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ESSAY

NOVEMBER 2018

AVAILABLE SEATS 2.0:

OPPORTUNITIES ABOUND WITH PRIVATE SCHOOL CHOICE

By James V. Shuls, Ph.D.

KEY FINDINGS

- If Missouri students were given the opportunity to attend the schools of their choice, they would find over 28,000 seats available in Missouri private schools.
- A well-designed private school choice program could save the state a significant amount of money.
- Even a generous tax-credit scholarship program could save the state money—and even if only half of the recipients were switching from public to private schools.
- To further reduce the cost to the state of a tax-credit scholarship program, the credit amount could be set at a percentage of the donation to a scholarship-granting organization.

ADVANCING LIBERTY WITH RESPONSIBILITY
BY PROMOTING MARKET SOLUTIONS
FOR MISSOURI PUBLIC POLICY

INTRODUCTION

In 2014, the Show-Me Institute surveyed private school leaders in St. Louis and Kansas City. The survey allowed us to estimate the number of available seats in each city and the likelihood that a private school would participate in a state-supported private school choice program. Using these figures, we estimated the cost (or cost-savings) of a voucher or education savings account program that would enable students to access private schools. As with most studies, however, there were limitations to our analysis. First, it focused on just two areas in the state. Second, the study relied on survey responses to estimate the number of available seats. The response rate was 34.1 percent, meaning that nearly two-thirds of the existing private schools did not respond. This is likely to have affected our estimates of the number of available seats in a significant way.

In this second version of our available-seats essay, I address both of these issues. I examine the number of available seats throughout the state using data from the National Center for Education Statistics' (NCES) Private School Universe Survey (PSS). These data can lead to a much better understanding of the capacity in private schools throughout the state. Although the PSS data are also collected via survey, the NCES survey has a much higher response rate. In 2011–12, for example, the response rate for the PSS was approximately 92 percent.

This research paper examines two questions that are important as the state considers proposals to create a private school choice program: (1) How many available seats are there in existing private schools? (2) What is the cost or cost-savings of creating a private school choice program in Missouri? Understanding my analysis requires understanding my methods for estimating both the number of available seats in private schools and cost-savings for the state. I explain these methods in the following sections. I then use my estimates to explain how much a school choice program would cost or save the state.

CALCULATING AVAILABLE SEATS

The NCES conducts the PSS every two years. The survey collects a variety of information about schools from school administrators, including enrollment and religious orientation. Each school has a unique identifier, which makes it possible to match schools from year to year.

For the purposes of this study, I use PSS data from each administration of the survey from 1999–2000 to 2015–16. This is a total of 9 cycles of data.

Each year, school leaders report the current enrollment of their schools. Using this information, I can identify the highest enrollment over the period from fiscal year 2000 to fiscal year 2016 as the school's maximum enrollment. To calculate the number of available seats, I simply subtract the most recent enrollment from the highest enrollment. In this analysis, I use data from schools that appeared in one of the past two administrations of the PSS. If a school appeared in 2014, but not in 2016, the 2014 data was entered as current enrollment.

There are a number of reasons to be cautious about this method and the resulting estimates. Using the district's highest enrollment as the maximum enrollment could introduce inaccuracies. It is possible that a school has purposefully decreased enrollment to better serve students, or that a school's enrollment declined because it moved to a smaller facility. In either case, using the highest enrollment as the maximum enrollment would overestimate the number of available seats. A more likely scenario is that the highest enrollment is not actually the maximum enrollment because the schools could hold even more students. In this case, my estimates would underestimate the number of available seats. Moreover, it is possible that a school that is approaching its cap could add additional classroom space or grow to meet the increased demand.

To reduce the impact of possible errors in data entry, I have removed schools in the first percentile of available seats. For example, a survey respondent could accidentally enter an extra digit for one year making it look like the maximum enrollment was thousands of students higher than it actually was. Removing outliers helps provide a more conservative estimate of capacity in private schools.

