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Estimating the Fiscal Impact of a Tax-Credit Scholarship Program

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INTRODUCTION

Over the past several decades, states across the country have developed various mechanisms to provide support for students who want to attend private schools. The most commonly known mechanism is a school voucher, a state-funded coupon that students can take to the private school of their choice and that entitles them to some amount of money to cover their tuition.

Less known, but quite common, are tuition tax-credit scholarships. Tuition tax-credit scholarship programs grant tax credits to individuals or corporations that give donations to organizations (Education Assistance Organizations or EAOs) that in turn give scholarships to K-12 students. As of March 2016, there were 20 tuition tax-credit scholarship programs in 16 states around the country, serving over 226,000 students (Friedman Foundation 2016a). They differ in the amount of credit they give donors (from 50% to 100% credit against their tax bill), the size of scholarships, and the eligibility criteria for students (Friedman Foundation 2016b).

In recent years, legislators in Missouri have attempted to pass various iterations of a tuition tax-credit program. Because Missouri has a Blaine Amendment (a 19th-century anti-Catholic provision inserted into state constitutions, including Missouri's, that bars public funds from going to "sectarian" schools), there is debate as to whether a traditional voucher program would stand up to a court challenge (Komer et al., 2007). Tax credit programs have withstood Blaine court challenges in 10 cases, at both the state and national levels (Cato 2016), and it would stand to reason that if Missouri wants to offer private school choice, and its Blaine Amendment is still on the books, funding it via tax credits is the most prudent measure.

Tax credit–funded scholarships have several key advantages over vouchers and other school choice programs. Primarily, they create separation between the government and schools. Many private school leaders express fear and skepticism about accepting government money. They worry that such money will bring increased regulations that will compromise their autonomy and prevent them from doing the unique things that make their schools desirable to attend. Because scholarship dollars never enter the public purse, the government has less say over how those dollars are spent. The EAOs are able to act as a buffer, as they are the groups that interact with the government. Schools are free to decide which EAOs they will work with, and can greatly limit their interaction with the government.

Even better, money from tax credit–funded scholarships can be channeled by the EAOs into innovative school choice programs like education savings accounts, which would open up multiple options for students, rather than simply cut checks to the school that they want to attend. Families could then use these flexible accounts to purchase educational services from multiple providers, such as private school tuition, online learning, private tutoring, educational therapies, AP and standardized exams, textbooks, and curricula. Funds could even be rolled over to the next year, or deposited into a tax-advantaged 529 college savings account, ensuring a lifelong learning plan customized to the student's individual needs.

When a plan like this is proposed, people want to know how it will impact students. There is a great deal of evidence on how students have fared academically in private school choice programs, but that doesn't help a legislator or taxpayer know how it is going to affect the state's bottom line. For example, Missouri currently spends around $5.7 billion on its K-12 education system every year (MODESE 2016). What would the fiscal impact of a scholarship program be?

What follows in an estimate of a tax credit–funded ESA program with near-universal student eligibility (meaning that all students enrolled in public school at least 100 days would be eligible) and a cap of $50 million.[1] Depending on how many scholarships are given to students who would have enrolled in private schools without any subsidy, the program could have a positive effect on state revenue and state expenditures. Because the program would likely divert some students from public schools, the program would have a positive effect on state funding to local districts and local property taxpayers. The big picture results would be as follows:

1. Eighty-eight percent of all children ages 5 to 18 in Missouri would be eligible for this kind of program.
2. Given caps and an average scholarship value of $3,500, the program would be able to provide scholarships for 12,857 students.
3. Depending on assumptions about the tax credit value and share of students already enrolled in private schools who might receive scholarships, the program's long-run impact would likely be between $13.2 million in costs and $18.0 million in savings to the state of Missouri per year.
4. The program would save local school districts between $21.4 million and $39.6 million per year.
5. The combined state and local net fiscal impact will likely be between $8.3 million and $57.6 million in savings per year.

Next we provide a detailed explanation of exactly how these numbers were determined, and what such a program would mean for citizens of the Show-Me State. We begin with a discussion about the demand for private education and how it intertwines with the fiscal impact of the ESA bill.

[1] These estimates are based on two key elements that affect the magnitude of the fiscal impact: tax credits equal 100 percent of donations and 10 percent of donations are set aside for administrative costs.

