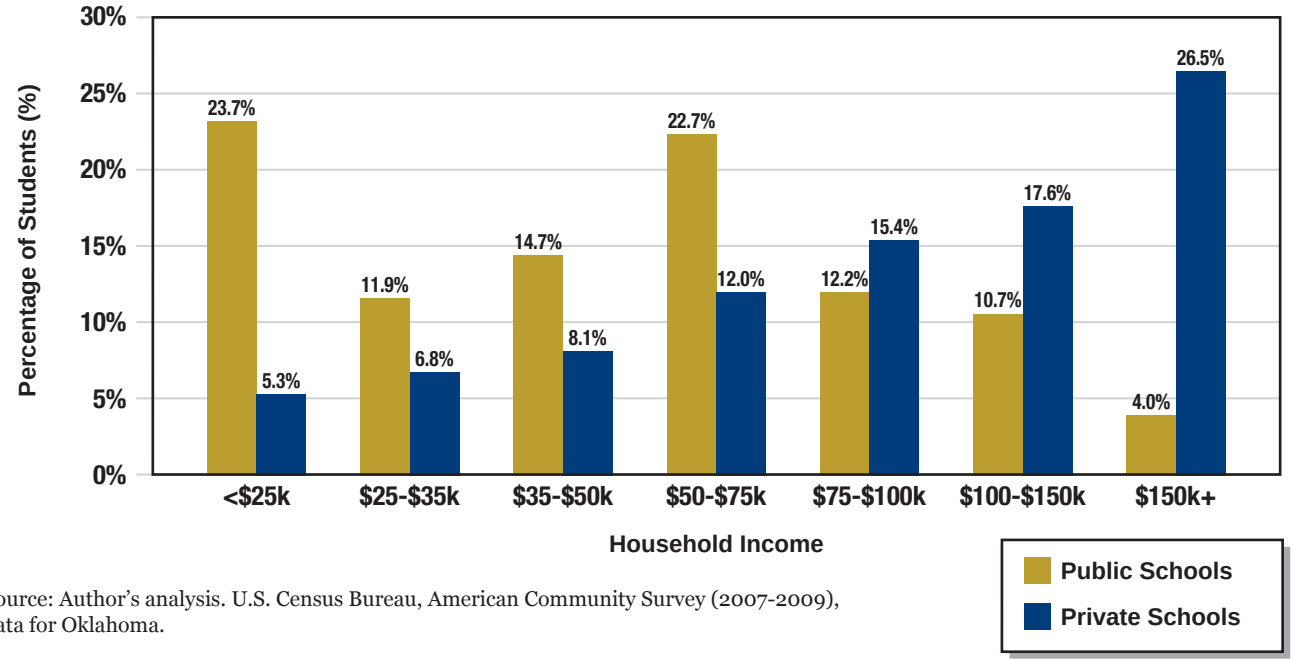


Source: Author's analysis. U.S. Census Bureau, American Community Survey (2007-2009), data for Oklahoma.

In Oklahoma, household income correlates with type of school attendance.

Figure 3

Percentage of students (%) by household income and school type

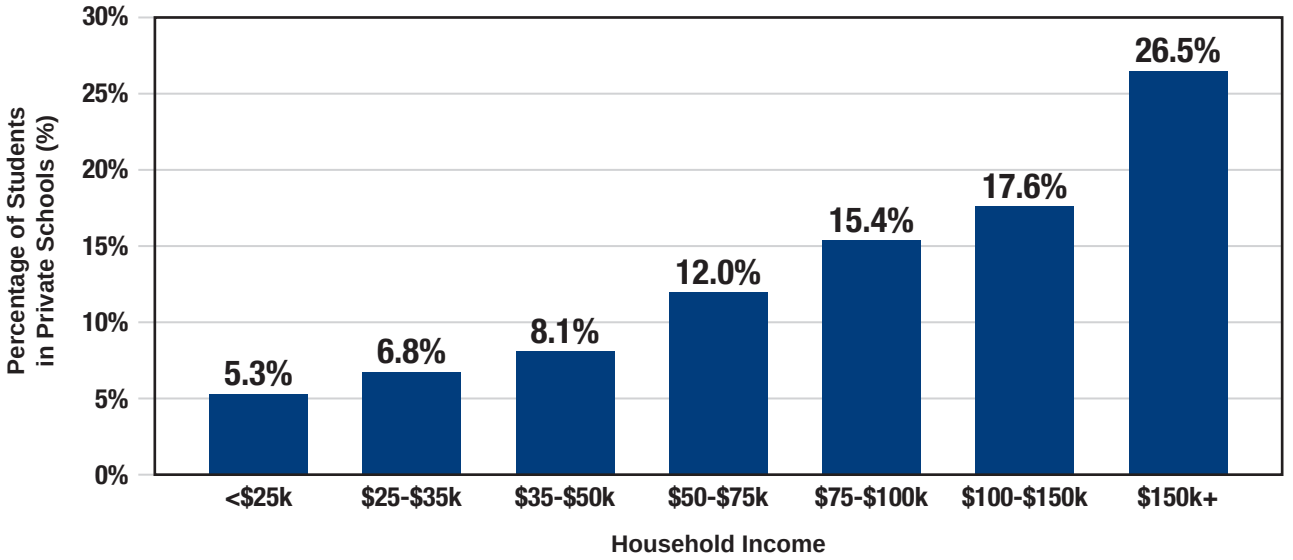


Source: Author's analysis. U.S. Census Bureau, American Community Survey (2007-2009), data for Oklahoma.

Household income affects educational choices.

Figure 4

Percentage of students in private schools (%) by household income



Source: Author's analysis. U.S. Census Bureau, American Community Survey (2007-2009), data for Oklahoma.

- About 24 percent of students in Oklahoma public schools come from families with an annual income below $25,000, compared with just 12 percent of students in private schools. Figure 3 shows the income distribution of both public and private school students in Oklahoma.

The demand for private schooling in Oklahoma increases significantly as family income increases (Figure 4), suggesting an income elasticity of demand for private schooling between 0.3 at lower income levels and more than 1.0 at high income levels. Income elasticity refers to the change in demand for private schooling that occurs with each percentage-point change in family income. An elasticity of 0.5 indicates that, if family income doubled (an increase of 100 percent), there would be a corresponding increase in private school attendance of 50 percent.

Together, these data suggest that:

- There are substantial economic and racial differences in the composition of public versus private schools in Oklahoma, indicating a difference in the ability of parents to choose private schools for their children.

- The rate of private school enrollment among Oklahoma middle- to higher-income families, compared to enrollment among lower-income families, suggests that a large percentage of Oklahomans view the public schools as a less attractive option for educating their children and that family income strongly influences the ability of families to exercise their preference for educational services.

- Without increased efforts to introduce more school choice programs, the significant segregation along income and other lines apparent in Oklahoma schools likely will continue.

Proposals to Increase Educational Options and Opportunities

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

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

This past spring, Oklahoma considered and enacted a proposal to allow a tax credit to individuals and businesses for contributions made to organizations that provide scholarships to children who want to attend private school. The original proposal allowed business to receive tax

credits equal to 65 percent of their contribution's dollar amount, with a $10 million cap on credits distributed. For the cap on business tax credits to be reached, a total of $15,384,615 in business contributions would have to be made.[12] For individual tax filers, credits equal to 100 percent of the value of their contributions to scholarship granting organizations—up to $1,000 for single filers and $2,000 for married couples filing joint tax returns—would be granted. The total amount of tax credits available for contributions to scholarship granting organizations from individuals is not capped. The proposal allows up to 10 percent of contributions to scholarship granting organizations to be used for administration of those organizations.

Important note: This report analyzes an early version of the legislative proposal, not the actual tax credit program enacted in May 2011.

Another way to describe the tax-credit scholarship program is that it will allow the state of Oklahoma to leverage the interests and desire of individuals and businesses to improve educational opportunities in Oklahoma and to pay an amount equal to less than one dollar for every dollar of educational services that the tax credits provide for Oklahoma's children. For example, if both businesses and individuals contribute $15,384,615 to scholarship granting organizations (the amount of contributions from businesses needed to reach their $10 million cap), then $30,769,231 will be contributed with $27,692,308 available for scholarships (and the remainder available for administration). But the cost of the tax credits will be only $25,384,615 or 92 cents for every tuition scholarship dollar.[13] In contrast, additional state education aid to school districts on average purchases about 32 cents of education services for every dollar of additional state funding.

Our analysis of tax-credit scholarships considers the extent to which the program will induce children currently in (or planning to attend) Oklahoma's public schools to enter or transfer to private schools. During the 2008-09 school year, the state paid, on average, about $3,830 for enrollment-based state aid for each student in the public schools. For tax-credit scholarships to be fiscally neutral or better for the state budget, they must induce enough students to transfer from public to private schools so that savings in state per-student education aid equals or exceeds the tax revenue foregone because of tax credits.