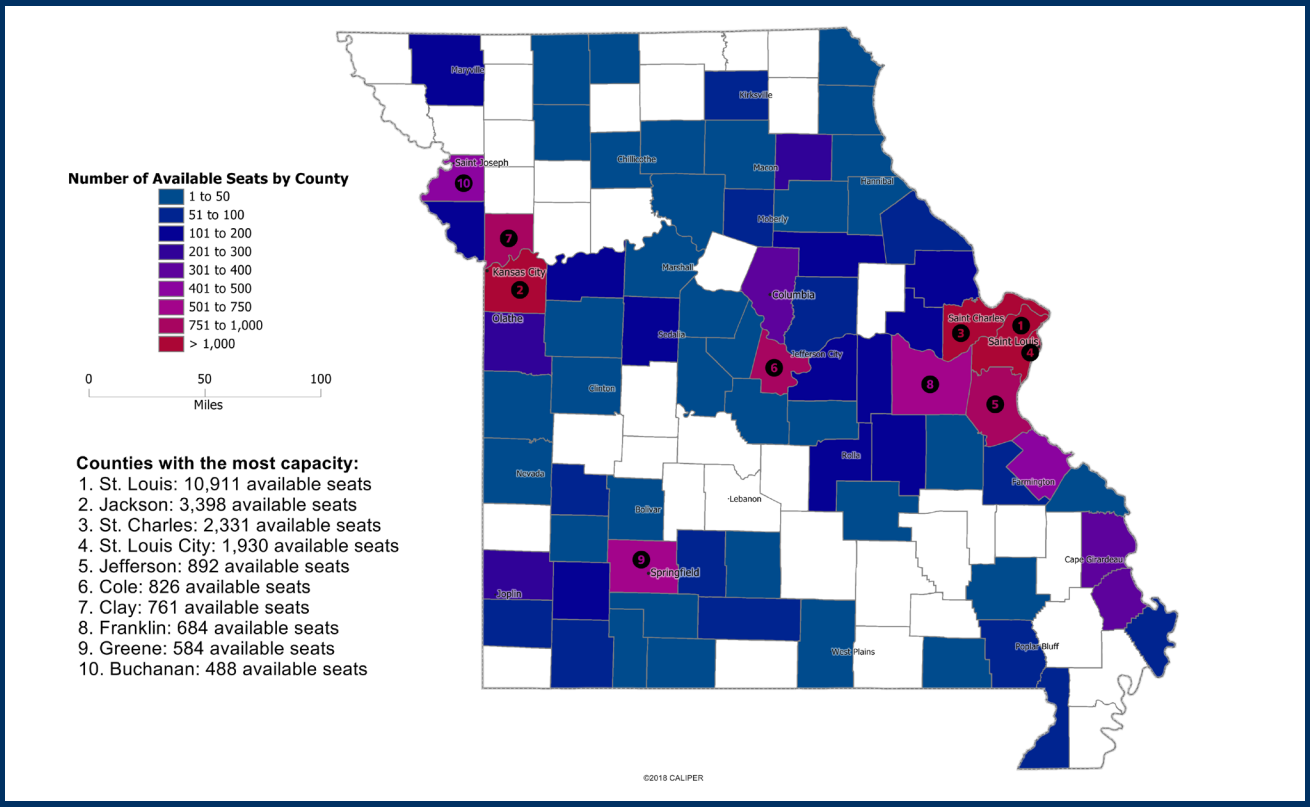
THE NUMBER OF AVAILABLE SEATS IN MISSOURI

Using the method described above, I arrived at a total of

Figure 1

Number of Available Seats in Private Schools by County.

While most available seats are in and around the St. Louis and Kansas City metropolitan areas, many rural counties also have the capacity to accommodate more private school students.



28,359 available seats in Missouri private schools. For comparison, the largest school district in the state in 2017 was Springfield, with a K-12 enrollment of 24,955. Thus, there are more available seats in existing private schools than there are students in Missouri's largest school district. Additionally, there are more available seats than there are students in Missouri's 173 smallest school districts combined. There is currently enough space in private schools to serve over three percent of all students enrolled in Missouri's public schools. Moreover, private schools operate throughout the state, with most counties operating at least one private school.

Figure 1 is a color-coded map showing the number of available seats in each county. It also lists the top ten counties based on the number of available seats. As expected, the greatest number of available seats are in and around the St. Louis and Kansas City metropolitan areas. However, there are many available seats throughout the state, including in counties that are predominantly rural.

ESTIMATING COSTS

Research indicates that private school choice programs tend to generate significant savings for states. Savings typically occur because scholarship amounts available through a voucher or a tax credit scholarship are often less than the amount the state would spend on the student if he or she were to attend a public school. In a 2016 review of research on the cost of school choice, Greg Forster identified 28 studies that examined the fiscal effects of

school choice.[1] Of these, 25 studies found the programs generated cost-savings. The other three studies found school choice programs to be revenue-neutral, meaning that no study found a negative impact on spending from a private school choice program.