PRIVATE SCHOOL DEMAND

Any estimate of the cost of an ESA program has to begin with a straightforward question: what is the demand for private schooling in the state? And, to put a finer point on it, how many families would choose a private education if they received a government subsidy to do so?

The first step toward answering this question is looking at the structure of the subsidy itself: how the subsidy works and who is eligible for the subsidy will affect demand. If families are only eligible if they are currently enrolled in public school we would say that the program is targeted for the "marginal" family (i.e., families whose children are enrolled in public school but who would choose to enroll them in private school if they had the means to do so). If, however, families of children currently enrolled in private school are also eligible, we would say that the subsidy is available to *infra*-marginal families (families with children already enrolled in private schools). The distinction has potentially serious cost implications. Marginal students (whose scholarships are paid out of state coffers) represent savings for the state and local school districts that would otherwise have to pay the full price for their education. Infra-marginal students represent a cost to the state, as their parents are currently bearing the cost for their education, with no effect on local budgets, as they are not currently part of the public school system and would not be even if they participate in the program. We are estimating the cost of a program that is designed to target marginal students, though some infra-marginal students would end up eligible.

How would the program capture infra-marginal families? By allowing families to enroll in the ESA program if their child is starting in kindergarten. This is a common feature of voucher, tax credit, and ESA programs and prevents families from having to put their children in schools that they don't want to send them to for a short period of time just to become eligible for the program. But as a result, it is possible that infra-marginal families—families who would have enrolled their children in private schools—would receive ESAs. It follows that, in the long run (12 years or longer), the entire private school population could be *eligible* for scholarships. But not all of these families will enroll in the program. Our analysis will account for the probability that some portion of these families will receive ESAs while the remainder of scholarships awarded will go to students in public schools. The former would represent a cost to the state while the latter would result in savings.

This is not to say that a program targeting infra-marginal families would be a bad policy—it may very well be the case, for instance, that many infra-marginal families are resource constrained but have chosen to make large sacrifices that other families don't in order to put their kids in private schools. An ESA program could free up resources for such families so they could purchase other education-related products for their children that otherwise would not have been possible or would have been excessively difficult (e.g., would have required taking out a loan).

To be clear, the purpose of this brief is not to evaluate the merits of subsidizing the infra-marginal family. Rather, this discussion is relevant because the goal of this brief is to estimate the cost of the program to the state and school districts. Nor is the goal to fully account for all of the possible benefits of the program (e.g., social benefits from potentially reducing the incidence of high school dropouts).[2] It is simply a good-faith effort to realistically model demand for scholarships, uptake of scholarships, and those actions' fiscal effects given the form and function of Missouri school financing mechanisms.

In order to get there, we must first produce an economic model of private school demand.

Econ 101: A simple illustration of private school demand

Figure 1 below depicts how an ESA program affects private school consumption. The vertical axis represents private school tuition, the horizontal axis represents enrollment in private school, and the downward-sloping curve represents demand for private education. Point B indicates that at tuition T, the number of students enrolled in private schools in Missouri is E0.

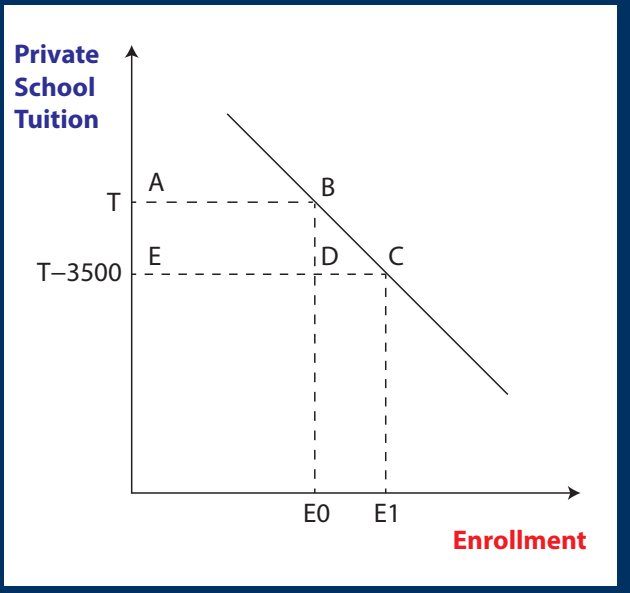
With a subsidy, more families can afford private school tuition, and some will enroll their children in private schools. This is indicated by moving from point B to point C. In our analysis, we assume the average ESA amount is $3,500 (this assumption is discussed later). At the new price (T – $3500), the demand for private

[2] For example, Cohen and Piquero (2009) estimate that the cost of a high school dropout is between $243,000 and $388,000.