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

Estimating Program Participation Levels

With the tax credit, businesses and individuals can choose to pay taxes to be used for general state services or they can contribute to a scholarship granting organization to provide scholarships for students enrolling in private schools. When businesses or individuals make a contribution to the tax-credit program they directly target the use of their tax dollars to support education. Given this choice, many businesses and individuals can be expected to contribute to the program.

With the tax credit, Oklahoma increases educational expenditures in a way that does not occur when state education aid is increased. As we noted earlier, each additional dollar of state education aid increases school expenditures, on average, by only 32 cents. In contrast, a tax-credit scholarship program can result in one dollar of educational services for Oklahoma's children at a cost to the state of less than one dollar. If businesses provide a higher percentage of scholarship funds contributed to scholarship granting organizations, the cost to the state will be less than 92 cents for every dollar of educational services the tax credits purchase. For example, if all contributions come from businesses, $10,000,000 in tax credits would result in $15,384,615 in contributions and $13,846,154 in scholarship funds (with 10 percent of the $15,384,615 going toward administrative expenses). Thus $13,846,154 in educational services will be purchased at a cost of just $10,000,000 in tax credits, or at a price of 72 cents for every dollar of educational services.

For many business and individuals, the ability to target their funding to educational expenditures would be an attractive option.

Several states offer some type of tax-credit scholarship or deductions to assist families who want to send their children to independent schools. Minnesota, Iowa, and Illinois offer a direct tax credit or deduction to parents sending their children to private schools. Arizona, Florida, Pennsylvania, Iowa, Rhode Island, Georgia, and most recently Indiana offer credits to individuals, corporations, or both that contribute to organizations providing private school scholarships. Several other states have proposals to enact tax-credit scholarship programs.

By donating to scholarship granting organizations and receiving a tax credit in return, individuals and businesses contribute to Oklahoma's public good in an amount equal to what they would have paid had they not contributed to the scholarship organization. Thus, total payment to the public good of Oklahoma by individuals and businesses is not lowered by the tax credit program; rather, contributors to scholarship granting organizations ensure that their payments go directly to support the education of Oklahoma students. In addition, the funds contributed to scholarship granting organizations purchase a larger overall increase per dollar in educational services compared to increased expenditures of state education aid.

In states such as Florida, Pennsylvania, Arizona, and Georgia, the opportunity to direct tax payments to scholarship programs proved to be

a powerful incentive for businesses, and in most states initial caps placed on the total amount of business tax credits were reached in the first year of the program. Florida and Pennsylvania subsequently increased the total allowable tax credits.

The experience of other states clearly indicates that we can expect businesses to contribute up to the maximum amount allowed by the cap, $10 million, in the first year. There are many reasons Oklahoma may want to provide a tax credit for businesses that contribute directly to educating Oklahoma's children. Doing so would:

- Establish a convenient and consistent mechanism and incentive for businesses to contribute directly to educating Oklahoma's children.

- Provide educational resources directly to families and children rather than institutions that may divert additional resources in ways that do not directly benefit children.

- Give businesses a meaningful and convenient way to address their concerns about the quality of public education and its impact on business and the Oklahoma economy.

Contributions from Individuals

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

Arizona has more than 10 years' experience with an individual tax-credit scholarship program (more recently Arizona also has enacted a corporate tax-credit scholarship program). It is tempting to look at the most recent data on the Arizona tax-credit scholarship program and apply it to the proposed Oklahoma program to estimate the volume of contributions from individuals. However, both the volume of contributions and the contributions to scholarship granting organizations as a percentage of all charitable contributions increased over time in Arizona. In the first full year of Arizona's program, the number of contributions to scholarship granting organizations was 60 percent less than the number of contributions in 2009, and in the program's second full year the number of tax filers claiming tax credits was only half the number claiming credits in 2009.[14] Arizona's scholarship tax credits for individuals are more limited than those proposed in Oklahoma, but that does not explain the difference between the number (as opposed to volume) of credits claimed early in the program and the number claimed in recent years. A more realistic explanation is that it takes time for a program to generate enough awareness among non-business taxpayers to reach its maximum potential for contributions; in the case of Arizona, nearly 10 years. Unlike contributions from businesses, individual taxpayers will not be as immediately aware of the tax credit nor are their behaviors as likely to respond as quickly to changes and incentives in state tax laws.

In addition, the distribution of contributions among taxpayers in various income groups is much different in Oklahoma than it is in Arizona and will likely produce a different pattern and volume of contributions. Specifically, a much higher percentage of contributions in Oklahoma are concentrated in the highest income groups, where the average Oklahoma charitable contribution is more than twice as large as in Arizona. More than 50 percent of charitable contributions in Oklahoma are from taxpayers with more than $200,000 in adjusted gross income, compared to just 33 percent for Arizona.[15] This concentration of charitable contributions among higher income taxpayers in Oklahoma implies that the $1,000 and $2,000 limits on credits to individual and joint tax filers likely will limit the volume of credits claimed.

For these reasons, the estimates of contributions from individuals in this study uses the Arizona experience from the early years (2003 and earlier) of its tax-credit scholarship program adjusted for the different distribution of charitable contributions among Oklahoma taxpayers. Our estimate is that just more than 1 percent of all charitable contributions will go to scholarship granting organizations in their early years of Oklahoma's proposed tax-credit scholarship program, and rise thereafter. Our first year estimate for contributions from individuals is $16,446,638.

Combined with $15,384,615 in contributions from businesses (the amount needed to reach the $10 million cap for business credits), the result is total estimated contributions of $31,831,253, of which $28,648,128 must be used for scholarships. The cost to the state of Oklahoma in tax credits for the total volume of contributions is $26,199,938,[16] including estimated "add backs" for federal deductions of charitable contributions that reduce the cost of credits to Oklahoma by $246,700.[17]

Tuition Prices Strongly Influence Demand for Private Schools

The impact that a tax-credit scholarship program would have on public and private school demographics in Oklahoma, as well as on state and local finances, depends on the dollar amount of contributions, the amount of contributions from businesses versus the amount from individuals, the percentage of a contribution that can be claimed as a credit, the decisions of scholarship granting organizations, and the response of families of children in public and private schools to the availability of scholarships. These are difficult to forecast. Program design elements and eligibility criteria will combine with the preferences families have for different education providers and services to influence the participation of Oklahoma families.

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

- The income-eligibility requirements for program participation.

- The average dollar value of scholarships.

- The expected price elasticity of demand for private schooling according to income level.

- The percentage of scholarships that go to public school students versus students currently enrolled in private schools.

- The number of scholarship that will go to special needs students.

Tax-credit scholarships lower the price of attending private schools for students who receive them. A number of studies have estimated the increase in demand for private schooling as a result of changes in the price of the schools. The most widely cited studies of the impact of changes in the price of private schools on demand (the price elasticity of demand) indicate that the demand for private schools increases as the price to families declines (and the demand decreases as the price rises), a so-called negative price elasticity. The range of estimates between these studies is large, however. Chiswick and Koutroumanes (1996) estimate a price elasticity of about -0.5, suggesting that a 10 percent decline in the price of private schools would lead to a 5 percent increase in demand, whereas Gwarntey and Stroup (1997) estimate a price elasticity of -1.1, suggesting that a 10 percent decline in the price of private schools would lead to an increase in demand of 11 percent.[18]

In Georgia, a 1994 study estimated the elasticity of demand for private schooling in rural school districts to be -1.07.[19] Most recently, Gruber, Dynarski, and Li (2009) use a detailed methodology that employed strong controls for non-price factors that influence the demand for private schooling along with information on multi-child discounts offered by Catholic schools to estimate the price elasticity of demand for private schooling. Their results suggest that the price elasticity of demand for private schooling increases among middle- and lower-income families, with the price elasticity of demand among lower-income households at -.59, compared to just -.09 for high-income households, indicating that private school scholarships are most likely to induce lower-income households to switch to private schools:

> "The results…indicate that families with the highest predicted probability of private school attendance are the least sensitive to price…. These elasticities are statistically distinguishable from each other. These results suggest that a voucher program would disproportionately induce into private schools those who, along observable dimensions such as race, ethnicity, income and parental education, are dissimilar from those who currently attend private school. This is in marked contrast to the assumption made in previous studies (e.g., Figlio and Stone; Lankford and Wyckoff) that the new students that vouchers would induce into private school would look demographically similar to current private school students."[20]

Both the participation rate and fiscal impact of a scholarship program would be influenced strongly by the dollar value of the scholarships. To demonstrate the effect of changing the dollar value of scholarships, we consider a range of scholarship values from $2,000 to $5,000.