Also in 2016, Marty Lueken of EdChoice estimated the fiscal effects of 10 tax-credit scholarship programs.[2] The programs selected by Lueken served roughly 93 percent of all students receiving scholarships from tax-credit programs.[3] He estimated that the cumulative savings from tax-credit scholarship programs was between $1.7 and $3.4 billion, depending upon the assumptions used in the analysis. Lueken also estimated the percentage of students who would need to be "switchers," meaning they were leaving public schools to attend a private school, in order for savings to accrue. These rates varied considerably, from 12 percent in Indiana's School Scholarship Tax Credit program to 74 percent in Florida's Tax Credit Scholarship Program.[4]

One thing that is clear from all of these analyses is that the level of savings expected from a private school choice program is heavily dependent on the design of the program. Smaller scholarship amounts will typically generate greater savings. Similarly, programs that are only available to students switching from public to private schools or programs that do not offer a dollar-for-dollar tax credit also generate greater savings.

The assumptions used to analyze a program also impact the estimates produced by the analysis. In a Show-Me Institute analysis of a previous tax-credit scholarship proposal, Marty Lueken and Michael Q. McShane projected the impact on state and local dollars.[5] They used the average amount of spending by the state ($4,775 per student in 2014–15), to estimate state savings. To estimate local savings, they first distinguished between fixed and variable spending. In other words, they estimated how much money spent by a local school district could actually be cut if a student were to leave the district. Combining the state and local savings, they estimated the program would save between $8.3 million and $57.6 million per year in combined state and local dollars.

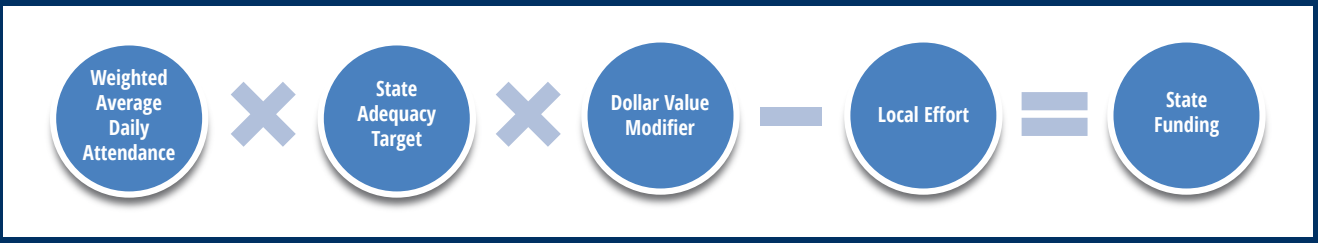
I used a similar approach in my first available-seats report for the Show-Me Institute. However, rather than calculate an exact percentage of fixed costs, I showed how much a local school district could save if the marginal cost of educating a student were 50, 75, or 100 percent. A 100 percent marginal rate assumes that a school district can cut all the expenses associated with a student when the student leaves. I also estimated what the savings would be at various scholarship amounts and with tax-credit percentages of 50, 75, and 100 percent. The paper shows, as I have already stated, how assumptions in calculations and program design can impact cost or cost-savings estimates.

Both the Lueken & McShane analysis and my previous available-seats analysis provided helpful information, but I now believe that they overly complicate the issue by attempting to estimate local cost-savings. Local savings depend on changes that a local school district may (or may not) make in response to a tax-credit scholarship

Figure 2

Missouri Funding Formula

Multiplying the number of students switching from public to private school by the state adequacy target (and then subtracting the amount awarded in scholarships) produces an estimate of the net savings to the state from a tax-credit scholarship program.



program. Moreover, state-level costs or savings are likely to be the state legislature's primary concern as it contemplates creating a private school choice program. Accordingly, this paper uses a different strategy to estimate cost-savings.