Figure 1:

A Simple Illustration of Private School Demand

Subsidizing private school tuition should encoursge more students to attend private schools.



schooling changes to E1. The number of families with children not in private schools who are willing to pay for private school and can now do so because of the ESA subsidy is (E1 – E0). The cost to subsidize marginal families is depicted by the triangle BCD. The cost to subsidize infra-marginal families is represented by the area ABDE. (Note: Figure 1 is not to scale.)

Note that a potentially important piece missing from this illustration is price demand elasticity. Elasticity is a measure of a consumer's responsiveness to price changes and will help determine how many families will send their children to private schools. Families that are more resource-constrained would likely be more responsive to changes in tuition. For instance, if elasticity is –1.2, then a 10 percent decrease in price will lead to a 12 percent increase in demand. As a principle, the greater the elasticity (i.e., elasticity < –1), the smaller the group of infra-marginal consumers relative to marginal consumers.

Elasticity Examples

Elasticity	For 10% price decrease:
–0.5	demand increases by 5%
–1	demand increases by 10%
–1.2	demand increases by 12%

Another important determinant for who receives ESAs will be the EAOs themselves. Unless there are more scholarships available than families demanding them, then it may not be the case that scholarships will be randomly assigned. This could have bearing on the fiscal impact of the program. For instance, it could be the case that the kinds of students favored by EAOs tend to already be in private schools. In this case, the net state fiscal impact will be greater than the expected impact if scholarships are randomly assigned.

In our analysis, we report fiscal impact estimates for a range of assumptions about the proportion of students receiving ESAs who are not diverted from public schools. A baseline assumption treats scholarship recipients as a random sample; in this scenario, a plausible assumption is that the percentage of recipients not diverted from public schools is the same as the percentage of Missouri public school students already enrolled in private schools (11.5 percent according to data from the Private School Universe Survey). We first walk through the analysis under this scenario. We then report fiscal impact estimates for alternative scenarios under different assumptions about the proportion of ESA users not diverted from public schools and under different tax credit rates.

State Revenue Impact

As a practical matter, it is impossible to generate even a reasonable "ballpark" estimate of how much will initially be donated to the new EAOs. Both the rate of EAO formation and the initial propensity for taxpayers in Missouri to donate to such organizations are unknowable. Therefore, we will estimate the maximum potential fiscal impact under the scenario that taxpayers donate $50 million—this yields a $50 million state tax liability reduction (Table 1).

SCHOLARSHIP DEMAND

We next estimate the likely total demand for scholarship accounts, if sufficient donations and funding were unlimited, before completing the analysis. Based on data from the U.S. Census Bureau, 1,013,630 children between ages 5 and 18 reside in Missouri. Enrollment data from the Missouri Department of Elementary and Secondary Education (DESE) and the National Center for Education Statistics indicate that there are 885,197 students enrolled in public schools (88.5%) and 115,553 students enrolled in private schools (11.5%). The subset of students eligible for scholarship accounts, in our model, is defined by two (2) key eligibility qualifiers:

1. Attended a public school as a full-time student for at least the first one hundred (100) days of the prior school year; *or*

2. Is eligible to be in kindergarten.

To know the total pool of ESA-eligible students in Missouri, we need to know the number of students in private school who are in kindergarten. There are no private school enrollment data by grade, but we know that 7.6 percent of K-12 students in public school are enrolled in kindergarten. Applying this rate, we can estimate that 8,751 kindergarten-age students are in private schools. It follows that 896,251 Missouri school children would be eligible for scholarship accounts (see Table 2).This represents 88.4 percent of all children ages 5 to 18 in Missouri.