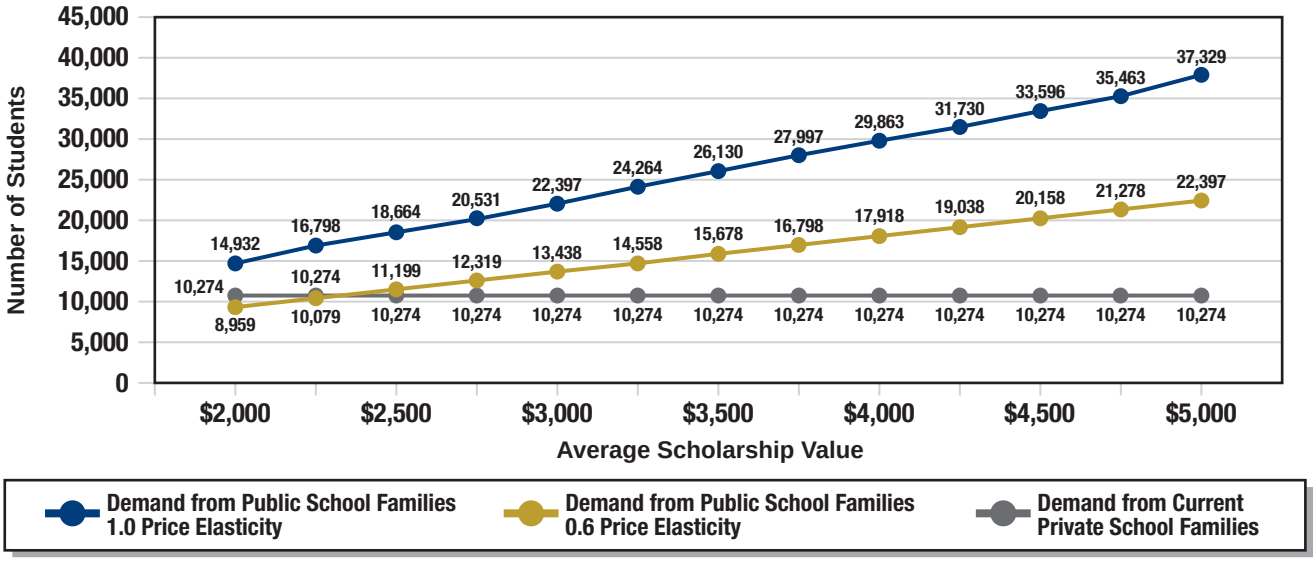
The number of scenarios and program design combinations is nearly infinite. Our purpose is to create an understanding of how design elements would affect program participation, and ultimately the fiscal impact of the program, not to recommend one particular design. For Oklahoma families, a scholarship with a value of $2,000 would represent a 31 percent reduction in the estimated average 2010 private school tuition of $6,400.[21] To estimate program participation, we calculated the reduction in price that scholarships of various dollar values would have on the average price of tuition and applied different price elasticities of demand to the distribution of school-age children in public and private schools, according to their family income and demonstrated pattern of private and public school attendance in Oklahoma.

Figure 5 presents our estimate of participation in a scholarship program in Oklahoma at different scholarship values if the income eligibility for scholarships was set at family income at or below three times the level at which students qualify for the federal free or reduced-price lunch program. Students are eligible for the free or reduced-price lunch program if their family's income is at or below 185 percent of federal poverty guidelines. Using a conservative estimate of the price elasticity of demand for private schooling (-.60), the chart shows that more than 22,000 public school students with average scholarship values of $5,000, or more than 3 percent of students, would seek to participate in a scholarship program. Using less conservative estimates of price elasticity (-1.0), similar to those found in other studies, demand would increase to more than 37,300, or just less than 5 percent of public school students.

In addition to demand from public school students, it is assumed that all the eligible

Demand for scholarships increases with scholarship value. | ***Figure 5***

Estimated demand for scholarships by average scholarship value and school type



private school students likely would seek to take advantage of the program. Based on the current number of school districts identified as being in need of improvement,[22] about 17 percent of public school students reside in districts that are in need of improvement. But these districts, which include Oklahoma City and Tulsa, contain a large number of private schools and have a higher percentage of private school enrollments than the statewide average. For this analysis we assume that 20 percent of current K-12 private school students in Oklahoma (about 10,200 students) would be eligible for the tax-credit scholarship program based on their residency in districts with public schools "in need of improvement." Without a solid empirical basis for estimating the percentage of eligible private school students that will seek scholarships, we assume all who are eligible will apply and will compete with public school students for available scholarships. In reality, a significant number of eligible private school students already receive some level of scholarship or subsidy, and thus demand for tax-credit scholarships will be less likely.

Figure 5 assumes that eligibility for scholarships is available to children in families at or below 300 percent of the federal free or reduced-price lunch eligibility guidelines. However, a scholarship program in Oklahoma might choose not to restrict eligibility, or it might place different restrictions for students currently enrolled in private schools (by means testing or some other manner). For fiscal reasons that will be highlighted later in this study, it is beneficial for the state to make as many public school children eligible for scholarships as possible to encourage maximum migration from the public to private schools. Depending on the dollar value of scholarships, means testing, or a reduction in the value of scholarships as income rises, there can be a negative effect on the fiscal impact of a tax-credit scholarship program.

Figure 6 shows the impact on estimated demand for scholarships among public school students if eligibility is not means tested. The chart shows that demand for scholarships among public school families increases by nearly 40 percent if scholarships are made available without means testing for eligibility.

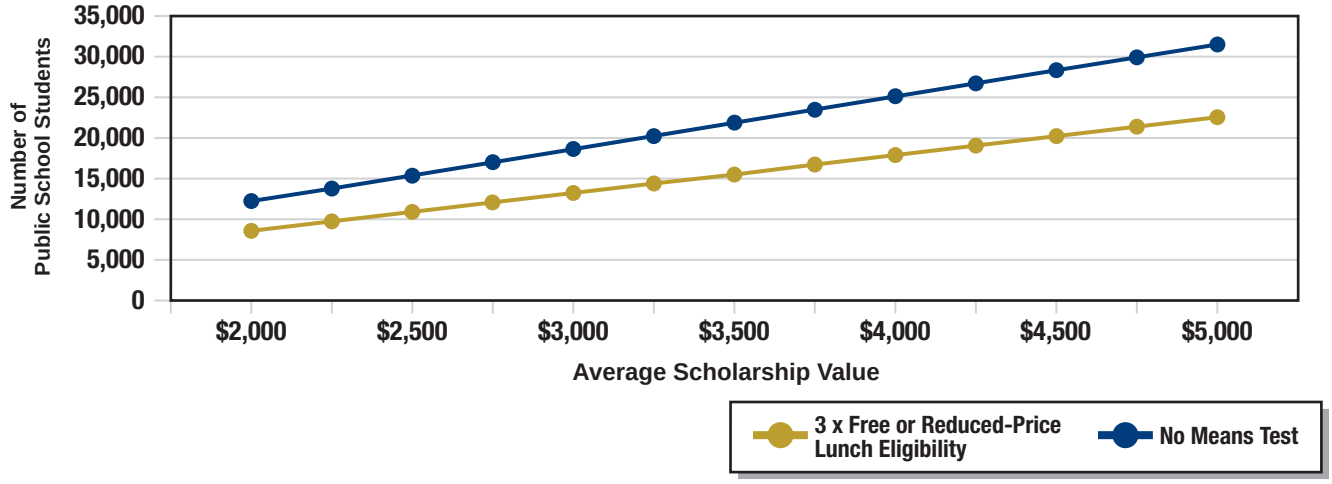
A restrictive means test (say, setting eligibility at income at or below poverty) can reduce program participation dramatically because fewer public school families would be eligible. As we document in subsequent sections of this study, reducing eligibility among public school families can result in lower fiscal benefits (or even fiscal losses) for the program. Thus, more restrictive means testing does not improve the fiscal impact of a program. On the other hand, restricting eligibility for participation among students currently attending private schools would yield more fiscal benefits to the state than if restrictions were applied to public school families. Because the decision to attend private schools already has been made by those students, Oklahoma would receive no fiscal benefit (in the form of reduced state education aid payments) from increasing their eligibility. The primary effect of restricting the eligibility of current private school students would be to reduce the competition for scholarships and increase the fiscal benefits to the state.