I first explained this methodology in testimony before the Missouri Senate Education Committee.[6] As I noted in my testimony, fiscal notes on school choice legislation regularly fail to account for potential cost-savings. As a result, school choice programs are made to look much more expensive than they would actually be in practice. This mistake is easily avoidable for someone who understands the funding formula for public schools.[7]

The funding formula consists of four basic parts: weighted average daily attendance, the state adequacy target, the dollar value modifier, and local effort. To determine how much money a school district will receive, simply multiply the first three components and subtract out local effort from the product (Figure 2). The result is the amount of funding the state is supposed to give a local school district, according to the funding formula. The previous analysis by Lueken and McShane and my first available-seats analysis estimated cost-savings based on the amount of actual state funding. In other words, they relied on the figure at the end of the equation. However, school choice programs change the formula by reducing attendance. If a program reduces attendance and local effort remains unchanged, then the program will change the amount of funding a school district receives.
Therefore, there is a simpler, more straightforward way to estimate state savings.

We can estimate the fiscal effects of a private school choice program by multiplying the number of students switching from public to private schools by the state adequacy target.[8] If a student leaves a school district, we can assume the weighted average daily attendance will drop by one student. Simple math shows us that the state will save the state the full state adequacy target amount, $6,308 in 2018. In fact, this would be a conservative estimate, since it does not take into account two pieces of the formula—weights for students and the dollar value modifier. Students are "weighted," or counted as more than one student, under certain circumstances (for example, if they are eligible for free or reduced-price lunches, if they are an English language learner, or if they have an Individualized Education Plan [IEP]). Weighting these students provides additional funds to school districts with high concentrations of such students. Meanwhile the dollar value modifier provides additional funds for school districts in parts of the state with a higher costs of living.

Figure 3 illustrates how cost-savings accrue to the state when a student receives a $6,000 scholarship to attend a private school. The figure also shows how much money the average school district retains when a student leaves via a school choice program. The figure is based on the 2017 total expenditure per pupil for the average Missouri school district, $14,474. This includes local funding raised for facilities and debt service. As you can see, when a student leaves, most of the funding—56.4 percent—remains in the local school district. The amount of savings realized by the local school district depends entirely on how much of the costs associated with educating the student can be cut by the district, which is why I am not treating these funds as savings here. Nevertheless, it cannot be ignored that when a student leaves the district, the per-pupil expenditure for the remaining students will increase. In the scenario in Figure 3, the state would realize $308 in savings for every student who left a public school. Obviously, these savings would be larger if the scholarship amount were smaller and vice versa.

One important caveat: School districts can use their attendance from any single year over a three-year period, the current and two preceding years, to calculate their weighted average daily attendance. This means the state would only save money if the student who left the district is reflected in the attendance totals sent to the state. This would only occur if the district were growing and used the current year's attendance. If the enrollment were declining in the district, they would use the attendance figures from two years ago. Thus, if a student leaves a district with declining enrollment it is possible that the state will not receive any savings for three years. The state could offset this by requiring districts to reduce the attendance numbers used to determine aid proportional to the number of students using the scholarship program.[9]

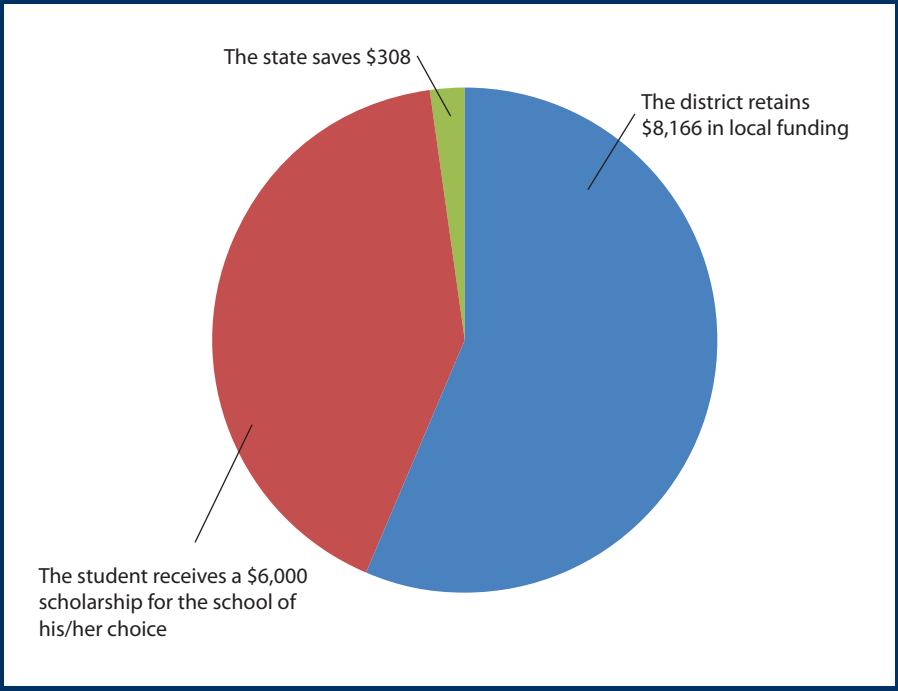
COST OR COST-SAVINGS

Calculating the state cost or cost-savings of a private school choice program in Missouri is relatively easy: Simply