Since these proposed scholarships would lower the financial barrier to private school enrollment, private school demand from all scholarship-eligible students should, at least, match the historic statewide average.[3] The Friedman Foundation for Educational Choice conducts state and national surveys that ask respondents about the types of schools they prefer. In 2014, a random sample of Missouri registered voters was asked where they would want to send their children to school, and 40 percent of respondents indicated a preference for private schools.[4] While this is

Table 1: **Estimated State Revenue Impact from Maximum Amount Donated to EAOs Annualy**

Cumulative revenue impact of annual maximum amount of donations to EAOs	**($50,000,000)**

Table 2: **Estimate of Students Eligible for ESA Program**

A	FY 2014 Missouri total population ages 5 to 18	1,013,630
B	Missouri K-12 public school enrollment as of 1/25/2016	885,197
C	SY 2014-15 Missouri private school enrollment – grades K-12	8,751
D	Total number of private school students with disabilities	2,303
E	Estimated total count of K-12 students meeting eligibility [B + C + D]	896,251
F	Percent of total K-12 age children eligible for ESA program [E / A]	88.4%

Source: Missouri Department of Elementary and Secondary Education; U.S. Census Bureau; U.S. Department of Education, National Center for Education Statistics

[3]Based on NCES Common Core and Private School Universe Survey data, the average private school share of K-12 students in Missouri since 1991 was 11.5 percent.

[4]The survey question asks: "If it were your decision and you could select any type of school, what type of school would you select in order to obtain the best education for your child?" Please see DiPerna P. Missouri K-12 & School Choice Survey, Polling Paper No. 19, Friedman Foundation for Educational Choice, May 2014. Available at http://www.edchoice.org/wp-content/uploads/2015/07/Missouri-K-12-and-School-Choice-Survey1.pdf. Accessed May 6, 2016.

Table 3: **Maximum Student Demand for ESA Program**

A	Estimated total count of K-12 students meeting eligibility (Table 2, row E)	896,251
B	Percent of surveyed	40.0%
C	**Estimated maximum student demand for ESA program [A × B]**	**358,500**

Source: Missouri Department of Elementary and Secondary Education; U.S. Census Bureau; U.S. Department of Education, National Center for Education Statistics

Table 4: **Estimated Number of Scholarships from Maximum Amount of Donations to EAOs**

A	**Average scholarship award amount**	**$3,500**
B	Scholarship funds available (after 10% EAO administrative allowance)	$45,000,000
C	**Number of scholarships awarded with maximum amount of donations to EAOs [B / A]**	**12,857**

in no way a perfect measure, we think it creates a reasonable upper bound for estimating the demand for private schooling in the state. If we simply multiply that rate by the total number of students eligible for the program, we find a maximum demand for ESAs of 358,500 students (see Table 3).

Having established an estimate of maximum demand for the scholarship accounts, we can now turn our attention to estimating only the number of students that could be awarded scholarships in SY 2016–17 with $50 million of tax credit donations to EAOs. To do so, we start with the scholarship award amount. Ideally, we would start with an examination of data on private school tuition in Missouri, but these data are not available. Although it is impossible to know the average scholarship amount that EAOs will award if the program is enacted, we can make an educated prediction. We use data compiled by the Friedman Foundation for Educational Choice to calculate a weighted average for scholarship awards in all tax-credit scholarship programs that already exist throughout the country. This amount is $3,264. To add an additional layer of analytic caution, we round this number up and assume that the average scholarship awarded will be $3,500. Based on experiences in other states with similar programs, the actual average award would likely be less.

If $50 million were donated to EAOs, then at least $45 million would be available for scholarships (allowing for EAOs to withhold 10% for administrative allowance). It follows that $45 million would fund 12,857 scholarships (see Table 4), at an average scholarship award of $3,500. This is less than 4% of the estimated 358,500 maximum scholarship demand presented in Table 3.

This estimate is also built on several key assumptions that are difficult to forecast:

1. That one or more EAOs can be quickly formed to solicit and collect donations;
2. That the new EAOs can effectively administer a scholarship account award program;
3. That there are enough benefactors to generate $50 million in donations for the new tax-credit scholarship program in tax year 2016;

4. That the new EAOs can quickly locate enough eligible students to award 12,857 scholarships for the 2016–17 school year; and

5. That the average scholarship award of $3,500 is sufficient to induce 12,857 eligible students to enroll in private school.