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

The proposal evaluated in this report allows

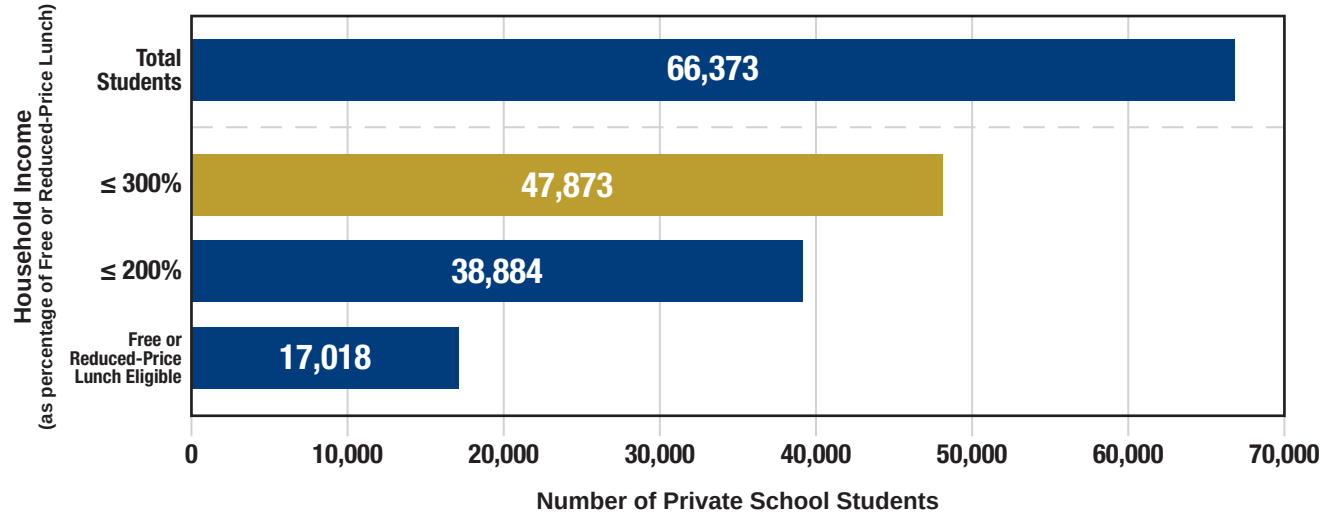
Means-testing for scholarship eligibility dramatically impacts the eligibility and demand for scholarships. ***Figure 6***

Public school student scholarship demand by average scholarship value



Only 72% of current private school students (compared to about 90% of public school students) will qualify for scholarships if eligibility requires household income to meet 300% of federal Free or Reduced-Price Lunch guidelines. ***Figure 7***

Household income (as percentage of Free or Reduced-Price Lunch) by number of private school students



Source: Author's analysis. U.S. Census Bureau, American Community Survey (2007-2009), data for Oklahoma.

private school students residing in school districts "in need of improvement" to be eligible for tax-credit scholarships. An estimated 20 percent of private school students in Oklahoma live in these districts, or about 10,200 K-12 students and about 13,300 children when pre-school students are included. If policymakers placed a means test on private school students who are eligible for scholarships because of their residency in school districts in need of improvement, then the numbers of eligible private school students would be reduced. Figure 7 shows how eligibility for scholarships among private school students is affected by means testing based on multiples of eligibility for the federal free or reduced-price lunch program. For example, if private school students' participation is limited to students from families with incomes less than three times the federal poverty level, almost 30 percent of private school students are eliminated from eligibility, whereas lower-income families are not discriminated against simply because they made sacrifices to have their children educated in a school of their choosing, prior to enactment of a scholarship program.

Demand from Special Needs Students

Oklahoma already has a special needs voucher program, the Lindsey Nicole Henry Scholarship for Students With Disabilities Program, and it unclear how tax-credit scholarship demand would be affected by that program. For this analysis we reviewed the percentage of students in public and private schools in Oklahoma with a disability as defined by the U.S. Census Bureau and estimated using data from the Census Bureau's American Community Survey. Private schools in Oklahoma have a much lower percentage of students with disabilities than do public schools. A high percentage of special needs students in public schools have learning disabilities rather than physical disabilities and for this analysis we considered only the percentage of students who are physically or mentally impaired and excluded learning disabilities that are not included in the Census Bureaus definition of disability. As a result, we assume that 4 percent of scholarships will go to special needs students with physical or mental disabilities.

Combining Supply and Demand Models to Estimate the Number of Scholarships

Current proposals in Oklahoma call for a tax-credit scholarship program that would make $10 million in tax credits available to businesses (requiring contributions totaling $15.4 million to exhaust the credits), while limiting only the amount that each individual and married couple tax filers can claim to $1,000 and $2,000 respectively. This report has estimated that resulting contributions will be more than $31 million (at a cost of $26.2 million in tax credits), making $26.8 million in scholarship funds available if the maximum allowable 10 percent of contributions are used for administration by scholarship granting organizations.

In addition, our estimate is that special needs scholarships will be approximately the same percentage of all scholarships awarded as is the percentage of special needs students in private schools in Oklahoma, about 4 percent. We also assume that each special needs scholarship will be at the maximum value of $7,500 (higher

than the $6,300 to $6,600 average value of the Florida and Georgia special needs scholarships). We assume a larger average scholarship value in this analysis because it results in a higher threshold for the proposed Oklahoma tax-credit scholarship program to produce fiscal benefits for the state. Subtracting administrative expenses as well as $2.6 million in estimated special needs scholarships results in about $26 million in available scholarship funds.

The experience of other states suggests that the number of scholarship applicants (i.e. demand) would be greater than the available number of scholarships. Although demand may not exceed the supply of scholarships in the first year, as it may take some time to develop full public awareness of the program. It is also possible that if the average scholarship value is low, then there may be insufficient demand to induce enough public school students to apply to generate fiscal benefits for the state. To avoid concerns about insufficient demand, the proposal could increase income eligibility limits to eliminate any shortfall in demand, as would increasing the average scholarship value or reducing scholarship funds.

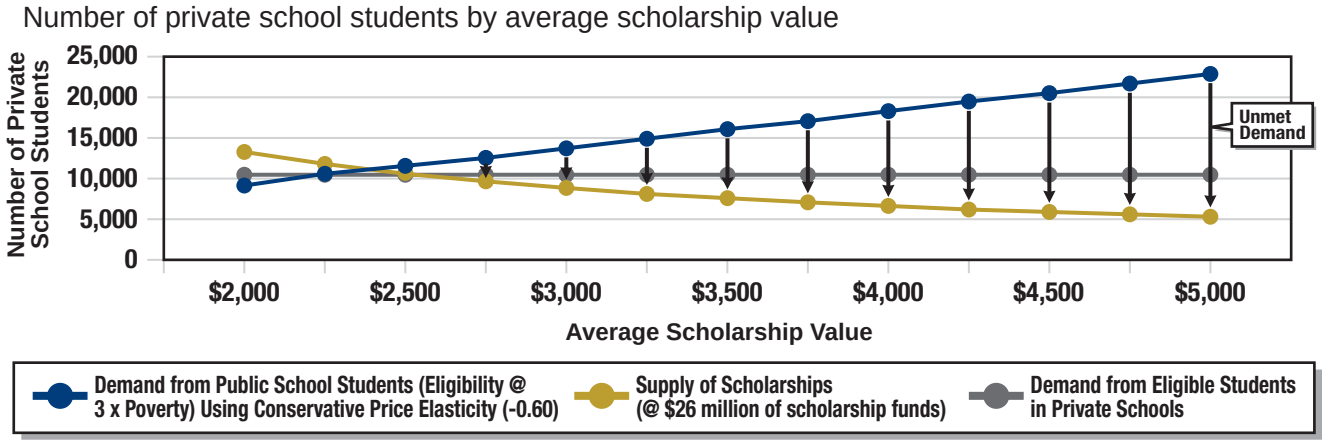
We have estimated that the average private school tuition in Oklahoma is $6,400 and a scholarship of $3,000 would reduce tuition by 47 percent on average. Using a low, conservative estimate of price elasticity of -0.60, a 47 percent decline in private school tuition should increase demand for private schools by about 13,439 students currently enrolled in Oklahoma public schools, or about 18,667 if eligibility among public school families is not limited to families at or below 300 percent of federal poverty. At the same time, scholarship funds would be limited to approximately $26 million (not including special needs), meaning that only 8,681 scholarships would be available. That is about 65 percent of the demand for scholarships among public school families, and about 47 percent of demand if eligibility for scholarships is not restricted by income. The percentage of available scholarships awarded to private school students will further reduce the percentage of demand from public school students.

Figure 8 highlights the relationship between the demand for scholarships and their supply at scholarship values ranging between $2,000 and $5,000 using a conservative price elasticity (-.60) and where eligibility for public school students is limited to families at or below 300 percent of federal poverty guidelines. This chart highlights the important relationships between the total amount of scholarship money available, the average size of scholarship awards, and program eligibility. These variables, along with the decisions of scholarship organizations, such as the percentage of scholarships awarded to current private school students, are difficult to model, but they will determine the fiscal impact of the program. They are discussed more thoroughly in the following sections.

Program Tradeoffs

A tax-credit scholarship program could be constructed in various ways to yield important fiscal, educational, equity, and social objectives. A high-dollar-value scholarship does the most to attract low-income students to participate in a scholarship program but would reduce the

Among public school families, demand increases as the scholarship value increases, but the supply of scholarships decreases. ***Figure 8***



number of scholarships available. Conversely, relatively low scholarship values would provide many more scholarships but would reduce overall program participation among the low-income families who need educational options the most. Scholarship eligibility for private school students living in school districts that are classified "in need of improvement" under the federal No Child Left Behind guidelines acknowledges the sacrifices that many families make in order to escape underperforming schools; however, it can reduce fiscal benefits for the state and it results in some scholarships being awarded to students whose decision to attend private schools may not have been influenced by a district's "in need of improvement" classification. Limiting participation to the lowest-income public school students would reduce overall demand for scholarships and reduce fiscal benefits to the state.