Figure 3

Funding in School Choice Program, Based on Average 2017 Total Expenditures Per Pupil

Because the amount of the scholarship awarded ($6000) is less than the amount the state would spend on the student if she stayed in the public school ($6308), the state saves money.



multiply the state adequacy target by the number of students switching from a public school to a private school to generate the cost-savings, and then subtract the cost of the program. This will generate the net cost-savings. Using this method, I estimate the cost-savings for Missouri. First, I estimate the savings for various scholarship amounts and assume that all scholarship students are moving from a public school to a private school ("switching") (Table 1). The number of scholarships is based on the scholarship take-up percentage of available seats. If every available seat were filled with a scholarship student, that would be a 100 percent take-up.

If 100 percent of the students were switchers, then every student would generate $6,308 in savings for the state. This is the amount of the state adequacy target. Accordingly, any scholarship amount less than the state adequacy target would yield savings for the state. The lower the scholarship amount, the more savings would be generated. If every available seat in a Missouri private school were filled with a switcher who received a $3,000 scholarship, the state would receive more than $93 million in annual savings. Meanwhile, if just 10 percent of the seats were filled and the average scholarship amount was $6,000, the state would save less than $900,000. Next, I show the cost and cost-savings if just 75% of the scholarship recipients were switchers (Table 2).

When 25 percent of the scholarship recipients are current private school students, a program with an average scholarship of $5,000 or $6,000 would cost the state money. Using the state adequacy target, it is easy to calculate the state's break-even point with various scholarship amounts and switcher percentages. To calculate the break-even switcher point for a given scholarship amount, divide the scholarship amount by the state adequacy target. For example, at a scholarship of $6,000 and a state adequacy target of $6,308, the state would break even if 95 percent of scholarship users were switchers ($6,000/$6,308 = .951). With an average scholarship of $3,000, the state would break even if 47.5 percent of scholarship recipients were switchers. Similarly, if you multiply the switcher rate by the state adequacy target, you can determine the break-even scholarship amount. With a 75 percent switcher rate, the average scholarship amount would have to be $4,731 for the state to break even.

Table 1: **State Savings from Private School Choice (100% Switchers)**

Scholarship Take-up Percentage	Number of Scholarships	Net Cost-savings: $3,000 Average Scholarship	Net Cost-savings: $4,000 Average Scholarship	Net Cost-savings: $5,000 Average Scholarship	Net Cost-savings: $6,000 Average Scholarship
100%	28,359	$93,811,572	$65,452,572	$37,093,572	$8,734,572
90%	25,523	$84,430,415	$58,907,315	$33,384,215	$7,861,115
80%	22,687	$75,049,258	$52,362,058	$29,674,858	$6,987,658
70%	19,851	$65,668,100	$45,816,800	$25,965,500	$6,114,200
60%	17,015	$56,286,943	$39,271,543	$22,256,143	$5,240,743
50%	14,180	$46,905,786	$32,726,286	$18,546,786	$4,367,286
40%	11,344	$37,524,629	$26,181,029	$14,837,429	$3,493,829
30%	8,508	$28,143,472	$19,635,772	$11,128,072	$2,620,372
20%	5,672	$18,762,314	$13,090,514	$7,418,714	$1,746,914
10%	2,836	$9,381,157	$6,545,257	$3,709,357	$873,457

In recent years, most private school choice proposals in Missouri have based their proposed funding on state tax credits. A tax credit can range in value. If a tax credit is 100 percent, then it is a dollar-for-dollar match towards the taxpayer's state taxes. That is, a $1,000 donation to a scholarship fund would reduce the taxpayer's tax liability by $1,000. A 75 percent credit, meanwhile, would make that same donation the equivalent of paying $750 towards the individual's taxes. For the individual, a higher credit is beneficial. However, a lower tax credit would allow the state to generate more savings. In Table 3, I show how much the state would save if every student was a switcher and the tax credit were 90 percent.