In a very general sense, all of these requirements should be achievable, though it is often difficult to predict the pace at which both interest in the tax credits and demand for the scholarships will grow, given the many and varied challenges associated with communicating the availability of any new product or service to its intended target audience.

STATE EXPENDITURE IMPACT

In Missouri in SY 2014–15, the total average expenditure was $13,949 per student. Local expenditures comprise the majority of this amount ($7,878 per student, or 57 percent of the total). About one-third of the total comprises state expenditures ($4,775 per student), and just under ten percent of the total comprises Federal expenditures.

The state aid K-12 general education funding formula begins with a foundational amount of money (known as the "State Adequacy Target") for each student in a public school. For SY 2015–16, this amount was $6,580 (MODESE 2015). This amount is adjusted by the weighted average daily attendance (WADA) and the dollar value modifier (DVM). WADA adjusts for student characteristics for each school district, and the DVM is an additional adjustment to account for areas with high costs of living. These three pieces determine the resources that should be available to each school district for educational purposes. After netting out local effort (the amount of resources raised locally, mostly through property taxes), the remainder comprises state expenditures. That is, for each student who enrolls in the program, the state avoids paying, on average, $4,775 (Table 5).

Next, determining the number of scholarship students diverted from public school requires further dissection of the eligibility requirements. Only students entering kindergarten are scholarship-eligible without transferring from a public school. If enough scholarships are available to meet demand, then in the long run it is feasible that every student in private school would receive an ESA. This will likely not be the case, however, as our estimated demand for private schooling far exceeds the estimated number of ESAs awarded.

To estimate the number of recipients diverted from public schools, we begin with a baseline estimate for the quantity of private education demanded among eligible students. This estimate is based on the percentage of Missouri students currently enrolled in private schools, or 11.4 percent. We apply this estimate to the group of 12,857 scholarship students funded by the maximum amount of EAO donations. We estimate that 1,466 students in this group may *not* be diverted from public school (i.e., students entering kindergarten who are likely to enroll in a private school without this scholarship). The remaining 11,391 of the 12,857 scholarship students funded by $50 million in EAO donations will likely be diverted from public schools (see Table 6).

Table 5: **Estimated Number of Scholarships from Maximum Amount of Donations to EAOs**

A	SY 2014-15 per-student total expenditures [B+C+D]	$13,949
B	SY 2014-15 per-student local expenditures	$7,878
C	SY 2014-15 per-student state expenditures	**$4,775**
D	SY 2014-15 per-student federal expenditures	**$1,295**

Source: Missouri Department of Elementary and Secondary Education, Finance Data and Statistics Summary for All Districts

Table 6: **Number of Students Diverted from Public School from Maximum Amount of Donations to EAOs**

A	Number of scholarships awarded with maximum amount of donations to EAOs (from Table 4)	12,857
B	Percent of scholarships awarded to students likely to enroll in private school	11.4%
C	Number of scholarship-eligible students not diverted from a public school [A × B]	**1,466**
D	Number of scholarship students diverted from public school with maximum amount of donations to EAOs [A – C]	**11,391**

Source: Missouri Department of Elementary and Secondary Education, Finance Data and Statistics Summary for All Districts

Table 7: **Estimated State Expense Savings from Maximum Amount Donated to EAOs Annualy**

A	Number of scholarship students diverted, triggering a reduction in state foundation support (from Table 6)	11,391
B	SY 2015 per-student state expenditures (from Table 5)	$4,775
C	State aid expenditure savings annually [A × B]	**$54,393,467**

Using data from Table 5 and Table 6, we can estimate that, for $50 million donated to EAOs, state aid will be reduced by about $54.4 million annually (see Table 7).

NET STATE FISCAL IMPACT

Combining the results in Table 1 and Table 7, for $50 million annually donated to EAOs under this proposed tax-credit scholarship program, the state realizes annualized net savings of about $4.4 million (see Table 8). The $50 million reduction in state revenue from granting tax credits will be entirely offset by the reduction in state aid as students are diverted from public schools.

Estimating the State Funding Impact on Local School Districts

School districts are also impacted by this bill. They will lose state revenue for each student using a scholarship to enroll in a private school instead of their assigned public school. Table 5 (above) estimates the amount to be $4,775 per student.