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

Table 5 presents the cumulative distribution of projected scholarship demand by income for scholarship values ranging from $2,000 to $5,000 using a conservative price elasticity of demand (meaning the price reducing impact of tuition scholarships will have a relatively modest effect of demand). As has been noted, our analysis suggests that scholarships would induce a higher rate of public school students to transfer to private schools if the value of scholarships is increased and means testing for program eligibility is less restrictive.

Table 6 translates the estimates of scholarship demand in Table 5 into the context of the public school population; it shows that, at an average scholarship value of $5,000, about 5 percent of public school students would seek scholarships if no income limits were established for scholarship eligibility, but only 3.5 percent would seek

Cumulative Scholarship Demand Among Public School Students by Scholarship Value and Income Eligibility
Low Price Elasticity of Demand (-.60) Scenario

Table 5

Income Eligibility (% of Free/Reduced Price Lunch Eligibility)	Scholarship Value										
	$5,000	$4,500	$4,000	$3,750	$3,500	$3,250	$3,000	$2,750	$2,500	$2,250	$2,000
Up to 300%	22,398	20,158	17,918	16,798	15,678	14,559	13,439	12,319	11,199	10,079	8,959
Above 300% (no Means Test)	31,112	28,001	24,890	23,334	21,779	20,223	18,667	17,112	15,556	14,001	12,445

Source: Author's analysis. U.S. Census Bureau, American Community Survey (2007-2009), data for Oklahoma.

Cumulative Scholarship Demand Among Public School Students (as a Percentage of all Public School Students) by Income Eligibility
Low Price Elasticity of Demand (-.60) Scenario

Table 6

Income Eligibility (% of Free/Reduced Price Lunch Eligibility)	Scholarship Value										
	$5,000	$4,500	$4,000	$3,750	$3,500	$3,250	$3,000	$2,750	$2,500	$2,250	$2,000
Up to 300%	3.51%	3.16%	2.80%	2.63%	2.45%	2.28%	2.10%	1.93%	1.75%	1.58%	1.40%
Above 300% (no Means Test)	4.87%	4.38%	3.90%	3.65%	3.41%	3.17%	2.92%	2.68%	2.44%	2.19%	1.95%

Source: Author's analysis. U.S. Census Bureau, American Community Survey (2007-2009), data for Oklahoma.

scholarships if income limits were set at 300 percent of the federal free or reduced-price lunch income guidelines. Lower scholarship values and means testing of eligibility would reduce scholarship demand substantially.

Table 7 shows the cumulative percentage of scholarship demand that can be satisfied with tax-credit scholarships if $26 million of available funds are available to scholarship organizations and all scholarships go to public school students (an unrealistic scenario unless restrictions are placed on private school student eligibility). The table shows that in this scenario the program could satisfy demand for scholarships among public school students only if the average value of scholarships is relatively low (reducing demand and increasing the number of scholarships available) and more restrictive income criteria are used. At scholarship values of $2,250 or less, and eligibility restricted to families at no more 300 percent of free or reduced-price lunch, demand would be low enough for the supply of scholarships to equal or exceed demand (if we assume low elasticity). Both raising average scholarship values to at least $2,500 or raising income limits would increase demand for scholarships and result in demand far exceeding supply. In addition, as we demonstrate later in this study, the program may well result in a net financial saving for the state of Oklahoma; however, restricting eligibility and lowering scholarship values below a certain point can reduce demand enough to result in a net fiscal cost to the state.

Percentage of Scholarship Demand Among Public School Students that Can Be Satisfied by the Proposed Tax Credit Scholarship Program if All Scholarships Go to Public School Students
Low Price Elasticity of Demand (-.60) Scenario

Table 7

Income Eligibility (% of Free/Reduced Price Lunch Eligibility)	Scholarship Value										
	$5,000	$4,500	$4,000	$3,750	$3,500	$3,250	$3,000	$2,750	$2,500	$2,250	$2,000
Up to 300%	23%	29%	36%	41%	47%	55%	65%	77%	93%	115%	145%
Above 300% (no Means Test)	17%	21%	26%	30%	34%	40%	47%	18%	67%	83%	105%

Source: Author's analysis. U.S. Census Bureau, American Community Survey (2007-2009), data for Oklahoma.

Our research and prior studies on the price elasticity of demand for private schooling highlight several key points about tax-credit scholarship program design:

- Families with higher incomes would participate at rates higher than those of lower income even with lower scholarship values (higher income families are less price sensitive).

- The demographic mix of participants would shift more to higher-income families in the absence of income-eligibility requirements unless higher value scholarships are offered.

- At the same time, imposing strict income requirements for participation would make it unlikely that public school students would make full use of the scholarships at lower scholarship values, and the full fiscal benefits of the program to the state would not be realized.

These results highlight the need for balance in designing a program and how attending to a single program objective, to the exclusion of other objectives, may result in a reduction of the overall educational and fiscal benefits of the program. The final sections of this study will turn the projection in the preceding tables and charts into estimates of the fiscal impact of a tax-credit scholarship program for the state and for local school districts.

Fiscal Impact on the State of Oklahoma

Tax-credit scholarships will save money for the state of Oklahoma to the extent that they induce students to transfer from public to private schools at a low enough cost (less than the average per student state aid) in foregone tax revenue to generate savings in state per-student education aid. During the 2008-09 school year, Oklahoma state government paid about $4,455 for every student enrolled in public school, of which about $3,830 was directly tied to changes in enrollment levels. For each special needs student, the state provides, on average, about $5,745 in aid to school districts. Scholarships will save money for the state to the extent that they induce students to transfer from public to private schools at a low enough cost (less than $3,830) in foregone tax revenue to generate savings in state per-student education aid.

The ability to induce students to transfer from public to private schools at a cost lower than $3,830 is made easier with contributions made by businesses because tax credits would be awarded for just 65 percent of their donation. Thus if we

found that at scholarship values of $3,830, students would transfer from public to private schools, the program would not be fiscally neutral; rather it would create a net fiscal benefit for the state because the state would be foregoing only $2,490 in revenue ($3,830 contribution multiplied by 65 percent) in order to fund a scholarship that would avoid a state education aid expenditure of $3,830.

The fiscal analysis is complicated, however, by the need to absorb costs associated with providing scholarships, at a cost of foregone tax revenue (tax credits), to students currently in or planning to attend private schools. These are students residing in districts "in need of improvement" but for whom the state does not realize a saving in state education aid when they participate in a scholarship program, despite the cost of providing them a tax-credit scholarship. In addition, the proposed tax-credit scholarship program allows for scholarships to be awarded in higher amounts (up to $7,500) to students with special needs. On average, the state of Oklahoma provides about $5,745 in aid to school districts for every special needs student. Thus the state could potentially save more in state education aid if a higher percentage of special needs students receive scholarships, but not if the average special needs scholarship value is the maximum of $7,500.

For this analysis, we assumed that the average special needs scholarship will be $7,500, higher than the current averages for Florida's or Georgia's special needs scholarships. This assumption results in a net fiscal cost to the state for each special needs scholarship awarded unless the scholarship is funded by contributions from businesses because the cost to the state of each scholarship funded by businesses contributions would be $4,875 ($7,500 multiplied by 65 percent equals $4,875) rather than $7,500 if funded by individual contributions who would receive credits valued at 100 percent of their contributions. Our analysis assumes that special needs scholarships result in an increase in costs because all scholarships will be issued at their maximum value of $7,500. This is an unrealistic assumption, but it creates a higher threshold for the overall tax-credit scholarship program to break even or produce fiscal benefits.

Adding each of these variables to the fiscal equation suggests that the percentage of scholarships that go to students in the public schools must be high enough, and at a cost low enough, to generate state aid savings for the state of Oklahoma to offset the cost of scholarships going to students who generate no savings for the state. This can be readily accomplished. It is important to understand that any tax-credit scholarship program can be made to achieve fiscal savings. Understanding the key factors and policy choices that affect the fiscal impact of tax-credit scholarships (aside from any ideological issues) will allow you to craft a program that is guaranteed to generate savings for the state.

Inducing sufficient public-to-private-school transfers to result in fiscal savings (because the reduction of state education aid payments offsets the cost of the scholarships) can be accomplished easily. When scholarships to current private school students are added to the equation, designing a program to induce enough migration from public schools at a low enough scholarship value to offset the cost of scholarships provided to current private school students is more complex. Figure 9 shows the number of students who would have to

transfer from public to private schools in order for the state of Oklahoma to "break even" or not see a net cost increase associated with a scholarship program.