Table 4 shows the per-student cost or cost-savings to the state based on varying percentages of switchers and tax credits. As the table makes clear, a $6,000 average scholarship amount funded by a relatively low tax credit could save the state money even if relatively few students were switching from public to private schools.

Table 2: **State Savings from Private School Choice (75% Switchers)**

Scholarship Take-up Percentage	Number of Scholarships	Net Cost-savings: $3,000 Average Scholarship	Net Cost-savings: $4,000 Average Scholarship	Net Cost-savings: $5,000 Average Scholarship	Net Cost-savings: $6,000 Average Scholarship
100%	28,359	$49,089,429	$20,730,429	$(7,628,571)	$(35,987,571)
90%	25,523	$44,180,486	$18,657,386	$(6,865,714)	$(32,388,814)
80%	22,687	$39,271,543	$16,584,343	$(6,102,857)	$(28,790,057)
70%	19,851	$34,362,600	$14,511,300	$(5,340,000)	$(25,191,300)
60%	17,015	$29,453,657	$12,438,257	$(4,577,143)	$(21,592,543)
50%	14,180	$24,544,715	$10,365,215	$(3,814,286)	$(17,993,786)
40%	11,344	$19,635,772	$8,292,172	$(3,051,428)	$(14,395,028)
30%	8,508	$14,726,829	$6,219,129	$(2,288,571)	$(10,796,271)
20%	5,672	$9,817,886	$4,146,086	$(1,525,714)	$(7,197,514)
10%	2,836	$4,908,943	$2,073,043	$(762,857)	$(3,598,757)

This highlights the trade-offs in creating school choice programs. To maximize the level of scholarships and still save the state money, lawmakers could consider either reducing the level of the tax credit or requiring that a certain percentage of scholarship funds be reserved for students who are switching. The other option is to reduce the scholarship amount. If the average scholarship were reduced from $6,000 to $5,000 for instance, all of the savings figures in Table 4 would increase by $1,000.

CONCLUSION

Opportunities abound in private schools in Missouri. In fact, more than 28,000 seats are currently available in existing Missouri private schools. This exceeds the number of students enrolled in the largest school district in Missouri. A private school scholarship program, such as a voucher or tax-credit scholarship, could allow students throughout the state to access these schools and generate savings for the state. The level of state savings

Table 3: **State Savings from Private School Choice (100% Switchers, 90% Tax Credit)**

Scholarship Take-up Percentage	Number of Scholarships	Net Cost-savings: $3,000 Average Scholarship	Net Cost-savings: $4,000 Average Scholarship	Net Cost-savings: $5,000 Average Scholarship	Net Cost-savings: $6,000 Average Scholarship
100%	28,359	$102,319,272	$76,796,172	$51,273,072	$25,749,972
90%	25,523	$92,087,345	$69,116,555	$46,145,765	$23,174,975
80%	22,687	$81,855,418	$61,436,938	$41,018,458	$20,599,978
70%	19,851	$71,623,490	$53,757,320	$35,891,150	$18,024,980
60%	17,015	$61,391,563	$46,077,703	$30,763,843	$15,449,983
50%	14,180	$51,159,636	$38,398,086	$25,636,536	$12,874,986
40%	11,344	$40,927,709	$30,718,469	$20,509,229	$10,299,989
30%	8,508	$30,695,782	$23,038,852	$15,381,922	$7,724,992
20%	5,672	$20,463,854	$15,359,234	$10,254,614	$5,149,994
10%	2,836	$10,231,927	$7,679,617	$5,127,307	$2,574,997

would depend on the design of the program. Three design factors are important for lawmakers to consider: the tax credit amount, the average scholarship amount, and the percentage of students who are switching from public to private schools.