There are at least three types of hold-harmless provisions for districts that experience significantly increasing or declining enrollments. First, districts that are made worse off under a new funding formula (enacted in 2006) would be held harmless. Second, school districts with an average daily attendance (ADA) below 350 are also held harmless for any reduction in ADA. Third, districts are paid based on the higher ADA of the two preceding years. This analysis ignores these hold-harmless rules, thereby adding another layer of caution. Estimated reductions in state aid for public schools will likely be overstated.

Based on $50 million annually donated to EAOs, and assuming hold harmless provisions are not activated, we can calculate a recurring reduction of state funds to local school districts of about $54.4 million (see Table 9). This corresponds exactly with the State expense savings calculated in Table 7.

Impact on Local Property Taxpayers

It is difficult to predict precisely how the bill will impact local property taxes, but we can obtain a general idea. School funding is largely made up of state and local shares. Property tax levies are set each year by local governments. They are set independent of student enrollment. Thus, in general, local effort for school funding will not change with enrollment fluctuations. The state portion of school funding *will* change. While levies are not capped in law, they must be passed by community vote. If the ESA program diverts significant numbers of students from public school districts, then a locality may commensurately reduce taxes as costs will also decline—fewer resources would be required to provide educational services to lower numbers of students. Note that this works in two directions: a significant increase in enrollment will also require local governments to raise revenue (e.g., through property taxes), as additional personnel will need to be hired, more supplies will be used, and so on. In the short run, however, it is unlikely that property taxes will be affected significantly.

Table 8: **Estimated State Net Savings from Maximum Amount Donated to EAOs Annualy**

A	Revenue impact of maximum amount of donations to EAOs annually (from Table 1)	**($50,000,000)**
B	Annual state foundation support expenditure savings (from Table 7)	$54,393,467
C	State net state savings/ (reduction) [A – B]	**$4,393,467**

Table 9: **Estimated Reduction in State Aid Revenue for School Districts from Maximum Amount Donated to EAOs Annualy**

A	Estimated state aid per student (same as Table 5)	$4,775
B	Number of diverted students from public schools (same as Table 6)	11,391
C	Estimated reduction in state aid revenue for school districts [–A × B]	**($54,393,467)**

Expense Burden Relief for Local School Districts

Local school districts are also relieved of the cost burden for educating any students who use a scholarship to enroll in a private school instead of enrolling in their assigned public school. Total costs per ADA in SY 2014–15 were $13,942. Though all public school costs are variable in the long run, we will cautiously use only costs that are variable in the short-run to estimate the cost burden relief realized when students leave or avoid their assigned public school. We exclude costs that are fixed or semi-fixed. To account for the different costs required to educate general education students and students with disabilities, we compute a "blended" average variable cost.

Table 10 calculates an average variable educational cost per student for Missouri's public school districts, using SY 2014–15 data reported by the Missouri DESE, of $6,703. This is a very cautious estimate and excludes the following fixed and semi-fixed costs: support services and non-instructional support services such as administration, transportation, food services, community services, facilities acquisition and construction, debt service, and other categories.

The variable costs associated with educating students with special needs will be larger. A cautious estimate of variable costs associated with educating this group of students is twice the overall average variable cost per student, or $13,406.[5] Applying weights for general education students and students with disabilities, the blended averaged variable cost is $7,555.

Table 10: **Cost Burden Relief to Public Schools for Scholarship Students Diverted**

A	SY 2014–15 total expenditures, all funds	$11,804,724,617
B	SY 2014–15 total expenditures per ADA	$13,942
C	SY 2014–15 instruction expenses	$5,673,721,258
D	SY 2014–15 total variable educational costs for public schools	$5,673,721,258
E	SY 2015 Fall census total enrollment	846,443.3
F	SY 2014–15 average variable educational cost per ADA [D / E]	$6,703
G	Average variable cost per student with disability [2 × F]	$13,406
H	SY 2014–15 percentage of students with disabilities	12.71%
I	Blended average variable cost per student	$7,555

Sources: State Annual Secretary of the Board Report, FY 2014–15; MO DESE Special Education State Profile.

Note: Short-run variable costs include instructional expenditures; they exclude all support services and non-instructional support services, including administration, transportation, food services, community services, facilities acquisition and construction, debt service, and other categories.