The chart shows that in school year 2011-2012, a total of 6,480 students would have to transfer from public to private schools, at an average savings of $4,043 (a blended average which includes 4 percent of scholarships to special needs students) in state education aid, for the program to "break even" ($4,043 multiplied by 6,480 equals $26,199,938 estimated cost of tax credits[23]). Figure 9 also shows that the number of students that need to transfer from public to private schools for the state to save money declines each year because the state aid per pupil is expected to rise annually (we use 3.5 percent for this graphic), producing greater savings to the state for each student who leaves the public schools. Private school costs also will rise and if average scholarship values do not keep pace, demand for scholarships will slip each year. But because demand is expected to be well above the supply of available scholarships, it will have little impact on the fiscal impact of the program except at low scholarship values. At the same time, low scholarship values, unless they keep pace with rising private school tuition costs, could erode demand enough to result in insufficient demand from public school students for the program to break even.

Our analyses indicate that even relatively low scholarship values (lower than the current per-student state education aid) can induce relatively high rates of participation and transfers from public to private schools if eligibility for scholarships is not severely limited to the lowest-income families. However, as noted, lower scholarship values would tend to reduce the percentage of participants who come from lower-income families.

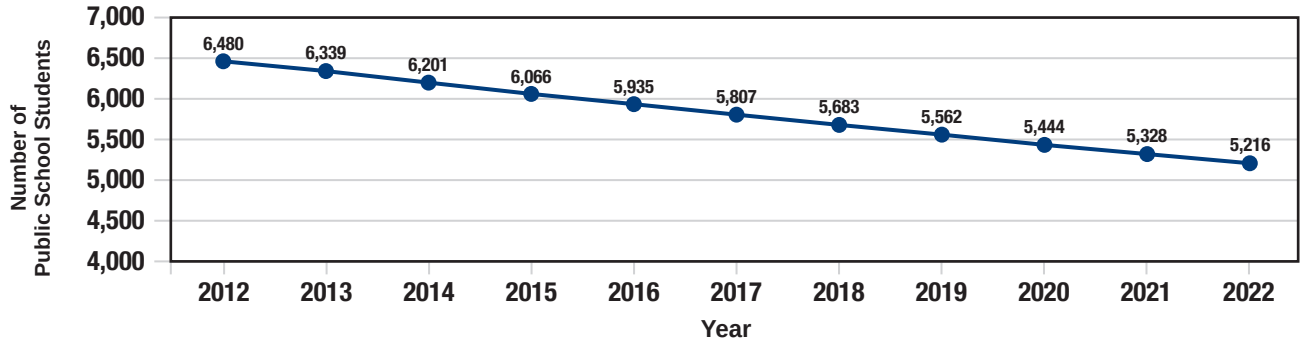
The Percentage of Scholarships that Must Go to Students Transferring from Public to Private Schools in Order for the State of Oklahoma to "Break Even" Varies by Scholarship Value

This is a difficult point to articulate but an important one to grasp in understanding the

Under the proposal in this paper, Oklahoma's fiscal break-even point starts at about 6,480 public school student transfers in 2012, and then substantially decreases over time.

Figure 9

Number of scholarships awarded to public school students by year



fiscal impact of the program. When scholarship values are lower, more scholarships are available and the ability of the program to provide enough scholarships to public school students in order to reach the "break even" number of migrating students can be achieved, even if a lower percentage of scholarships are awarded to public school students. As an example, in 2011-12, we estimated that 6,480 scholarships would have to go to public school students in order for the state to break even on the program. If the average scholarship value is $2,250, then 11,575 scholarships can be awarded with the approximately $26 million in funds available for scholarships that will go to students who are not receiving higher value ($7,500) special needs scholarships. Thus 56 percent of the 11,575 available scholarships would need to go to public school students in order for the program to break even. If the average scholarship value is $3,500, however, only 7,441 scholarships will be available and in order for the state to break even on the program, 87 percent of scholarships would have to go to current public school students (6,480 divided by 7,441 equals 87.1 percent).

Figure 10 illustrates these points and also shows how the percentage of scholarships needing to go to public school students varies according to scholarship value in the "out-years" of 2016 and 2021. Based on the number of eligible private school students, we estimate that about 80 percent of scholarships would go to public school students. This implies that as long as the average value of scholarships is $3,250 or less, then the state of Oklahoma will incur no additional expenses or "break even" on the program in 2011-12. Figure 10 also shows that the average value of scholarships can increase with time and still produce a large enough percentage of scholarships going to public school students to achieve a break-even rate for the program. By 2021, the average scholarship value can be $4,500 and still break even.

If the average scholarship value is $2,000 in 2012, nearly 50% of scholarships will need to go to public school students for the program to meet its fiscal break-even point.

Figure 10

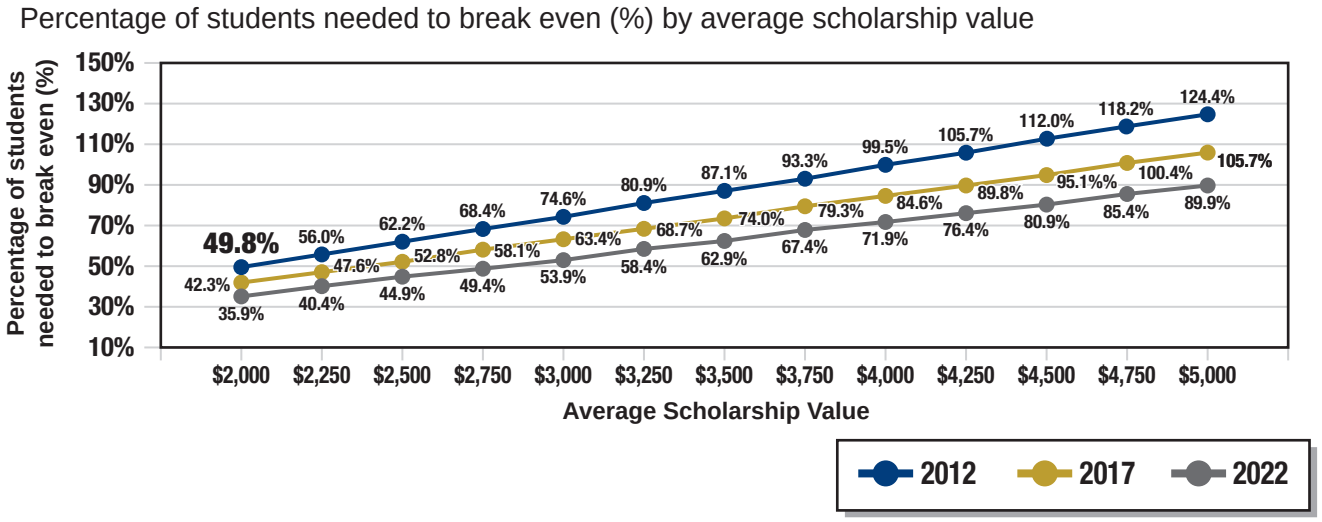


Table 8 highlights some combinations of scholarship program variables and the fiscal impacts they would have on the state under a scenario where:

- The state realizes a reduction in education spending of $3,830 for each non-special needs public school student who transfers to a private school.

- A total of $26.04 million in tax-credit scholarships are available to non-special needs students (a total of $31.83 million in estimated contributions minus 10 percent for administration and minus an estimated 4 percent of scholarships to special needs students requiring $2.6 million in scholarship funds equals approximately $26 million in available scholarship funds).

- 80 percent of the non-special needs scholarships are awarded to public school students and 20 percent are awarded to private school students residing in school districts in need of improvement.

- 4 percent of scholarships are awarded to special needs students with an average scholarship value of $7,500 (this produces a small increase in state expenditures unless a substantial portion of scholarships are funded with contributions from businesses that receive tax credits equal to 65 percent of contributions).