Ideally, the scholarship amount would be as high as possible. This would encourage more private schools to participate in the program. However, this doesn't mean the state should set the scholarship amount. Rather, the state could allow scholarship granting organizations (SGO) to vary the scholarship amount depending upon student need. As long as the SGO keeps the average scholarship amount within the proper bounds, the savings for the state could be maintained. Furthermore, this strategy would allow SGOs to award higher scholarships to low-income families looking to switch to private schools. These high-need scholarships could be off set by relatively lower scholarships awarded to deserving families with students already enrolled in private schools. To ensure state

Table 4: **Comparison of Per Student Savings with an Average Scholarship of $6,000 by Percent of Switchers and Tax Credit Percentage**

% of Switchers \ Tax Credit	100%	90%	80%	70%	60%	50%
100%	$308	$(323)	$(954)	$(1,584)	$(2,215)	$(2,846)
90%	$908	$277	$(354)	$(984)	$(1,615)	$(2,246)
80%	$1,508	$877	$246	$(384)	$(1,015)	$(1,646)
70%	$2,108	$1,477	$846	$216	$(415)	$(1,046)
60%	$2,708	$2,077	$1,446	$816	$185	$(446)
50%	$3,308	$2,677	$2,046	$1,416	$785	$154

Missouri has an opportunity to provide educational assistance to thousands of families in existing private schools. Moreover, it is possible that this type of scholarship program would allow these private schools to expand or others to open in the state. As this analysis makes clear, this type of program could generate significant savings for the state. This money could be used to fund other programs in the state or could be funneled back into public education for teacher raises or other uses. In short, a private school choice program is a smart choice to improve educational options in a financially beneficial way.

James V. Shuls, Ph.D., is an assistant professor at the University of Missouri–St. Louis and a distinguished fellow of education policy at the Show-Me Institute.

NOTES

1. Forster, G. A win-win solution: the empirical evidence on school choice. Friedman Foundation for Educational Choice. May 2016. Retrieved October 30, 2018 from: http://www.edchoice.org/wp-content/uploads/2016/05/A-Win-Win-Solution-The-Empirical-Evidence-on-School-Choice.pdf#page=25.
Note: Two studies included numerous analyses of state programs, accounting for 22 of the total studies.

2. Lueken, M. The tax-credit scholarship audit: Do publicly funded private school choice programs save money? EdChoice. October 2016. Retrieved October 30, 2018 from: http://www.edchoice.org/wp-content/uploads/2016/10/Tax-Credit-Scholarship-Audit-by-Martin-F.-Lueken.pdf.

3. Lueken's analysis included programs in Arizona and Pennsylvania. For more information about these programs, see the Show-Me Institute's Case Studies on these programs:
LeFevre, A. Pennsylvania's education improvement tax credit program: a winning educational partnership. Show-Me Institute. April 14, 2014. Retrieved October 30, 2018 from: https://showmeinstitute.org/publication/school-choice/pennsylvania%E2%80%99s-education-improvement-tax-credit-program-winning.
Butcher, J. Giving Arizona children better opportunities in education: a case study of the nation's oldest tax credit scholarship program. Show-Me Institute. March 2014. Retrieved October 30, 2018 from: https://showmeinstitute.org/sites/default/files/18%20Giving%20AZ%20Children%20Better%20Opportunities%20In%20Education%20-%20Butcher%20FINAL%202-20-14_0.pdf.

4. Both of these figures are from the lower-bound estimate. Upper-bound estimates range from 18 percent in Indiana to 95 percent in Georgia's Qualified Education Expense Tax Credit program.

5. Lueken, M. and McShane, M. Estimating the fiscal impact of a tax-credit scholarship program. Show-Me Institute. July 2016. Retrieved October 30, 2018 from https://docs.google.com/viewerng/viewer?url=https://showmeinstitute.org/sites/default/files/Tax%2520Credit%2520ESAs_Lueken-McShane_0.pdf.

6. Shuls, J. Testimony: Fiscal notes for education savings accounts (ESAs) fail to account for cost-savings. Show-Me Institute. February 21, 2017. Retrieved October 20, 2018 from https://showmeinstitute.org/sites/default/files/20170221%20-%20Fiscal%20Note%20-%20Shuls.pdf.

7. For an explanation of the funding formula, see Shuls, J. A primer on Missouri's foundation formula for K-12 public education: 2017 update. Show-Me Institute. Retrieved October 30, 2018 from: https://showmeinstitute.org/publication/budget/primer-missouris-foundation-formula-k-12-public-education-2017-update.

8. For a more detailed explanation, see: Shuls, J. Testimony: Fiscal notes for education savings accounts (ESAs) fail to account for cost savings. Show-Me Institute. February 21, 2017. Retrieved October 20, 2018 from https://showmeinstitute.org/sites/default/files/20170221%20-%20Fiscal%20Note%20-%20Shuls.pdf.

9. The school district should be able to reduce WADA based upon the student's actual attendance rather than a fixed number because that could unfairly penalize the district.

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