Net Fiscal Impact on Local School Districts

Using the results in Table 9 and Table 10, for $50 million annually donated to EAOs, we can estimate that local school districts realize a net savings of about $31.7 million (see Table 11).

To be clear, this savings of approximately $31.7 million represents an $86.1 million reduction in cumulative school variable cost burden, which vastly outweighs the $54.4 million cumulative net revenue reduction for 11,391 students diverted from public schools to private schools. It is *not* a direct reduction in school expenditures. The public schools will still have to make decisions to cut costs as enrollment declines. However, they now have $86.1 million in available cost burden relief from which to find at least $54.4 million in spending reductions to match their net revenue reduction.

Furthermore, if the public schools reduce their cumulative spending by only $54.4 million, in response to an 11,391 student drop in enrollment, they will be passively redirecting the $31.7 million of net savings into additional spending on their remaining students. Using the Missouri Department of Elementary and Secondary Education's 2016 enrollment count (as of January 25, 2016) of 885,197 students, $31.7 million of redirected savings would generate a small $35.77 increase in the statewide average spending per student. In reality, the enrollment losses from this scholarship program are likely to be concentrated in certain school districts. So for the affected school districts, if they reduce spending only to the degree of their net revenue reduction, their increase in per student spending will likely be higher than $35.77.

Fiscal Impact Estimates under Alternative Scenarios

The above analysis provided a step-by-step walkthrough of a fiscal impact analysis under one scenario. However,

[5]This estimate is based on the Special Education Expenditures Project, conducted by the American Institutes for Research. Although the project ended in 2004, it provides the best and most comprehensive information to date about expenditures related to special education. Available at: http://www.csef-air.org/. Accessed May 6, 2016.

the actual fiscal impact will depend on a set of factors that include the price elasticity of demand for private schooling in Missouri, the tax credit rate, and the extent to which EAOs award scholarships to students already enrolled in private schools. The above analysis was based on a lower-bound estimate for the proportion of scholarships going to students already enrolled in private school. It may be the case, however, that EAOs might favor types of students that may already be enrolled in private schools. To address this possibility, we estimate fiscal impacts if 20 percent, 30 percent, and 40 percent of scholarships are given to students already enrolled in private schools. Our upper-bound for this parameter reflects results about preferences for private school found in previous surveys.

Table 11: **Estimated Local School District Net Savings from Maximum Amount Donated to EAOs Annualy**

A	Estimated reduction of state funds for scholarship students (from Table 9)	($54,393,467)
B	Variable educational cost burden relief for 11,391 students (using data from Table 11)	$86,060,911
C	Net local school district savings [A+B]	**$31,667,444**
D	Net local school district savings per student in public school	**$35.77**

The above analysis also assumes a 100 percent credit value (i.e., each dollar donated to an EAO generates a dollar worth of tax credits). Tax-credit scholarship programs in other states provide tax credits from donations for different credit values. Most tax-credit programs in other states provide a 100 percent tax credit. A few programs, however, have lower credit values, sometimes as low as 50 percent.[6] To account for the possibility of a lower credit, we also estimated impacts for credit rates at 80 percent and 90 percent.

Table 12: **Net State Impact**

Percent of scholarships going to students already enrolled in private school

Credit value	11.4 percent	20 percent	30 percent	40 percent
80%	$17,990,776	$11,391,220	$3,717,318	**($3,956,585)**
90%	$10,439,066	$4,572,520	**($2,249,045)**	**($9,070,610)**
100%	$4,393,467	**($886,260)**	**($7,025,478)**	**($13,164,695)**

Finally, price demand elasticity is relevant to the extent that the number of scholarships available is greater than the number of applicants. The estimates we report assume that the maximum number of scholarships will be given out.[7]

Table 12 reports net state impact estimates. The baseline estimate is in the lower left cell. If 40 percent of scholarships are awarded to students already enrolled in private schools, then the net state impact is between $4.0 and $13.2 million in costs, depending on the credit cap.

[6] See Friedman Foundation for Educational Choice, The ABCs of School Choice: The Comprehensive Guide to Every Private School Choice Program in America, 2016 ed. (Indianapolis: Friedman Foundation for Educational Choice, 2016), Available at http://www.edchoice.org/wp-content/uploads/2016/02/2016-ABCs-WEB-2.pdf. Accessed May 6, 2016.