Net Fiscal Impact of Scholarship Program (in millions) by Year and Average Value of Scholarship
80% of Scholarships are Awarded to Public School Students

Table 8

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
$2,000	$4.27	$4.16	$4.06	$3.96	$3.85	$3.75	$3.65	$3.54	$3.44	$3.33	$3.23	$41.23
$2,250	$7.82	$7.72	$7.64	$7.56	$7.47	$7.39	$7.30	$7.21	$7.12	$7.03	$6.95	$81.21
$2,500	$8.90	$10.19	$11.22	$11.16	$11.09	$11.02	$10.95	$10.88	$10.81	$10.74	$10.67	$117.63
$2,750	$5.90	$7.05	$8.25	$9.53	$10.87	$12.29	$13.79	$14.55	$14.50	$14.44	$14.39	$125.56
$3,000	$3.39	$4.43	$5.52	$6.66	$7.88	$9.16	$10.51	$11.94	$13.45	$15.05	$16.73	$104.72
$3,250	$1.28	$2.21	$3.20	$4.24	$5.34	$6.51	$7.74	$9.04	$10.41	$11.87	$13.40	$75.23
$3,500	($0.54)	$0.31	$1.21	$2.16	$3.17	$4.23	$5.36	$6.55	$7.81	$9.14	$10.55	$49.95
$3,750	($2.11)	($1.33)	($0.51)	$0.36	$1.28	$2.26	$3.30	$4.39	$5.55	$6.78	$8.08	$28.04
$4,000	($3.49)	($2.78)	($2.02)	($1.22)	($0.36)	$0.54	$1.49	$2.51	$3.58	$4.71	$5.91	$8.87
$4,250	($4.70)	($4.05)	($3.35)	($2.61)	($1.82)	($0.98)	($0.10)	$0.84	$1.83	$2.89	$4.00	($8.04)
$4,500	($5.78)	($5.18)	($4.53)	($3.84)	($3.11)	($2.34)	($1.51)	($0.64)	$0.29	$1.27	$2.31	($23.08)
$4,750	($6.75)	($6.19)	($5.59)	($4.95)	($4.27)	($3.55)	($2.78)	($1.97)	($1.10)	($0.18)	$0.79	($36.53)
$5,000	($7.62)	($7.10)	($6.54)	($5.94)	($5.31)	($4.64)	($3.92)	($3.16)	($2.35)	($1.49)	($0.58)	($48.63)

Net Fiscal Impact of Scholarship Program (in millions) by Year and Average Value of Scholarship
67% of Scholarships are Awarded to Public School Students

Table 9

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
$2,000	($0.45)	($0.59)	($0.71)	($0.83)	($0.96)	($1.08)	($1.21)	($1.34)	($1.47)	($1.59)	($1.72)	($11.96)
$2,250	$2.51	$2.38	$2.28	$2.17	$2.06	$1.95	$1.83	$1.72	$1.61	$1.49	$1.38	$21.38
$2,500	$3.41	$4.44	$5.27	$5.17	$5.07	$4.98	$4.88	$4.78	$4.68	$4.58	$4.48	$51.74
$2,750	$0.90	$1.82	$2.79	$3.81	$4.90	$6.04	$7.25	$7.84	$7.75	$7.67	$7.58	$58.36
$3,000	($1.18)	($0.36)	$0.51	$1.42	$2.40	$3.43	$4.51	$5.67	$6.89	$8.17	$9.54	$40.98
$3,250	($2.95)	($2.21)	($1.43)	($0.60)	$0.28	$1.21	$2.20	$3.25	$4.35	$5.52	$6.76	$16.39
$3,500	($4.46)	($3.79)	($3.08)	($2.33)	($1.53)	($0.68)	$0.22	$1.17	$2.18	$3.25	$4.38	($4.68)
$3,750	($5.77)	($5.17)	($4.52)	($3.83)	($3.10)	($2.32)	($1.50)	($0.63)	$0.30	$1.28	$2.32	($22.95)
$4,000	($6.92)	($6.37)	($5.78)	($5.15)	($4.48)	($3.76)	($3.01)	($2.20)	($1.35)	($0.44)	$0.52	($38.93)
$4,250	($7.93)	($7.43)	($6.88)	($6.30)	($5.69)	($5.03)	($4.33)	($3.59)	($2.80)	($1.96)	($1.07)	($53.03)
$4,500	($8.83)	($8.37)	($7.87)	($7.34)	($6.77)	($6.16)	($5.51)	($4.82)	($4.09)	($3.32)	($2.49)	($65.57)
$4,750	($9.64)	($9.21)	($8.75)	($8.26)	($7.73)	($7.17)	($6.57)	($5.93)	($5.25)	($4.52)	($3.75)	($76.78)
$5,000	($10.36)	($9.97)	($9.54)	($9.09)	($8.60)	($8.08)	($7.52)	($6.92)	($6.29)	($5.61)	($4.89)	($86.88)

Under this scenario, 6,480 non-special needs public school students must participate in the program and transfer to a private school for the state to break even; that is, for the costs of the tax credits to be offset by savings in state education aid.

Table 8 demonstrates that many combinations of scholarship values and income eligibility would generate enough demand and provide a large enough supply of scholarships to generate fiscal benefits for the state. Assuming that 80 percent of scholarships go to public school students, the table shows that at average scholarship values below $3,250, the state realizes a small net fiscal gain in the first year, which grows each year, eventually resulting in a 10-year net fiscal benefit of $75 million. Only at average scholarship values of $4,250 or more does the program not yield net fiscal benefits over 10 years. Fiscal benefits are maximized at $126 million over 10 years at scholarship values of $2,750 and reduced (but still positive) with lower scholarship values (because of insufficient demand), and higher values (because fewer scholarships are available for public school students), but in each case the program still yields substantial fiscal benefits.

To demonstrate the sensitivity of fiscal impacts to changes in the percentage of scholarships awarded to public school students we present two additional tables. Table 9 uses the same scenario as in Table 8 except that it assumes 67 percent of scholarships will go to public school students.

This would imply that the limited number and percentage of eligible private school students receive a disproportionately large number of available scholarships. Under this scenario, net fiscal benefits are realized over 10 years at all scholarship values at or below $3,250, even though initial years produce some net fiscal cost at the highest scholarship values. A scholarship value of $2,750 again maximizes fiscal benefits but at $58 million when a higher percentage (33 percent instead of 20 percent) of scholarships are awarded to private school students.

Maximizing Fiscal Benefits

The proposed scholarship program will produce fiscal benefits in many scenarios and under varied assumptions, but if policymakers want to maximize fiscal benefits of the tax-credit scholarship program, or assure fiscal benefits, they have several options including:

- Reducing the value of credits for individuals to less than 100 percent of contributions to scholarship granting organizations.

- Reducing the eligibility of private school students (increasing the percentage of scholarships going to public school students) by applying a higher means test for eligibility among private school students or limiting eligibility to specific groups of private school students (by age or grade) or limiting eligibility by geography, such as eligibility confined to the state's largest cities. Any limits on the eligibility of private school students that increases the percentage of public school students receiving scholarships will increase net fiscal benefits.

- Another option would be to limit the tax credits to corporations as proposed, but not allow individual tax credits. This would not necessarily result in the greatest fiscal benefits to the state but it would sharply increase the probability that the program would generate net fiscal benefits. The program would be much smaller, by about one-half in terms of funds available for scholarships, but the 65 percent value of the credit allows both more scholarships per dollar of credit and allows the program to more easily absorb the costs associated with scholarships to private school students while still generating net fiscal benefits for the state. Table 10 shows the net fiscal impacts of a program where $10 million in credit for business contributions are made available (which would require $15.4 million in contributions), and where 80 percent of scholarships are awarded to public school students. This scenario significantly increases the combination of variables that produce net fiscal benefits for the state. Benefits are maximized at lower scholarship values because there is less possibility that a smaller program would generate insufficient demand among public school families at low scholarship values to offset the cost of credits. In addition, the program could still generate fiscal benefits at scholarships of $2,500 or below, even if 5 percent of scholarships were awarded to private school students (not depicted in Table 10).

Fiscal Impact on Local School Districts

Table 11 shows the impact of a scholarship program

Net Fiscal Impact of Alternative Tax-Credit Scholarship Program (in millions) by Year and Average Value of Scholarship
Assumes 80% of Scholarships are Awarded to Public School Students

Table 10

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
$1,250	$9.27	$9.95	$10.65	$11.37	$12.12	$12.90	$13.70	$14.53	$15.39	$16.28	$17.20	$143.36
$1,500	$7.23	$7.83	$8.45	$9.10	$9.77	$10.46	$11.18	$11.92	$12.69	$13.48	$14.31	$116.40
$1,750	$5.59	$6.13	$6.69	$7.28	$7.88	$8.51	$9.16	$9.83	$10.52	$11.24	$11.99	$94.83
$2,000	$4.24	$4.74	$5.26	$5.79	$6.34	$6.92	$7.51	$8.12	$8.76	$9.41	$10.09	$77.19
$2,250	$3.13	$3.59	$4.06	$4.55	$5.06	$5.59	$6.13	$6.70	$7.28	$7.89	$8.51	$62.48
$2,500	$2.18	$2.61	$3.05	$3.50	$3.97	$4.46	$4.97	$5.49	$6.03	$6.59	$7.17	$50.04
$2,750	$1.37	$1.77	$2.18	$2.60	$3.04	$3.50	$3.97	$4.46	$4.96	$5.49	$6.03	$39.37
$3,000	$0.67	$1.04	$1.43	$1.82	$2.24	$2.66	$3.11	$3.56	$4.04	$4.53	$5.04	$30.13
$3,250	$0.05	$0.40	$0.77	$1.14	$1.53	$1.93	$2.35	$2.78	$3.23	$3.69	$4.17	$22.04
$3,500	($0.49)	($0.16)	$0.19	$0.54	$0.91	$1.29	$1.68	$2.09	$2.51	$2.95	$3.40	$14.91
$3,750	($0.97)	($0.66)	($0.33)	$0.01	$0.35	$0.72	$1.09	$1.48	$1.88	$2.29	$2.72	$8.56
$4,000	($1.40)	($1.10)	($0.79)	($0.47)	($0.14)	$0.20	$0.56	$0.93	$1.31	$1.70	$2.11	$2.89
$4,250	($1.79)	($1.50)	($1.21)	($0.90)	($0.59)	($0.26)	$0.08	$0.43	$0.79	$1.17	$1.56	($2.22)

on local school districts. As demonstrated earlier in this study, scholarship participants who leave the public schools would reduce per-student state aid to their local school districts, but local revenues that do not change with enrollments (those raised from property taxes and other local revenue sources) would remain unchanged. To maximize the estimated negative impact that the loss of funding will have on districts we assume that all state enrollment-based aid per student is lost, as well as all federal aid per student ($3,830 of state per student aid plus $911 in federal aid per student), an extremely pessimistic funding assumption. Meanwhile, the reduction in students would result in a reduction in variable expenses for school districts. In combination, these changes result in a net increase in the resources available for use in educating the students who do not participate in the program and remain in public schools. The district level impacts in Table 11 do not include the impacts associated with any special needs students who will receive scholarships. For these students, the reduction in local district costs is even more significant. Our expenditure model suggests the variable costs of special needs students averages more than $11,900, whereas the average combined state and federal aid per special needs student is just $6,656, indicating that districts realize a fiscal benefit of more than $5,000 per special needs student that receives a tax-credit scholarship.

Impact of a Scholarship Program on Local School Districts
80% of Scholarships Going to Public School Students

Table 11

	$5,000	$4,000	$3,500	$3,000	$2,500	$2,000
Number of Scholarships	4,167	5,209	5,953	6,945	8,334	7,167
Loss of State Aid	-$19,755,947	-$24,694,933	-$28,222,781	-$32,926,578	-$39,511,894	-$33,980,114
Reduction in School Expenses	$21,909,891	$27,387,364	$31,299,844	$36,516,485	$43,819,782	$37,684,886
Net Change	$2,153,944	$2,692,430	$3,077,063	$3,589,907	$4,307,888	$3,704,771
Revenue Staying with School Districts	$6,746,441	$8,433,052	$9,637,773	$11,244,069	$13,492,882	$11,603,840
Net Fiscal Impact for Public Schools	$8,900,385	$11,125,482	$12,714,836	$14,833,976	$17,800,771	$15,308,611
Impact per Scholarship	$2,136	$2,136	$2,136	$2,136	$2,136	$2,136

Table 11 uses our baseline program assumptions, including 80 percent of scholarships will go to public school students, and applies them to a range of scholarship values to show how local district finances will be affected. The table shows that the combination of a reduction in expenses that is greater than the loss of state aid and the continued support of local revenues that remain in school districts even when students leave (here we assume that only local revenue remains and no federal revenue, which understates the amount of revenue that remains with the district) results in a positive fiscal impact to school districts. Each scholarship student produces a net increase in resources available to students who remain in the district of about $2,136. The per-scholarship amount does not vary according to the size of the program, scholarship value, or the fiscal impact of the program on the state.

Conclusion

Our analysis indicates that school district revenues vary considerably based on enrollment levels, but that expenditures also vary with enrollments. A number of variables will affect the fiscal impacts of a tax-credit scholarship program, but there are many ways to structure a tax-credit scholarship program to yield fiscal benefits for the state of Oklahoma.

Using conservative estimates of the price elasticity of demand for private schooling in Oklahoma, we estimate that a tax-credit scholarship program will produce as much as $126 million in net benefits to the state over 10 years if a large percentage of scholarship go to public school students, and $58 million if a moderate amount of scholarships go to public

school students. The potential net fiscal costs in an adverse scenario where a low percentage of scholarships go to public school students and average scholarship values are very high, would be $87 million over 10 years.

Our analysis suggests that a balance of fiscal interests and the desire to increase educational opportunities for those most in need can be achieved in a way that does not adversely affect local school districts and the per-student resources available to them, but instead will increase the resources available to students who do not participate in the scholarship program but who remain in public schools.

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

Notes

[1] *The ABCs of School Choice*, 2011 Edition, (Indianapolis: The Foundation for Educational Choice, 2011).

[2] Paul DiPerna. *Oklahoma's Opinion on K-12 Education and School Choice*. (Indianapolis: The Milton & Rose D. Friedman Foundation for Educational Choice, 2008).

[3] Author's analysis of U.S. Census Bureau, *American Community Survey* data, three-year average (2007-2009).

[4] Oklahoma Department of Education, The Center for Education Reform, *National Charter School Directory*.

[5] Oklahoma Department of Education, *2008-09 Statistical Report on Oklahoma Public Schools and the Department of Education*, December, 2010.

[6] A "mill" is one dollar of tax levy per thousand dollar of taxable property value. Thus a rate of 20 mills equals a levy of $20 per $1000 of valuation.

[7] Cotton Lindsay, *Fiscal Impact of the Universal Scholarship Tax Credit Proposal*. (Columbia, SC: South Carolina Policy Council, 2004). *Estimating Demand and Supply Response to Tuition Tax Credits for Private School Tuition in Utah*. (Logan, UT: Utah State University, 2004). Susan Aud and Leon Michos, *Spreading Freedom and Saving Money: The Fiscal Impact of the D.C. Voucher Program*. (Indianapolis: The Milton & Rose D. Friedman Foundation for Educational Choice, 2006).

[8] Based on data from the U.S. Census Bureau *Current Population Survey*, March Supplements 2006-2008, data for Oklahoma.

[9] For a more complete explanation of how this occurs see Brian and Daphne Kenyon, "Dollars Diverted: Taking a Hard Look at Education Finance Reform in New Hampshire," *State Tax Notes* 35(12)(2005), pp. 861-871.

[10] Ibid.

[11] U.S. Census Bureau, *American Community Survey*, three-year averages.

[12] $10,000,000/.65 = $15,384,615

[13] $15,384,615*.65 = $10,000,000 + $15,384,615 = $25,384,615. $25,384,615/$27,692,308 = .92.

[14] *Individual Income Tax Credit for Donations to Private School Tuition Organizations*, Arizona Department of Revenue (2009).

[15] Ibid.

[16] $10 million in business tax-credits plus $16,446,638 less $246,700 = $26,199,938

[17] To produce this estimate we estimated the total volume of credits that will be claimed then used the TAXSIM software developed by the National Bureau of Economic Research to determine the percentage difference in federal and Oklahoma state tax liability that would result from contributions to SGOs of varying amounts. Our results suggest that about 1.5% of the credits claimed by individuals would be added back to taxpayers' State of Oklahoma liability.

[18] Barry Chiswick and Stella Koutroumanes, "An Econometric Estimate of the Demand for Private Schooling," *Research in Labor Economics*, 15: (1996), pp. 209-237; James D. Gwartney and Richard Stroup, *Economics: Private and Public Choice* (8th Edition), (Dryden, NY: South-Western College Publishing, 1997).

[19] Andrew Keeler and Warren Kriesel,"School Choice in Rural Georgia: An Empirical Analysis," *Journal of Agriculture and Applied Economics*, 26 (2) (1994): pp. 526-534.

[20] Susan Dynarski, Jonathan Gruber, and Danielle Li," Cheaper by the Dozen: Using Sibling Discounts at Catholic Schools to Estimate the Price Elasticity of Private School Attendance," (Chicago: National Bureau of Economic Research), Working Paper # 15461.

[21] To develop our estimate of the average price of private schooling in Oklahoma we used U.S. averages from the U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), "Private School Data File," 2003–04, inflated to estimated 2010 levels. Private schooling costs vary significantly across the country, as does public schooling. We adjusted the U.S. average cost of private schooling to an estimated Oklahoma average by measuring the difference between the U.S. and Oklahoma average elementary and secondary school teacher salary in private schools. Teacher salaries are the major expense of K-12 education, making teacher salaries a reasonable surrogate measure of price differences between Oklahoma and the U.S. average.

[22] Sandy Garrett, Oklahoma Department of Education, *Districts in Need of Improvement*, (2010), see www.sde.state.ok.us/NCLB/pdf/Improvement/DI_10.pdf.

[23] The number of students required for the state to break even and the blended state aid per student rate are both rounded and account for the small discrepancy in the formula.

About the Author

Brian J. Gottlob (bgottlob@poleconresearch.com) is the Principal of PolEcon Research. For 17 years Gottlob has analyzed economic, demographic, labor market industry and public policy trends for private sector, government and nonprofit organizations. He has extensive experience in developing econometric models and has completed studies on a range of economic, tax policy, energy, education, and health care issues in the states of New Hampshire, Virginia, Ohio, New Mexico, New York, Texas, Oregon, Michigan, Georgia, Mississippi, West Virginia and Illinois. Gottlob is a Senior Fellow at The Foundation for Educational Choice. He has an undergraduate degree in economics from the State University of New York and a graduate degree in public policy analysis from the University of New Hampshire.

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