[7] For completeness, we estimated the fiscal impact under assumptions that private school demand is inelastic—an unlikely scenario. For an elasticity of –0.5, we estimate the net state fiscal impact to be between $19 million and $29 million in costs, assuming a 100 percent credit value. We estimate the net district impact to be between $12 million and $18 million in savings.

Table 13: **Net District Impact**

Percent of scholarships going to students already enrolled in private school

Credit value	11.4 percent	20 percent	30 percent	40 percent
60%	$39,583,690	$35,741,480	$31,273,795	$26,806,110
80%	$35,187,144	$31,771,687	$27,800,226	$23,828,766
100%	$31,667,444	$28,593,629	$25,019,425	$21,445,222

Table 14: **State Plus District Net Impact**

Percent of scholarships going to students already enrolled in private school

Credit value	11.4 percent	20 percent	30 percent	40 percent
60%	$57,574,466	$47,132,700	$34,991,113	$22,849,525
80%	$45,626,210	$36,344,207	$25,551,181	$14,758,156
100%	$36,060,911	$27,707,369	$17,993,948	$8,280,527

If 30 percent of scholarships are awarded to students already enrolled in private schools, then the net state impact is a cost to the state if the credit value is 90 percent or 100 percent. If the credit value is 80 percent, then the state will experience savings worth $3.7 million. The lower the proportion of scholarship given to students already enrolled in private school, the greater the savings (lower the cost).

In the case of a net positive fiscal impact, the state can lower property taxes, allow the school districts to keep these funds, or direct funds from savings to other public services.

Table 13 reports the net district fiscal impact under the same scenarios as Table 12. Under each scenario, school districts will experience savings because students will be diverted from public schools and those districts will no longer bear the expense of educating them. We estimate that savings to school districts will be between $21 million and $40 million.

With these savings, school districts may make cuts in their budgets, or they may spend these funds on a smaller student body, resulting in more resources available for each student remaining in public schools.

Finally, Table 14 reports the combined net fiscal impact for both the state and school districts. In each scenario, the net combined impact is positive, ranging from $8.2 million to $57.6 million.

One technical note

The analysis above is intended to yield an estimate of the overall impact on the state and "average" local school district. The fiscal impact will vary across all school districts in Missouri, however, because of significant variation in the percentage of state plus local funding that districts receive from the state. Some school districts (e.g., Naylor and Plainview) receive over half of their funding from state aid; such districts would disproportionately incur greater reductions in per-pupil funding when students are diverted from them. Other school districts (e.g., Clayton and Brentwood) raise nearly all of their funding through local revenues; they would incur less reduction in per-pupil funding. But the key determinant of whether the fiscal impact on a school district will be positive or negative lies in a district's average variable cost per student. As long as variable costs exceed the reduction in state aid for each diverted student, the district will incur a positive fiscal impact.

CONCLUSION

The preceding analysis demonstrates several key ideas. First, given the uptake rates of school choice programs around the country, there is reason to believe that there is a large amount of pent up demand for a private school choice program in Missouri. Second, that program can be designed so that it saves the state money while also providing the opportunity for all Missouri students to create a learning experience that best fits their needs with a tax credit–funded education savings account. The numbers clearly tell that story.

But a note of caution is warranted here. In an effort to be conservative with our findings, we modeled a program that would offer relatively small scholarships. This approach will likely understate the actual impact. If scholarship amounts were created that truly bridged the gap between what families can afford and what it costs to educate their child, the scholarship amount would have to be much higher. With a finite cap on the overall appropriation for the program, that means fewer scholarships. If Missouri policymakers were interested in designing such a program, they would have to carefully weigh the competing interests of providing scholarships of meaningful value, maximizing the number of students who can participate, and working within the structures of the budget.

That caution notwithstanding, we hope this analysis can allay the fears of those who worry that private school choice programs will have an adverse fiscal impact on the budgets of the state and of local school districts. With careful design, they don't have to, and both students and the state can benefit.

DATA SOURCES

Missouri State Department of Elementary and Secondary Education; U.S. Census Bureau, American Community Survey; U.S. Department of Agriculture; Internal Revenue Service; Friedman Foundation for Educational Choice

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NOTES

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